BUSINESS IN VANCOUVER: THE ROLE OF TAXES AND SERVICES

by

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Abstract

This study explores the interaction between municipalities and local lobby groups, specifically the validity of demands made by Vancouver's powerful business lobby regarding local property tax rate impacts. The study uses regression analysis to examine why some GVRD municipalities might have more businesses than others. Results suggest that population and residential property taxes have significant and strong effects on the number of businesses in a municipality where property values, access to rapid transit and big box stores do not. Where the business lobby's key concern of commercial property taxes are shown to be statistically significant, the effect on location is negligible and these findings reduce the validity of their demands for policy change. Based on this analysis, the study suggests that the City of Vancouver not give in to the demands of business and instead conduct an information and public consultation campaign to better balance public input on this issue.

Executive Summary

This study explores the interaction between municipalities and local lobby groups. For the most part, lobby groups can provide valuable information to governments, often in a very concise and organized manner. However, that is not always the case. Some lobby groups find it difficult to be heard at all and are consistently denied their intended policy outcomes due to inherent biases in a political system, while other groups may be able to completely dominate the political agenda due to their large size or political influence. A powerful lobby group can pose a problem for governments, particularly at the municipal level. This study examines lobbying in municipal settings by focussing on the business lobby in the City of Vancouver.

Business development in municipal settings is often a source of concern and frustration for the local business community, local residents and municipal decision-makers. As in other metropolitan centres, business owners within the Greater Vancouver Regional District demand policy changes, such as commercial property tax reductions, that they claim will grow the local business community. At the same time, residents want increased services while avoiding excessive property tax increases. Local politicians are caught in the middle when making choices about how best to raise local revenue.

This study explores the validity of demands made by Vancouver's powerful business lobby regarding local property tax rate impacts and how the City of Vancouver can best address their concerns. To do so, the study examines why some municipalities in the Greater Vancouver Regional District have fewer businesses than others. Regression analysis is used to examine potential determinants including commercial property tax rates, residential property tax rates, average assessed property value, population, access to rapid transit, crime rates and the number of big box stores in a given municipality. Results indicate that population, commercial property tax rates and residential property tax rates have the most significant impact on the number of businesses in a given municipality. While commercial property tax rates have been touted as detrimental to businesses, it was found that a decrease in the commercial property tax rate would increase the number of businesses only slightly; lowering Vancouver's commercial tax rate from 15.48 to 14.48 is predicted to increase the number of businesses by just 6, while causing a loss of municipal revenue of about $15.8 million.

These statistical findings, along with recommendations put forward by the business community and the Property Tax Policy Review Commission, are used to formulate policy alternatives aimed at addressing the concerns of the business lobby in the best possible way for the City of Vancouver. Six alternatives are considered; the status quo, decreasing the commercial property tax rate, both decreasing the commercial property tax rate and increasing the residential property rate simultaneously, shifting the tax burden by one percent, shifting the tax burden by two percent, and creating a public consultation strategy. The alternatives are judged in terms of cost and political feasibility. This study suggests that the City of Vancouver should institute a new public consultation process focused on determining what problems should be address by a property taxation policy.

Dedication

To my family, for all your love and support.

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1 Research Scope and Problem Definition

The demand for citizen and interest group participation in politics and decision-making has become increasingly strong in recent years, particularly at the municipal level. More citizens are becoming involved in the political arena through various means, including joining lobby groups (Dalton, Scarrow and Cain, 2004). Even large international organizations, like the Organization of Economic Cooperation and Development, have touted the movement of citizens into the political realm, and the benefits to governments of engaging their citizens: "Educated and well-informed citizens expect governments to take their views and knowledge into account when making decisions on their behalf. Engaging citizens in policy making allows governments to respond to these expectations and, at the same time, design better policies and improve their implementation." (OECD, 2001, p.9).

Lobby groups can be very small or comprised of hundreds of organizations, they can be long-standing or organized for a limited period of time, and they can address issues across the political spectrum. For the most part, these lobby groups can provide valuable information to governments, often in a very concise and organized manner. However, that is not always the case. Some lobby groups find it difficult to be heard at all and are consistently denied their intended policy outcomes due to inherent biases in a political system (Brooks and Miljan, 2003). Other groups may be able to completely dominate the political agenda due to their large size or political influence (Bestley and Coates, 2001). A powerful lobby group can pose a problem for governments, particularly at the municipal level.

This study examines lobbying in municipal settings by focussing on the business lobby in the City of Vancouver. It would be hard to find a municipality where members of the local business community do not contend that there is a disconnect between what businesses need and what municipalities provide. Most will argue that business development is extremely important for a municipality, as businesses not only attract residents as both consumers and employees, but also provide municipal tax revenues. It is further argued that these revenues can be applied to a variety of community programs and services needed to sustain a healthy, liveable community. A recent study by Cohen (2000) found that many business executive believe that public officials rarely understand business operations and what motivates location decisions.

These concerns and claims of a gap between city officials and the needs of business certainly exist in the City of Vancouver, where many business people argue that commercial property taxes are excessive and have been driving businesses away from the city. Demands for low business taxes and high municipal revenues creates tension between officials and the business community, with this conflict frequently presented in the media (Beauschesne, 2007, Bermingham, 2007). Business advocates, such as Michael Brooks, executive director of Realpac, argue that Vancouver risks shooting itself in the foot with high taxes by stifling business growth and causing employers to consider relocating (Globe and Mail, 2007). The Vancouver Fair Tax Coalition (2006) argues that the city's high commercial/residential property tax ratio is the cause of lagging local business development.

Increased local pressures and media exposure of business lobbyist groups is causing concern for Vancouver City Council. These lobbyist groups are becoming more vocal and receiving increased attention both in Vancouver and across the country, creating a need for City Council to address the issue of property taxation decisively. In 2003, Council approved a one percent shift in the tax burden from non-residential properties to residential properties and approved a similar shift in 2006, as well as creating a Property Tax Policy Review Commission to look into the "fairness" of property taxation (City of Vancouver, 2007a). Although City Council has tried to address the concerns of the business community in recent years, it has not succeeded in diverting the claims that commercial property tax rates are driving businesses from the city.

The contention that the number of businesses is dropping in Vancouver is not only a concern for City Council from a business perspective, but it also affects the residential vote. If a high number of businesses are leaving the city, there are less sources of municipal revenue available from commercial property taxes. This means residents would either have to take on a significant increase in residential property tax rates, or accept a loss of services provided by the City. High commercial property tax rates also affect small businesses in the city more dramatically than large businesses, and residents have stated that neighbourhood businesses are very important to them (City of Vancouver, 2006a).

Starting from the perspective that the concerns of the business community should fully explored, this study examines whether the number of businesses in Vancouver is in fact decreasing due to commercial property tax rates. Although Vancouver's commercial property tax rate is high relative to other municipalities in the region, and businesses in Vancouver pay a higher share of the tax burden than any other municipality in the GVRD, it is not clear whether the commercial property tax rate is actually inhibiting business development in Vancouver. Other

factors known to influence the number of businesses in a region include land value, potential business markets, access to amenities and public transit, as well as crime (Christenson and Drejen, 2005). In order to understand what factors influence the number of businesses in the region, this study compares data from several municipalities in the GVRD and asks the question: why are there more businesses in some municipalities than others?

Section 2 offers background information on the structure of the Greater Vancouver Regional District, including the number of businesses in the region. Section 3 outlines the statistical methodology of the study and describes in detail the data used in the study. Section 4 outlines the regression model as well as the results of the analysis. The results of this analysis and the recommendations of the business community and the recent Property Tax Policy Review Commission are used in Section 6 to determine policy alternatives for the City of Vancouver. Six policy alternatives are considered in order address the political problem aroused by the business lobby. These alternatives are evaluated in terms of cost and political feasibility.

2 Background

This section provides background information about the Greater Vancouver Regional District and its municipalities, as well as the business climate in Vancouver. The budgetary process of the City of Vancouver is explained, as well as the ways in which City Council has tried to address the concerns of the business lobby. This information sets the scene for regression analysis which begins in section 3 and the analysis of policy alternatives found in Section 5.

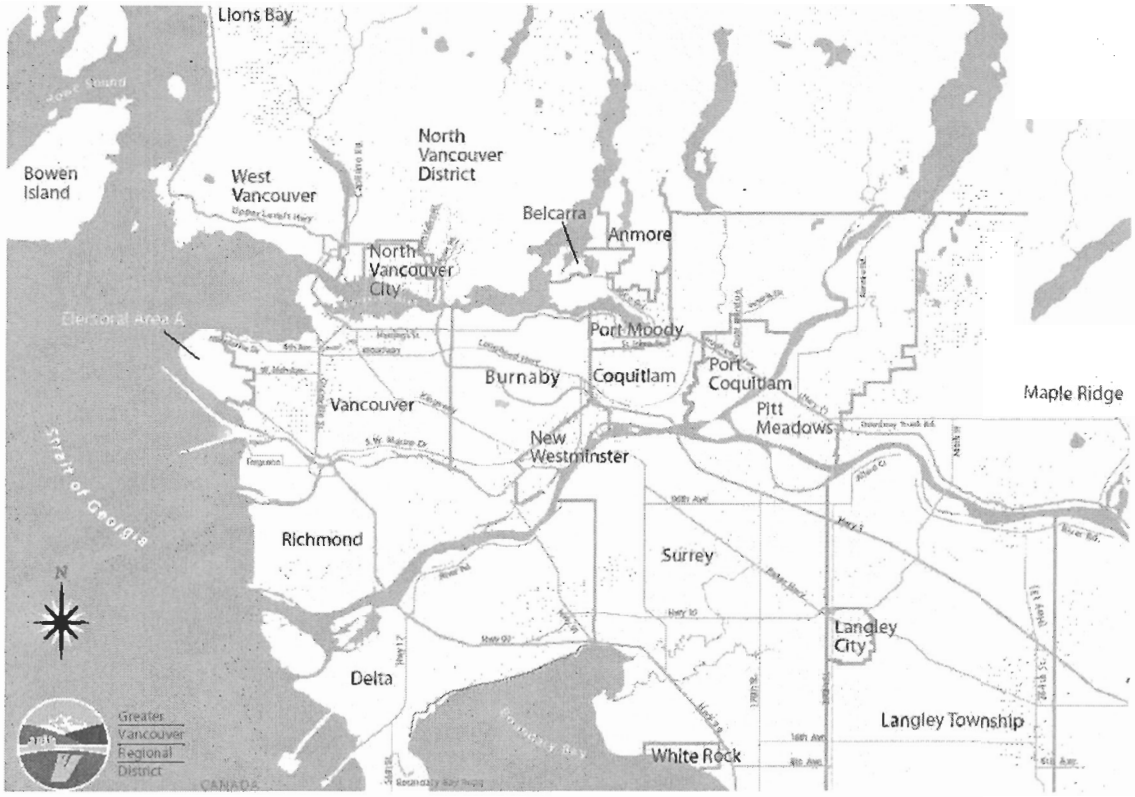
2.1 The City of Vancouver and the GVRD

The City of Vancouver is one of 21 municipalities located within the metropolitan area of Greater Vancouver. Each municipality has its own mayor and municipal council, elected to serve a three-year term (Ministry of Community Services, 2007). These politicians create bylaws and resolutions intended to create the best possible community for their residents. The City of Vancouver is different than other municipalities in the region as it is governed by the *Vancouver Charter*, rather than the *Local Government Act.* The *Vancouver Charter* was first enacted in 1886 to reflect the specific needs of one of the only urban centres of the time in British Columbia (Canada's Cities, 2001). The purpose of the Charter is to allow Vancouver flexibility when dealing with changing circumstances, rather than repeatedly applying to the province for legislative change.

While each municipality has a separate mayor and council, these municipalities engage in discussion of regional issues under jurisdiction of the Greater Vancouver Regional District (GVRD). The Board of Directors for the GVRD is made up of mayors and councillors from each municipality in the region, on a representation-by-population basis (GVRD, 2007). Programs determined under the GVRD include the delivery of utility services, such as sewage treatment and garbage disposal, as well as issues surrounding growth management and environmental sustainability (GVRD, 2007). One initiative implemented by the GVRD is the Livable Region Strategic Plan, first created in 1996. Under this strategy, each municipality in the GVRD signed an agreement to do its part in containing urban sprawl by encouraging settlement in the 'core' of the region, Vancouver, Burnaby, Coquitlam, Port Coquitlam, Port Moody, Anmore, New

Westminster, Surrey and Delta (GVRD, 1999). The GVRD hopes to have 70 per cent of the region's population living in this target area by 2021.

Figure 1 Map of the Greater Vancouver Regional District, 2006



Source: Greater Vancouver Regional District, 2007

This strategy is very important for the region, as the GVRD is the third most populated region in Canada, with over two million residents. While Vancouver is the largest city with nearly 600,000 residents, Surrey is catching up quickly having gained more than 40, 000 residents over the past five years to a total population of nearly 400,000. Although some municipalities have grown more quickly than others, every municipality within the GVRD has had rising populations. The GVRD currently has a rapid rail system, Skytrain, which has two rail lines operating within four of the twenty-one municipalities in the region. The Expo Line, created in 1986, connects Vancouver to Surrey, with stations in Burnaby and New Westminster as well. In 2002, the Millennium Line added 13 additional stations in Burnaby and New Westminster. There are plans to expand the Skytrain system to Richmond, Port Moody and Coquitlam by 2011.

2.2 Vancouver Budget

The Vancouver City budget, like in any other municipality, takes months to prepare. The budgetary process encompasses careful consideration of the expected costs of programs and services along with what residents are willing to pay for these. Vancouver has made a concentrated effort to include the opinions of residents through public consultation, and it included members of the business community for the first time in 2006.

The 2006 Operating Budget for the City of Vancouver is one of the largest municipal budgets in the country, spending over $800 million for operations throughout the year. Services and programs make up the overwhelming majority of the expenditures, while property taxes are the principal source of revenue (City of Vancouver, 2006a). Table 1 presents an overview of the main components of revenue and expenditures outlined in the 2006 Operating Budget.

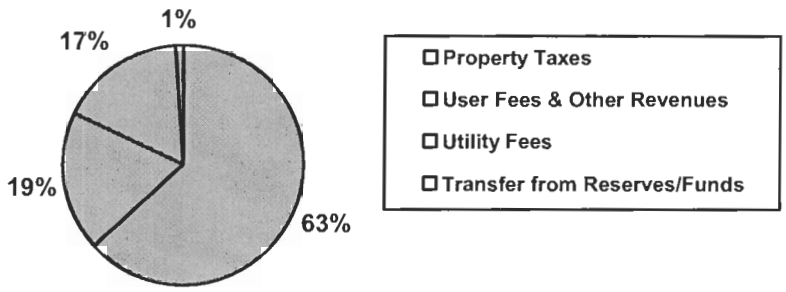
Table 1 2006 Operating Budget

Revenues		**Expenditures**	
Property Taxes	$516,336,000	General Administration	$60,858,000
User Fees	$154,624,000	Services & Programs	$675,200,000
Utility Fees	$135,210,000	Debt Charges etc.	$77,272,000
Transfers	$7,160,000		
Total	**$813,330,000**	**Total**	**$813,330,000**

Source: City of Vancouver, 2006

2.2.1 Revenue

Figure 2 Sources of Revenue, 2006



Source: City of Vancouver 2006 Budget

While user fees are being used more extensively in municipalities than in earlier years, these are often much less popular with residents than property taxes. While some economists argue that user fees increase economic efficiency and create equity through direct charges, others argue that they can have a significantly negative effect on low-income residents (More, 1999). The City of Vancouver has taken this into account, and user fees and utility fees make up 26 only percent of the total revenue gathered for the 2006 Budget (City of Vancouver, 2006a). The remainder of revenue is gathered from property taxes, which allows for the political problem examined in this study. The following subsection will describe how property taxes are calculated in the City of Vancouver.

2.2.2 Property Taxes

Prior to 1983, property taxes in the City of Vancouver were levied at an equal rate for all types of properties in British Columbia, based on the property's monetary value as well as 75 percent of its improvement value. In 1978, the provincial government established the current system of classification for various types of property, namely residential, utilities, industrial, business/other, seasonal/recreational/non-profit and farm (BC Assessment, 2006). Under this system, municipal governments in British Columbia had a very limited role to play, as they were allowed to choose a single mill rate each year (Task Force on Property Taxation, 1994). In 1983,

the provincial government gave municipalities control over property taxation, which allowed municipal councils to set different tax rates for each class of property.

Table 2 Property Tax Rates, 1986 to 2006

Year	Residential Property Tax Rate	Commercial Property Tax Rate
1986	5.10	16.73
1991	3.29	13.96
1996	2.66	14.56
2001	3.01	14.83
2006	2.66	15.48

Source: City of Vancouver, 2006

In recent years, City Council has made efforts to appease those in the business community who have argued that commercial property taxes are too high. In 2003, after presentations from City staff and business members, City Council voted in favour of shifting 0.5 percent of the tax burden from Class 2, Class 4, Class 5 and Class 6 properties (businesses) to Class 1 properties (residential). In 2006, City Council again shifted the tax burden, this time by shifting one percent of the burden exclusively from commercial businesses to residents. (City of Vancouver, 2006a).

With the one percent tax shift in 2006, residents paid 44.9 percent of the general purpose tax levy, approximately $214 million. Businesses paid roughly $246 million, as 51.6 percent of the general tax levy. While these portions seem almost equal, business lobbyists argue that residents should be paying a higher share of the general purpose tax levy, as there are far more residential properties (157,724) than business properties (13,221).

2.2.3 Expenditures

The expenditure side of the operating budget is where the City of Vancouver decides what services are most important for residents in the upcoming year. While general administration, debt charges and transfers to reserves are included in expenditures, these account for only 16 percent of the expenditure budget. The remaining budget is focussed on services and programs ranging from sewers to parks.

Table 3 Expenditures, 2006 Operating Budget

Program or Service	$ Cost	Program or Service	$ Cost
Vancouver Police Department	$175,098,000	Board of Parks and Recreation	$89,261,000
Fire and Rescue Services	$78,816,000	Waterworks	$69,668,000
Sewer	$68,457,000	Engineering Services	$58,338,000
Community Services	$46,631,000	Vancouver Public Library	$34,050,000
Solid Waste	$31,391,000	Civic Grants	$14,178,000
Civic Theatres	$6,470,000	Britannia Community Centre	$2,842,000
Total Cost			
$675,200,000			

Source: City of Vancouver, 2006

Through public consultation processes, residents have traditionally supported raising taxes by at least two percent each year in order to cover the rising cost of public services (See Appendix A). These services are deemed very important for the community, particularly services targeting crime and transportation (City of Vancouver, 2006a). Although academic literature on business costs have focussed primarily on business property taxes and property value, recent literature suggests that services are also very important to businesses in a municipal setting (Bell and Gabe, 2004). These public services do not necessarily have to be excludable to be important to businesses, they could be services targeted to the municipality or the region as a whole. During the 2007 public consultation process, both businesses and residents identified social issues for the first time as the most pressing problem for the City of Vancouver. "Based on historical trends, transportation/crime have consistently been either #1 or #2 top-of-mind issues for both businesses and residents. This year, social issues have become #1 top-of-mind issues for residents (48%) and businesses (31%)" (City of Vancouver, 2007b, p.2).

Although services are important to businesses, there is currently a concern from businesses over the gap between what businesses pay for services in taxes, and what services they actually use. A recent study commissioned by the City of Vancouver found that the average residential property pays $0.56 in property taxes for each dollar of tax-supported services

consumed, while businesses pay $2.42 in taxes for each dollar of services consumed (MMK Consulting, 2007). The Canadian Federation of Independent Businesses contends that this disconnect encourages spending on items that might otherwise not be deemed important if residents were paying the full amount (Fredrickson, 2007).

2.3 The Business Lobby in Vancouver

The most powerful business advocacy group in Vancouver is the Vancouver Fair Tax Coalition. The Vancouver Fair Tax Coalition (VFTC), a non-partisan group, formed to raise citizen awareness of the tax burden "problem" and eventually bring property taxes in line with regional and national averages (Vancouver Fair Tax Coalition, 2006). The Coalition is comprised of local business improvement associations, the Vancouver Board of Trade, small business owners and managers and industrial and office property owners and developers, representing thousands of businesses in Vancouver.

Since its inception, the VFTC has worked hard to bring attention to tax rate inequity and has raised awareness throughout Vancouver. The organization hired a public relations firm to campaign the issue. Ed Des Roches, co-chair of the VFTC, declared that the professional campaign was essential to gain the attention of City Council through citizens concerned about their local businesses and the possibility of changing neighbourhoods (O'Connor, 2006). The VFTC has targeted Vancouver's high tax rate ratio in relation to other local and Canadian cities as a devastating problem for business development. They argue that, since 1984, the tax ratio in Vancouver has risen from 3:1 to 5.9:1 and that if nothing is done to stop this, the ratio could climb as has as 7.28:1 by 2016 and 8.81:1 by 2026.

The VFTC is aided in its lobbying efforts by reports and media releases from several other business lobby groups, such as the BC Chamber of Commerce and the Canadian Federation of Independent Business. According to the BC Chamber of Commerce, the current rates of property taxation for business are grossly unfair as municipalities compete to increase population by lowering residential tax rates and widening the commercial/residential tax rate ratio. "The size of the business community's contribution, along with the complex nature of the system, has been recognized by the Provincial Government as being a serious impediment to the province's competitiveness" (BC Chamber of Commerce, 2006). The Canadian Federation of Independent Business has stated that 49 percent of their members have identified municipal property tax rates as the most harmful tax facing their business (CFIB, 2006).

These lobbying efforts have been so powerful because of the important role of property taxation in municipal finance. Municipalities in Canada have limited means to gather revenue; while user fees are now being used more often, property taxes remain the principal source of revenue for municipalities. In 2006, 63 percent of Vancouver's revenue was gathered from property taxes, roughly $516 million (City of Vancouver, 2006a).

2.4 Response from City Council

Vancouver City Council has tried to address the concerns of the business lobby in recent years by shifting a portion of the tax burden from non-residential properties to residential properties, first in 2003 and again in 2006. When the tax shift was implemented by Council in April 2006, Council also asked City staff to look into a process of engaging the community, residential and business alike, with the goal of achieving a "fair tax" for commercial taxpayers (City of Vancouver, 2007a). City staff came back to Council with a recommendation of initiating a Property Tax Policy Review Commission, which was approved in late September.

The Property Tax Commission was mandated to address the issue of tax inequality between property classes and to recommend an equitable solution that will also enhance stability and predictability. "In addressing these two objectives, the Commission has been asked to consider several principles and guidelines, including equity, sustainability, independence, objectivity, simplicity, consultation, transparency, maintaining the fixed-share approach, and limiting the recommendations to the property taxes that are levied by the City of Vancouver only" (City of Vancouver, 2007a).

The total budget of the project is $100,000, which includes honorariums for the Chairperson ($15,000) and two Commissioners ($20,000) as well as a $65,000 discretionary budget (City of Vancouver, 2007c).The three appointed commissioners had extensive experience in financial affairs related to property taxation: Dr. Stanley W. Hamilton, the Philip H. White Emeritus Professor of Real Estate, Sauder School of Business at UBC (Chair), Mr. Peter Adams, an independent consultant from Victoria with previous experience in consulting for the Union of BC Municipalities, and Dr. Enid Slack, the Director of the Institute on Municipal Finance and Governance at the Munk Centre for International Studies at the University of Toronto (City of Vancouver, 2007c). Thus far, the Property Tax Commission has conducted several meetings with City staff, BC Assessment Authority and representatives of the Vancouver Fair Tax Coalition, as well as four public meetings. The Commission has stated that in general, three broad concerns were brought forward: that property taxes are too high, that the share of taxes paid by each class

is inequitable, and that certain areas of the City have seen dramatic increases in assessed value, causing large increases in property taxes. Although the Commission will not come out with a final report until the summer, it recently came out with an interim report. In this report, the Commissioners recommended that the three-year averaging system of property value remain in place and that there should be between a 1 percent and 2 percent shift in the property tax burden from non-residential properties to residents (City of Vancouver, 2007a).

The large gap in what commercial properties pay in property taxes compared to residential properties has been argued to be detrimental to businesses in the region (VFTC, 2006). This brings up the issue of "fairness" in property taxation. Several definitions of fair have been brought up in the property tax discussion in Vancouver, the most common arguments being found in the benefit principle and vertical equity. The benefit principle refers to the argument that taxes should be paid in proportion to what benefits a party receives (Lipsey, Courant and Ragan, 1998). The VFTC has argued that the large tax gap between business and residents is unfair because businesses in Vancouver do not use the same amount of services as do residents (VFTC, 2006). On the other hand, the principle of vertical equity argues for a more progressive model of taxation, meaning that those properties that have the greatest ability to pay, meaning the highest income, should pay a greater proportion of taxes (Musgrave, 1990). Economic efficiency is also an important consideration in the property tax debate, as it hypothesizes that goods that have inelastic demand curves could be taxed much more than those with more elastic demand curves (Lipsey, Courant and Ragan, 1998). As land is in short supply, particularly in a large urban centre such as Vancouver, it can be argued that the price of land and the taxes paid on this land would not be important to business owners and that municipalities should be free to raise commercial property taxes to a much higher level. While the determination of what is an appropriate gap between the commercial property tax rate and the residential property tax rate is important to decipher, it is not the focus of this study. This study leaves aside the issue of equity and instead attempts to determine the extent to which businesses are affected by commercial property tax rates.

2.5 Summary

The extensive services provided by the city, and the dependence on property taxation as the major source of revenue, have allowed the business lobby to become very powerful in the City of Vancouver. City Council has tried to address the concerns of the business lobby by shifting a portion of the tax burden from non-residential properties to residential properties and by

creating a Property Tax Policy Review Commission to investigate the fairness of the current property tax policy. Despite these efforts, Council has not been successful in diffusing the claims and concerns of the business lobby. In view of this, this study will examine the factors influencing the number of businesses in the region in order to determine a) whether businesses are in fact declining in Vancouver and b) whether the commercial property tax rate has any substantial negative effect on businesses. The next section outlines the methodology of the study, including the dependent variable and seven independent variables hypothesized to have an effect on the number of businesses within a municipality in the GVRD.

3 Methodology

One major part of this study aims to determine whether the high commercial property tax rate in Vancouver has depressed the number of businesses in the city. While it has been determined that business has actually grown since 2001, it remains important to examine what factors influence the number of businesses to see if commercial property tax rates have a significant effect. This section outlines the methodology used to investigate the factors affecting the number of businesses within GVRD municipalities over time. It presents the variables used in the study, explains how each variable is measured, and describes how these variables are employed in the regression analysis.

3.1 Regression Model Overview

This study examines how various variables can affect the number of businesses in a municipality. The dependent variable, the number of businesses in each municipality, was chosen as it has been used consistently throughout the property tax debate in Vancouver. Independent variables were then chosen from a review of economic literature. Data were gathered from a variety of sources, with a concentration on municipal statistics. The data were then analyzed using mulitvariate regression to determine the statistical effect of each variable on the number of businesses in each municipality. OLS regression is the best option for this study over qualitative analysis as there is currently an excess of this type of information on property taxes in Vancouver. Business advocates have been lobbying City Hall with information on the effects of commercial property tax rates on individual businesses, as well as the business community as a whole. While this information is very important and should be appreciated by City Council, it is difficult to determine the true effect of property taxes without statistical analysis.

Regression analysis is a method of estimation that determines the numerical value of coefficients by minimizing the sum of squares of the differences between the estimated or projected results and the actual data used for the model. The regression model with the best fit will have an adjusted-R^2 that is closest to one (Studenmund, 2006). The coefficients are estimated by the equation which projects the effect that each independent variable will have on the

dependent variable. For example, if a variable has a coefficient of 2.5, this means that a one-unit increase of the variable will change the dependent variable by 2.5 units. The regressions in this study use nonlinear forms of several variables, taking logarithmic forms. This is useful as it makes it easier to determine the impact of a variable in a percentage terms (Studenmund, 2006). For example, if the coefficient of a log variable is 2.5, it means that a one-percent change in that variable will cause a 2.5 percent change in the dependent variable.

Table 4 ***Independent Variables and their Hypothesized Effects on the Number of Business Properties***

Dependent Variable	**Measure**	**Source**	**Hypothesized Effect**
Number of Businesses	Class 6 occurrences	BC Assessment	
Independent Variables			
1. Commercial Property Tax Rate	Class 6 tax rate	Ministry of Community Services	Negative
2. Residential Property Tax Rate	Class 1 tax rate	Ministry of Community Services	Positive
3. Average Property Value	Assessed Property Value/Occurrences	BC Assessment	Negative
4. Population	Population Estimates	BC Stats	Positive
5. Access to Rapid Transit	# Skytrain Stations	Translink	Positive
6. Crime Rate	Property Crimes/1,000 population	BC Stats	Negative
7. Big Box Stores	# of large chain stores	Corporate websites, media releases	Negative

Table 4 outlines the hypothesized effect of each of the seven independent variables on the dependent variable. For the purpose of this study, all independent variables are being treated as exogenous, meaning that they affect the dependent variable but the dependent variable does not affect the independent variable. However, some studies have found that business development is affected by population, and that population may also be affected by business, as a municipality with more businesses could attract new residents (Brett and Pinske, 2000). Although testing this relationship in Vancouver would be valuable, it lies beyond the scope of this study. Also, the tax rates may be endogenous variables, as City Councillors consider the current level of businesses in the municipality when deciding the annual property tax rates. However, these decisions have been found to be highly sensitive to the opinions of residents. The responses of the annual telephone survey and City Choices survey conducted as part of the budgeting process have shown a willingness to accept higher taxes in order to keep public services (City of Vancouver, 2004, 2005, 2006a). When comparing these responses to the final tax increases from 2002 to 2006, the

results are highly correlated.[1] In view of this, the dependent variable is less likely to have a significant effect on property tax rates.

Table 5 Average Values of Variables, 2001-2006

Municipality	Number of Businesses	Commercial Property Tax Rate	Residential Property Tax Rate	Average Assessed Property Value	Population	Skytrain Stations	Crime Rate	Big Box Stores
Vancouver	13,414	15.89	2.97	1,092,427	578,697	13	122.7	8
Richmond	6,090	10.92	3.47	727,397	173,640	0	93.4	6
Surrey	5,533	9.48	3.30	639,916	382,929	4	130.0	11
Burnaby	3,525	13.15	3.56	1,169,319	203,961	10	122.5	8
Delta	1,856	13.27	4.43	815,098	102,050	0	69.3	0
Township of Langley	1,479	11.89	3.91	825,889	93,930	0	114.4	4
District of North Vancouver	1,360	11.53	3.34	572,142	86,793	0	63.2	0
Coquitlam	1,125	18.63	3.92	1,242,569	120,685	0	103.7	5
City of North Vancouver	994	11.06	3.35	1,067,754	47,054	0	111.7	4
New Westminster	937	18.20	5.33	612,420	57,858	5	159.4	1
Maple Ridge	899	13.71	4.60	473,978	70,235	0	134.1	2
Port Coquitlam	859	15.18	4.72	668,521	56,109	0	105.2	3
City of Langley	652	11.68	5.23	773,508	25,105	0	193.3	2
West Vancouver	529	6.27	3.20	934,928	43,575	0	67.5	1
Port Moody	402	13.41	4.26	448,758	26,576	0	67.0	0
White Rock	275	11.98	5.53	451,359	19,306	0	92.9	1
Pitt Meadows	153	13.84	4.46	939,051	16,020	0	94.1	0
Mean	2,358	12.95	4.09	791,473	123,796	2	108.5	3
Median	992	12.85	3.91	726,953	70,082	0	103.5	2
Range	153 to 13,221	6.27 to 18.63	2.97 to 5.53	448,758 to 1,242,569	16,020 to 578,697	0 to 13	63.2 to 193.3	0 to 11

Sources: Various, described in the text.

Table 5 shows the values of the dependent variable and seven independent variables under study, using a six-year average (2001-2006), and summary statistics. The variables differ significantly from one municipality to another, particularly in terms of the dependent variable, the number of businesses, as well as property value and population. Access to rapid transit and the number of big box stores are the variables that are most consistent throughout the region, although there are noticeable outliers in the data as well.

[1] When comparing the results of the surveys with the final tax increases, there was an R^2 of 0.93.

3.2 Dependent Variable

In this study, the number of businesses is measured by the number of business properties in each municipality in a given year, from 2001 to 2006. So-called "business occurrences" are used as a measure of the number of businesses located in a municipality. BC Assessment, an independent, publicly funded corporation created under the *Assessment Authority Act* in 1974, assesses properties in every municipality in British Columbia, based on market value (BC Assessment, 2006). Municipalities receive information on the number and assessed values of businesses from BC Assessment, on a yearly basis, and these data are used to determine the property tax rate for each class of property.

There are some limitations to this measurement, as it does not incorporate the size of a business, treating a corner store and a shopping mall as equal. It also counts business properties as the number of discrete legal properties; it does not account for any individual businesses that may lease space on a larger property, so the total number of businesses in each municipality is undercounted. However, the data for a more accurate measurement of business, business size, was not available for individual municipalities in the GVRD, only for the region as a whole (BC Stats, 2006). This measure has been used as a dependent variable in several recent academic studies (Bell and Gabe, 2004, Zhuravskaya, 2000) and is also quite often used in studies conducted by business groups, such as the Vancouver Fair Tax Coalition (2006) and the Canadian Federation of Independent Businesses (2005, 2006).[2]

The number of business properties in each municipality was gathered from BC Assessment as well as the City of Vancouver. The number of business properties in each municipality is provided for each year between 2001 and 2006. Anmore, Belcarra, Bowen Island and Lions Bay are excluded from the study, as they are much smaller geographically than all other municipalities in the region. They are also mainly residential, each having less than one

[2] As this study focuses exclusively on business increase or decline, it does not take into account employment or wage rates that could be used as an independent variable. Incorporation rates were briefly considered as a dependent variable; incorporation refers to the process of registering a new business as a legal entity, known as a company (Small Business BC, 2006). Using the yearly rate of incorporation as a measurement of business development would not be appropriate for the purpose of this study, as many smaller businesses newly incorporated are operated out of the home and therefore not taxed under the Class 6 property tax rate. As this study is particularly interested in the effects of property taxation on business, incorporation rates is not an adequate measurement of business.

hundred businesses. Thus of the possible 126 business counts for the 21 GVRD municipalities, the elimination of these small municipalities leaves 102 observations for regression analysis.

Table 6 Change in the Number of Businesses, 2001 to 2006

Municipality	2001	2006	Increase	% Increase	% Population Increase
Surrey	5,108	6,010	902	17.7%	13.6%
Port Moody	370	424	54	14.6%	15.5%
White Rock	259	295	36	13.9%	2.8%
Langley Township	1,405	1,559	154	11.0%	7.9%
North Vancouver City	955	1,045	90	9.4%	2.4%
Maple Ridge	888	929	41	4.6%	9.2%
Pitt Meadows	147	153	6	4.1%	6.5%
Delta	1,817	1,890	73	4.0%	-0.2%
Richmond	6,051	6,192	141	2.3%	6.2%
Vancouver	**13,069**	**13,221**	**152**	**1.2%**	**5.9%**
Burnaby	3,534	3,545	11	0.3%	4.6%
West Vancouver	526	527	1	0.2%	1.7%
North Vancouver District	1,365	1,350	-15	-1.1%	0.3%
Coquitlam	1,156	1,139	-17	-1.5%	1.5%
New Westminster	943	925	-18	-1.9%	7.1%
Port Coquitlam	867	849	-18	-2.1%	2.8%
Langley City	657	642	-15	-2.3%	-0.2%
TOTAL	39,117	40,695	1,578	4.0%	
AVERAGE	2,301	2,394	93	4.4%	5.2%

Source: BC Assessment, 2006, Census 2006

As shown in Table 6, Vancouver has the greatest number of business properties in the region, with 13,221 in 2006. Those municipalities in close proximity to Vancouver, namely Richmond, Surrey and Burnaby, also have relatively high numbers of business properties, with roughly 6,200, 6,000 and 3,500 business properties respectively. However, the average for all municipalities in the region is much lower at 2,394 businesses, with the median number of business properties at 994, less than a tenth of the level found in the City of Vancouver itself.

Business in the region as a whole has been rising since 2001, with the total number of businesses rising from 39,117 in 2001 to 40,695 in 2006. While this is a total increase of 1,578 businesses for the region, not all municipalities have seen an increase in the number of businesses between 2001 and 2006. Four municipalities have had a decline in businesses since 2001, with the City of Langley losing 2.3 percent in the past six years.

Although the City of Vancouver has seen a slight decrease in the number of businesses in the past two years, it has an overall growth of 1.2 percent since 2001. This is nowhere near the rapid growth found in Surrey and Port Moody, both of which have available land to expand quickly. Vancouver has added 152 businesses to the city, the third highest in the region, but in percentage terms the growth has been sub-average. Vancouver's business growth is also in tandem with its closest neighbours; the number of businesses in Richmond has grown by 2.3 percent, and only 0.3 percent in Burnaby. Even taking into account the decrease in business in the last two years, the claim that businesses are being driven out of Vancouver does not seem as unequivocal as business lobbyists suggest.

3.3 Independent Variables

The independent variables used in this study are outlined and explained in the following subsections. The rationale behind the selection of each independent variable is also presented along with a hypothesis about its direction of impact, whether positive or negative, on the dependent variable. As shown in Table 4, four of the seven independent variables are expected to have a negative effect on the number of business properties in a municipality, while three variables have positive hypothesized effects.

3.4 Taxes

Several studies have examined the factors influencing the location and development of businesses across countries and across the globe. However, few studies have attempted to determine factors influencing development within a small region such as the GVRD. Fox and Murray (1990) analysed new business development in ninety-five counties in Tennessee from 1980 to 1986. They focussed on factors such as the existing market, business costs (land and taxes) and government services (including transit and education). They concluded that the market, taxes and transit were all important factors in determining why businesses settled in a particular region. This is an important consideration for the present study, as both studies deal with business development in a regional setting.

McNamara and Rainey (1999) conducted a similar study, while concentrating solely on the location decisions of manufacturing firms. Data on manufacturing firms were gathered from each county in Indiana from 1983 to 1986. The authors' conclusions echoed those of Fox and Murray, that taxes, transit and local public services are significant factors for the location of firms within a geographical area.

As this study has been motivated by concerns from the business community over taxation policies in the GVRD, several types of taxation are included that have been proven to be important to business location in other studies. While both the commercial property tax rate and the tax ratio have negative hypothesized effects on the number of business properties in a municipality, the residential tax rate is expected to have a positive effect. The data for each type of tax is gathered from the Ministry of Community Services, for each municipality in the region from 2001 to 2006.

3.4.1 Commercial Property Tax Rate

According to Cohen (2000), as well as publications from various business advocates such as the Vancouver Fair Tax Coalition (2006), commercial property taxes are a very important cost to businesses. High property tax rates can be seen as a prohibitive cost to the start-up of a new business and can be detrimental to the overall business development in a municipality. Therefore, commercial property tax rates should have a negative effect on the number of businesses in a given municipality. The median commercial property tax rate is 12.85, although there is a fairly wide range of tax rates within the municipalities under study.[3] West Vancouver has the lowest commercial property tax rate at 6.21 in 2001 and 5.88 in 2006, while Coquitlam has the highest commercial property tax rates, ranging from 18.38 in 2001 to as high as 19.33 in 2004.

3.4.2 Residential Property Tax Rate

The Tiebout Hypothesis, developed by Charles Tiebout in 1956, states that citizens will 'vote with their feet' by choosing a location that offers taxation and service levels that best suit their needs (Stoddard, 2006). This means that a resident who requires many local services will choose a municipality that offers high taxes and a high level of services. While this model has traditionally been used to study residential location decisions, it can also be applied to business. Mathur and Stein (1993) studied the impact of high levels of amenities in a region, primarily looking at its effect on immigration. However, they found that amenities creating positive benefits in regards to costs would in fact stimulate the immigration of firms to a region. They also found that amenities that were not cost-effective to firms could result in a decrease in firms, as well as a decrease in residential immigration. A recent study on municipalities in Maine found that amenities were important to business location, perhaps even more so than cost. Contrary to

[3] All property tax rates in this study are expressed as mill rates, which are dollars per thousand dollars of assessed property value.

the belief of many authors that taxes must be decreased to entice businesses to a region, Bell and Gabe (2004) found that municipalities with high-tax and high levels of spending on local services appeared to be more attractive to businesses than low taxes.

In view of this recent evidence, including a variable for amenities is important. Residential property taxes can be used as a proxy for amenities, as studies have found that businesses consider residential amenities for their workers when considering possible business locations. Businesses benefit from public services, not only for their immediate use but also because extensive public services can attract skilled workers and employees who would enjoy the quality of life in a municipality. While community services are not taken exclusively from residential taxes, many firms perceive residential tax rates as an indicator for the level of services in a municipality (Gottlieb, 1995). In this study, residential property tax rates are expected to have a positive effect on the dependent variable.

Residential property tax rates are much lower than commercial property tax rates in the GVRD, as the average residential tax rate is only one-third of the average commercial property tax rate. All of the municipalities have shown a decrease in residential property tax rates from 2001 to 2006. The median residential property tax rate is 3.91, but like the commercial property tax rate, the residential tax rate varies significantly across municipalities. The lowest residential property tax rate is found in Vancouver at 2.66 in 2006, and the highest was 6.40 in White Rock in 2001, although this has since reduced to 4.10 in 2006.

3.5 Property Value

Some authors find property value to be an important consideration for the potential profitability of any business and a crucial factor for business location (Bell and Gabe, 2004). High property values provide a barrier to business development, as it can be prohibitively expensive for businesses to start-up. Property value is measured by the average value of a business property, that is the assessed value for all Class 6 properties divided by the number of businesses for each municipality in a given year.

There are limitations to this measurement, as the assessed value is highly sensitive to the size and type of property. While rental rates were briefly considered, this measurement was discarded as it is impossible to detect the type of business, or how many businesses lease properties, from the data gathered for the dependent variable. This variable is also much more complex than can be examined in this particular study due to the economic incidence of property taxation. While many businesses lease space on their land, and renters pay a share of the property

taxes on that space, it can be argued that the burden of taxes remains on the land owner (Heilbrun, 1983). While some authors argue that property taxes on the improvement to land can be passed on to renters, the burden of the tax on the land itself remains with owners in the long-term (Blake, 1979). This debate is important in economic literature, and while this paper cannot address these long-term effects with the model employed, it is an interesting fact to consider for Vancouver. If assessed value on a property is expected to rise in a coming year, owners may keep rental rates constant if they are expecting capital gains on their properties. On the other hand, if businesses are being driven out by property taxes, it would negatively affect the market value of business properties and therefore the assessed value.

As the dependent variable is measured by business properties, that is owned properties in each municipality, the argument of a long-term tax burden on land owners means that assessed value remains important to property owners. Due to the limitations in the dependent variable, the average assessed property value was chosen. This data is gathered from BC Assessment for each municipality on a yearly basis, from 2001 to 2006. Property value is hypothesized to have a negative effect on the number businesses within each municipality.

The median average assessed property value is $726,953, but there is again much variation between municipalities and between the years under study, although the average assessed property value does rise in each municipality over time. In White Rock, average assessed property values range from $412,872 in 2001 to $500,494 in 2006, while Coquitlam has the highest average assessed property values, ranging from $1,045,506 in 2001 to $1,513,027 in 2006. For some municipalities the average assessed property values have risen more quickly than others; for example, Pitt Meadows' average commercial property value has more than doubled in the period under study.

3.6 Population

The potential market base for a business is an important consideration for every business, and it greatly influences business location (Christenson and Drejer, 2005). This can be complicated to determine, depending on the type of business being created. However, as this study examines all commercial properties in a variety of municipalities, the potential market base is being measured by the population in each municipality. While not every person in a municipality will visit each commercial property, and some will travel to other municipalities to frequent businesses there, I feel that the population is an accurate measurement of a *potential*

market base that business owners will use to make their decisions for business location. Although many businesses may conduct business with customers across the province, country or even out of country, there is no way of knowing this from the data gathered on the dependent variable.

The population is hypothesized to have a positive effect on the dependent variable. The data for this variable is gathered from BC Statistics, and is comprised of the number of residents in each municipality in the GVRD. The population of each municipality is gathered for every year between 2001 and 2006.

The median population in the GVRD from 2001 to 2006 is 70,082. Population varies widely from one municipality to another, from 15,311 in Pitt Meadows in 2001, to 591,385 in Vancouver in 2006. Many municipalities have remained fairly constant in their population, with a small growth from 2001 to 2006, such as Pitt Meadows and West Vancouver. However, a few municipalities have experienced rapid population growth, such as Vancouver which has grown by over 21,000 since 2001.

3.7 Access to Rapid Transit

Access to rapid transit has been shown to be important in many studies on business location (Henke and Rosentraub, 1996), as it allows for consumers to access businesses they might otherwise not have accessed. In this study, access to rapid transit is measured by the number of Skytrain stations in each municipality in a given year, from 2001 to 2006. The information is gathered from Translink, the transportation authority for the GVRD. This variable is anticipated to have a positive effect on the dependent variable.

Access to rapid transit has remained almost constant during the time under study, with the greatest change being the opening of the Millenium Line transit line in 2002, which changed the number of Skytrain stations in Burnaby from 4 in 2001 to 11 in 2003. However, during the time of this study there remained only four municipalities that had access to rapid transit, namely Burnaby, New Westminster, Surrey and Vancouver.

3.8 Crime

The crime rate has often been cited as an important factor influencing business location and business development (Levi, 2001). While businesses have traditionally concerned themselves with costs and access to markets when determining business location, they have increasingly had to consider deterrents such as crime. Even if businesses are not concerned about

the potential for property crime against themselves, concern about crime on the part of customers or employees can affect trade volume and costs (Levi, 2001). Although crime concerns are often neighbourhood-specific rather than city-specific, crime is considered for each municipality as a whole as the dependent variable is not neighbourhood specific.

Crime is a particularly strong concern for businesses in the GVRD, as this region has the highest property crime rates in the country. Recently the GVRD was dubbed "Canada's Capital of Crime" (Vancouver Sun, 2005). Although Vancouver tied with Winnipeg for the highest number of homicides in 2005, the region has the highest rate of property crime in the country. The robbery rate in Vancouver was 39.97 per 100,000 residents, over six times the rate of Toronto in 2004. In Vancouver alone, the total losses from property crime reached $130 million. In this study, crime is measured by the number of crimes against property per 1,000 population in each municipality, gathered from BC Stats. The crime rate is hypothesized to have a negative effect on the dependent variable.

The median crime rate is 104, with a wide range between municipalities. The District of North Vancouver had the lowest crime rates throughout the period, from 59.4 in 2001 to 60.2 in 2006. The City of Langley had the highest crime rates, although this has declined from 208.8 in 2003 to 188.8 in 2006.

3.9 Big Box Stores

To date, not much study has been done on big box stores and their effect on business development, other than the argument that large chain stores crowd out small businesses (Quinn, 2005). Nevertheless, it would be beneficial to include a variable for big stores in order to account for any discrepancies in the average property value variable. In this study, a store is considered as 'big box' if it occupies a large amount of land and is set apart from other businesses (if they are not part of a shopping mall). This includes stores such as Costco, Ikea, Home Depot, Rona or Wal-mart. The variable for big box stores is measured using the number of big box stores within each municipality in a given year. The data is gathered from a variety of sources, such as corporate websites and news mediums.

The number of big box stores in each municipality in the region varies significantly, although most municipalities have fewer than five such stores within their borders. The median number of stores is two, with nine municipalities having two stores or less, although larger municipalities in the region tend to have more large stores. Surrey has 11 big box stores, while Vancouver and Burnaby each have eight and Richmond has 6.

3.10 Summary

The City of Vancouver has seen a 1.2 percent increase in businesses since 2001. While this growth is much smaller than that of Surrey or Port Moody, which have been growing extensively during the period under study, Vancouver's growth in the number of businesses in its borders is in tandem with its closest neighbours, Richmond and Burnaby. In fact, Vancouver ranks 10th of the 17 municipalities under study, a finding which counters the business lobby's claim that business growth in the city has slowed. This initial and important finding is discussed later in this paper.

Although business has grown in Vancouver, this study continues to examine business lobby claims as to whether the commercial property tax rate affects the number of businesses in a given municipality. This study measures how seven independent variables affect the number of business properties in each municipality in the GVRD. Four of these variables are expected to negatively affect the number of businesses in a municipality, as literature suggests that they are deterrents or costs to businesses. These include commercial property taxes, assessed property value, crime and big box stores. The three remaining independent variables, residential property taxes, population and access to rapid transit, are expected to positively affect the number of businesses in a municipality, as they enable businesses to reach out to potential customers and access community amenities. Of the 17 municipalities under study, each is significantly different from the others in terms of taxation, population, access to rapid transit, crime and the number of big box stores within their borders. The next section takes the data described above and employs regression analysis to determine which factors most significantly affect the number of businesses in a municipality. The results are then used to formulate policy alternatives for the City of Vancouver.

4 Regression Results

This section uses ordinary-least-squares regression to assess the effect of the seven independent variables on the number of businesses in each municipality. The predictive capacity of the model used is extremely high, with an adjusted-R^2 score of 0.935. Results suggest that population and residential property taxes have significant and strong effects on the number of businesses in a municipality. Commercial property taxes, the main concern of the business lobby, are shown to be statistically significant but the effect on location is negligible. Average property value, access to rapid transit and big box stores are not significant in this model. The results of the statistical analysis are used in Section 5 to guide the formulation of policy alternatives for the City of Vancouver.

4.1 Model Results

A single regression model is used to determine which independent variables most influence the number of businesses present in a given municipality. As explained earlier, where variables were not in rate form, they are logarithmically transformed (this includes occurrences, property value and population). The model formula is:

log(businesses) = c + cptr + rptr + log(assessment) + log(population) + transit + crime + big

Table 7 Regression Results

Variable Name	Model
Population	1.217*
Residential Property Tax Rate	0.452*
Commercial Property Tax Rate	-0.046*
Crime Rate	0.004*
Number of Big Box Stores	-0.043
Access to Rapid Transit	-0.006
Average Property Value	-0.030
Adjusted R^2	**0.935**

* *Significant at < 0.01*

As shown in Table 7, the predictive capacity of this model is extremely high with an adjusted-R^2 score 0.935. Four of the seven independent variables are significant at a 95 percent confidence level or better, with the average property value, access to rapid transit and the number of big box stores not proving significant. Significant variables include population, commercial property tax rate, the residential property tax rate and the crime rate. The results of diagnostic tests on all of the independent variables show no signs of multicollinearity. Coefficients for variables that are significant at a 95 percent confidence level or greater are considered subsequently in the creation of policy alternatives in section.

Population has the greatest impact on the number of businesses in a municipality, confirming the expected hypothesis. Population has an estimated coefficient of 1.22, meaning that a one-percent increase in population should cause a 1.22 percent increase in the number of businesses within a given municipality. The model estimates that is a one percent increase in the number of people living in Vancouver would result in 161 more businesses.

The relationship of the residential property tax rate to the number of businesses is significant and positive at 0.45, confirming the earlier suggested hypothesis. This model shows that if Vancouver increased its residential property tax by one-unit, from 2.66 to 3.66 percent, the number of businesses would increase by 60. Based on the revenue gathered in 2006, this increase in the residential property tax rate would increase revenue by $152,785,419.

The commercial property tax rate is also significant, although it has a relatively small coefficient value of -0.046 with the direction of the relationship confirms the initial hypothesis. Accordingly, if Vancouver were to decrease its commercial property tax by one-unit, from 15.48 to 14.48, the number of businesses would increase by 6. Based on 2006 revenue, this reduction in the commercial property tax rate would reduce municipal revenue by $15,806,956. That is, even though the tax rate cut would increase the number of businesses, the direct impact of the rate cut would cancel out that impact on revenues. As it is important to the claims of the business lobby, this result is explored in more detail later.

The relationship between the crime rate and the number of businesses is surprising as, counter to the hypotheses, there is a positive effect. This means that more crime seems to increase the number of businesses in a municipality. However, this variable has a very small coefficient of 0.004, suggesting that with a one-unti increase in crime means only a 0.004 percent increase in business properties in a given municipality. In Vancouver, this would mean that a one-unit increase in the crime rate would result in an increase of less than one business. As this effect is so small, this variable is not be used to create a policy alternatives in the next section.

In this model, the average property value, access to rapid transit and big box stores are all found to be insignificant. This means that these variables are not affecting the number of businesses in the GVRD, despite their estimated effects in other areas. The three variables found to have the most significant effect on the number of businesses in a municipality are population, the commercial property tax rate and the residential property tax rate.

4.2 Summary

The results of this analysis are somewhat surprising given the nature of the property tax debate in Vancouver. The business lobby has argued that the businesses are being driven out, or choosing not to locate, in Vancouver due to high commercial property tax rates. However, the annalysis in this and the previous section regression demonstrates that not only has Vancouver seen an overall increase in the number of businesses, a growth of 1.2 percent since 2001, the negative impact of commercial property tax rates on business growth is so small as to be negligible. These findings, along with suggestions from the business community and the Property Tax Policy Review Commission's interim report, are used in the next section to assess policy options for the City of Vancouver in dealing with the city's growing business lobby.

5 Analysis of Alternatives

The results of the statistical analysis in the previous section illustrate that, although commercial property tax rates have an effect on the number of businesses in a municipality, the effect is very small. This fact, combined with the fact that Vancouver has seen an overall increase in business, demonstrates that the claims of the business lobby are largely unfounded. However, this leaves City Council with the task of how to address the city's business lobby while making the best decision for property taxation for the community as a whole.

This section describes and analyses several policy options brought forward during the property tax debate in Vancouver, both from business advocates and the Review Commission. While the two alternatives from the business lobby are initially hypothesized to be politically unfeasible, it is important to consider these options in order to accurately respond to the concerns of the business community. All of the options are analysed in terms of their effect on municipal revenue, compared to the estimated $480.8 million needed in general tax levy for the 2007 Budget, and political feasibility. If appropriate, new businesses, expected from the results of the statistical analysis, will be included in the calculations. These policy alternatives are then compared with each other, along with the status quo and a public consultation alternative, to determine which of these options should be implemented in the City of Vancouver.

5.1 Policy Alternative 1: Status Quo

The City of Vancouver has been under pressure in recent years to change the property tax system to become more 'equitable' for businesses, that is to have the commercial and residential property tax rates become more proportionate. In face of this pressure, the City has shifted the tax burden from the commercial property class to the residential property class twice in the period under study. In 2003, there was a 0.5 per cent shift of the tax burden, and a one percent shift in 2006 (City of Vancouver, 2006). The City has also created a Property Tax Policy Review Commission, offering a forum for business and residents to give their opinions and concerns regarding the current property tax policy in Vancouver.

While the Status Quo would be a revenue-neutral option, as it does nothing to change the current tax levy, it is not an attractive option in terms of political feasibility. While it has been determined that the number of businesses in Vancouver has seen an overall increase in the period under study, and that the commercial property tax rate has only a slight effect on business development, the Status Quo would do nothing to address these issues. Under this alternative, the business lobby would continue to press for change in the property tax policy and would most likely become even more vocal in the media.

5.2 Policy Alternatives 2a and 2b: Lowering the Property Tax Rate Ratio

As stated throughout this study, representatives of the business community have been concerned with Vancouver's relatively high commercial property tax rate and the large gap between the business and residential tax rate (VFTC, 2006). The Vancouver Fair Tax Coalition in particular has argued that Vancouver should try to reduce this gap by bringing the ratio between business and residential tax rates down from 5.82:1 to 3.6:1, the regional average. The following two policy options would lower this gap; the first by reducing the commercial property tax rate alone, and the second by reducing the commercial property tax rate along with an increase in the residential property tax rate so as to maintain total property tax revenues.

5.2.1 Policy Alternative 2a: Reducing the Commercial Property Tax Rate

This option outlines a scenario in which the City of Vancouver concedes completely to the suggestions of the business lobby in reducing the tax rate ratio by drastically reducing the commercial property tax rate. In order to obtain a ratio of 3.6:1, without raising the tax rate on residential properties, the commercial property tax would need to be reduced from 15.48 to 9.58. This option would have a severe effect on municipal revenue, as this option would decrease the revenue gathered from businesses without allowing for another source of revenue to make up the difference. Table 8 outlines the changes in municipal revenue implied by this policy option.

Table 8 The Effects of Policy Alternative 2a on Municipal Revenue

Original commercial property tax rate	15.48
New commercial property tax rate	9.58
Proposed Revenue Gathered from Business in 2007	$248,092,800
New Revenue Gathered from existing Businesses	$153,535,480
Number of New Businesses Predicted	36
Revenue from New Businesses	$418,068
Total Revenue Impact	**- $94,139,252**

The forecast effect of this policy option on municipal revenue is very dramatic. Even with the additional revenue from increased businesses, this option would cause a sharp reduction in revenue that would otherwise have gone to community services and programs. When compared to the estimated 2007 Operating Budget, this option would reduce tax revenue from business properties by 37.9 percent.

This option would also fare quite badly in terms of political feasibility. Despite the fact that businesses would welcome a cut in property taxes, it has been shown that services are more important to business than a decrease in taxes. Along with this fact, residents would surely not accept such a drastic cut in services, even if it were spread over a long period. Residents have consistently accepted a rise in taxes in order to keep existing programs and services; this option would not be acceptable politically.

5.2.2 Policy Alternative 2b: Reducing the Commercial Property Tax Rate and Increasing the Residential Property Tax Rate

This second policy alternative is similar to the previous option in that it is concerned with lowering the property tax rate ratio from 5.82 to 3.6. However, this option allows for an increase in the residential property tax rate and a smaller decrease in the commercial property tax rate to get to this ratio. This option would increase the residential property tax rate from 2.66 to 3.66 while reducing the commercial property tax rate from 15.48 to 13.12.

Table 9 The Effects of Policy Alternative 2b on Municipal Revenue

Original Revenue Gathered from Residents	$215,879,200
New Revenue Gathered from Residents	$297,037,083
Original Revenue Gathered from Businesses	$248,092,800
New Revenue Gathered from Existing Businesses	$210,269,885
Number of New Businesses Expected	72
Revenue from New Businesses	$1,145,105
Total Difference in Revenue	**$44,980,073**

The effect of this policy alternative on municipal revenue would be positive, as it would increase total revenue by over $44 million. This additional revenue could be used for new community programs or to improve existing programs and services. While this policy option would be a good move to appease the concerns of the business community, as it would lower the commercial property tax rate close to the regional level, it would not be a good option for residents. While the increased revenue could go towards new services, the source of the new revenue represents a 36 percent increase in the residential property tax rate. Although this may be more acceptable if the effects were spread out over a longer period of time, this option would be difficult to justify to voters. Certainly, no City Councillors who wished to gain re-election would vote for this option.

5.3 Policy Alternatives 3a and 3b: Recommendations by the Property Tax Policy Review Commission

The second type of policy option considered in this study comes from a recommendation in the recent interim report of the Property Tax Policy Review Commission. The Commission "recommends that the City of Vancouver adopt a policy to shift between 1% and 2% of the 2007 tax levy from the non-residential to the residential class" (City of Vancouver, 2007). This means that the general tax levy, initially estimated at $480.8 million, would be paid differently, shifting from the current fixed-share of 44.9 percent from residents and 51.6 percent from commercial businesses. It is important to note, however, that the Commission recommends a shift from "non-

residential" class; this includes not only commercial properties (Class 6) that have been presented here but also utilities (1.3%) and industrial properties (2.1%).

Although the Commission has stressed that this is an interim recommendation, it also states that the Commissioners are confident this will be part of the final recommendations. The Commissioners chose to look at a shift between one and two percent because they feel that a one percent shift would not appease the business community, while a two percent shift would cause economic hardship for residents. To examine the effects of this type of policy, this study will examine the effects on municipal revenue and the political feasibility of both a one percentage point tax shift and a two percentage point tax shift.

5.3.1 Policy Alternative 3a: One Percent Shift

This option looks at the lower-end of the Property Tax Commission's interim recommendation, a one percent shift of the tax burden from non-residential to the residential class. While this represents a complete one percent shift for residents, the share from non-residential classes means that the business class would only see a reduction of 0.2 percent. The table below explains this option's effect on the taxes paid by residents and businesses, as well as the change in the tax rate for each class.

Table 10 The Effects of Policy Alternative 3a on Municipal Revenue and Tax Rates

	Residential Class	Business Class
Original Tax Share	44.9	51.6
New Tax Share	45.9	51.4
Original Revenue Gathered	$215,879,200	$248,092,800
New Revenue Gathered	$220,687,200	$247,131,200
Difference in Revenue Gathered	$4,808,000	- $961,600
Original Tax Rate	2.66	15.48
New Tax Rate	2.72	15.42

This option does not have an effect on the overall revenue gathered for the City of Vancouver, as it simply shifts the tax burden from one class to another. (While the effects on municipal revenue gathered from other property classes, including utilities and industry, are not shown in Table 10, there is a reduction in those property classes as well that are equal to the increase in revenue gathered from residents.) However, this option would not do very well in terms of political feasibility. As the Property Tax Commission stated, this option would not have a strong enough effect to appease the business community; the resulting change in the commercial property tax rate is only a reduction of 0.4 percent. For a business assessed at $700,000, this would correspond to a reduction in taxes of $42.

This policy option may be more acceptable to residents than some other options, as the Property Tax Commission has heard evidence that some residents feel the tax burden on businesses is unfair (City of Vancouver, 2007a). However, residents have just had a one percent increase in 2006 and, while this did not increase the property tax rate due to an increase in residents sharing the burden, residents may wonder why the burden is continuing to shift.

5.3.2 Policy 3b: Two Percent Shift

Like the previous option, this policy alternative is a revenue neutral alternative, as it shifts the proportion of the general tax levy paid by each property class. The following table

describes the changes this option would have on the share of revenue paid by each class, and the resulting change in the property tax rates.

Table 11 The Effects of Policy Alternative 3b on Municipal Revenue and Tax Rates

	Residential Class	Business Class
Original Tax Share	44.9	51.6
New Tax Share	46.9	51.2
Original Revenue Gathered	$215,879,200	$248,092,800
New Revenue Gathered	$225,495,200	$246,169,600
Difference in Revenue Gathered	$9,616,000	- $1,923,200
Original Tax Rate	2.66	15.48
New Tax Rate	2.79	15.36

Although this policy alternative would carry more weight with the business community, due to a larger commitment from City Hall than in previous years, the total effect of the reduction in the commercial property tax rate is not large. The gap between the property tax rates would remain the highest in the region at 5.5:1, nowhere near the 3.6:1 ratio that the business lobby feels is warranted. This policy alternative would also be less popular for residents than the previous policy alternative and would be difficult to explain to voters if the policy were implemented but the business lobby remained strong.

5.4 Policy Alternative 4: Increased Public Consultation/Information Campaign

From the surprising results of the statistical analysis conducted in the previous section, that the residential tax rates have a larger effect on the number of businesses in a municipality than do the commercial property tax rates, it is clear that there is a need for more research into this area. While much of the discussion over property taxation has revolved around how property taxes affect individual businesses or residents, more discussion needs to be conducted regarding

what is best for the community as a whole. Should the City of Vancouver be aiming for a higher growth in the number of businesses, trying to catch up to growth in Surrey or Langley? Should the tax rates be set according to the tax rates of other municipalities in the region? While some of these issues have been raised in the property taxation discussion, it is difficult to determine an appropriate policy without clear direction on what the policy should address.

The policy option proposed here is intended to create an extensive public consultation process to discuss these issues, along with the ability to distribute important information determined from the research conducted. While the City has already moved in the direction of public consultation with the creation of the Property Tax Policy Review Commission explained in the Status Quo option, this policy alternative would require several additional avenues of public consultation to ask different types questions. Rather than gathering information on the effects of taxation on different tax groups, information would be gathered on what problems residents and businesses think a property taxation policy should address. While the exact nature of the public consultation process would be determined by the City, it is suggested that open houses and a household/business mailing survey be conducted in order to reach as many members of the community as possible. While providing a forum for public discussion is the key component of this alternative, continuing with more research into the area of property taxation is equally important. Due to the limitations of the data used in this study, only a portion of the business development in the GVRD was able to be studied. For example, both residents and business groups have outlined small businesses as important features of the city, so conducting research on the effects of taxation on small business is very important. Comprehensive research on the issues raised by citizens and the business lobby is imperative to addressing the policy problem.

City Council has conducted several public meetings and surveys every year in order to gather information for the operating budget, which means that the City has established knowledge in this type of public consultation. While the costs of public consultation may vary, the cost of this policy option is estimated at $500,000. This would include the cost of three open houses, a city-wide mail-out as well as newspaper advertisements and consulting fees. The political feasibility of this option would be relatively high compared to other options, as it would be asking both residents and businesses their opinions on the purpose of taxation policy, rather than repeating many of the same arguments time and time again. However, there may be opposition from some residents on spending money for more public consultation when the Property Tax Policy Review Commission has already spent considerable time on the issue.

5.5 Assessing Policy Alternatives

Each of the above policy alternatives is assessed by two criteria in order to determine the best policy option to address the powerful business lobby in the City of Vancouver. Although effectiveness (in growing the number of businesses) was originally considered as a policy criterion, this is no longer included as it was determined that business growth is not a problem for Vancouver. Each alternative will thus be judged based on the cost of the policy and the political feasibility of the policy if it were to be implemented.

Cost refers to the amount of money the City of Vancouver would lose, or gain, in municipal revenue by implementing each policy alternative. An alternative that garners more revenue for the City is considered as a good alternative as it would allow for more services to be offered in the community, while an alternative that decreases revenue would be detrimental to the community as it would require a cut in the services that businesses and residents desire. An alternative is ranked as high (1) if a policy would adversely affect municipal revenue, while it is ranked low (3) if the policy would improve municipal revenue or is revenue-neutral. Political feasibility refers to the political support City Council would receive by implementing a particular policy alternative. For a policy alternative to be politically feasible, it will need to take into account the concern from the business community as well as the opinions of residents, as residents are the voting public. As this study is particularly concerned with the policy problem of the property taxation debate, political feasibility will be weighed more heavily than cost; a policy alternative that is deemed politically feasible will be ranked as high (6) and the least feasible is ranked as low (2). The comparative matrix below details the alternatives in comparison with each other.

Table 12 Comparative Ranking Matrix

Policy Alternative	Cost	Political Feasibility	Total Score
Alternative 4: Increased Consultation/Information Campaign	Medium (2)	High (6)	8
Alternative 3a: 1% Shift in Tax Burden	Low (3)	Medium (4)	7
Alternative 3b: 2% Shift in Tax Burden	Low (3)	Medium/Low (3)	6
Status Quo	Low (3)	Low (2)	5
Alternative 2b: Lowering CPTR and Raising RPTR	Low (3)	Low (2)	5
Alternative 2a: Lowering CPTR	High (1)	Low (2)	3

5.5.1 Costs

Four of the policy alternatives rank low in terms of cost to a municipality as they are either revenue-neutral or, in the case of alternative 2b, increase municipal revenue. Alternative 4 is considered to have a medium cost, as it would require an outlay of $500,000 to implement, revenue which could have been used for another program or service. However, this amount is nowhere near the cost of alternative 2a, where lowering the commercial property tax rate would result in a decrease of over $94 million of municipal revenue.

5.5.2 Political Feasibility

As the policy alternatives are intended to be used to address a political problem for the City of Vancouver, political feasibility has been weighted more heavily than cost. Only one alternative was ranked as high in terms of political feasibility, alternative 4. Increasing public consultation, and providing more information to the public, would allow for a greater understanding of the problems citizens wish to address with a property tax policy and should enable City Council to create a policy that would best suit the community as a whole. This would allow residents and businesses to have a say in what problems they feel need to be addressed without compromising service provision.

Both alternatives presented by the Property Tax Policy Review Commission rank as medium, or medium-low, in terms of political feasibility. The first alternative, that of a 1 percent

tax shift, ranks as medium because it would be somewhat acceptable to residents but would not adequately address the concerns of the business community. The second alternative would have more success in addressing the concerns of the business community, but this would be less acceptable to residents, the voting public. The remaining three alternatives are all ranked as low for political feasibility. Remaining with the status quo is not a good political strategy as it would not address the political problem presented to City Council. The two alternatives taken from concerns of the business community would also be difficult to implement due to political opposition. Although alternative 2b would increase municipal revenue and therefore allow for more services or programs to be initiated, it would mean a very dramatic increase in residential property taxes, which would not be acceptable for voters. On the other hand, dramatically decreasing municipal revenues through alternative 2a would also be problematic, as it would necessitate a dramatic decrease in programs and services provided to the community.

5.6 Evaluation Summary

When all of the alternatives were ranked and compared, it was found that creating a more robust public consultation process on the problems that should be addressed by property taxation is the best policy alternative for the City of Vancouver. Although this option is more costly than most of the other alternatives, it is the best in terms of political feasibility, as it would allow for a more diverse discussion on taxation while keeping business and residents informed on emerging research findings for the area.

The two policy options taken from the Property Tax Policy Review Commission are found to be the second and third best options for the City of Vancouver. Both of these options are revenue-neutral, but they rate medium and medium-low in terms of political feasibility. Option 3a, a one percent shift in the tax burden, would be better for residents but would not completely satisfy the growing business lobby. However, while option 3b would offer a better alternative for businesses, it would be more difficult to justify to the residents who make up the voting public.

Both the Status Quo and alternative 2b ranked as the fourth best option for the City of Vancouver. While continuing with the status quo is not an attractive policy for City Council in terms of political feasibility, as the business lobby would continue to be present, this is a revenue-neutral option. Alternative 2b, lowering the commercial property tax rate and raising the residential property tax rate, is the best option in terms of cost, as it is the only policy alternative that would raise municipal revenue. However, this is not a politically feasible option, as it would cause a dramatic increase in tax rates for voters.

Alternative 2a, decreasing the commercial property tax rate alone, is the worst policy option for the City of Vancouver. This option has both the highest cost and the worst political feasibility of any option under study.

6 Conclusion

This study illustrates how a municipal government could take the concerns of a lobby group into consideration when making policy decisions while maintaining an objective outlook on the effects on the community. While investigating the concerns of the business lobby in the City of Vancouver, this study demonstrates that the number of businesses in a given municipality in the Greater Vancouver Regional District is significantly influenced by population, the residential property tax rates and commercial property tax rates. Although the number of businesses in Vancouver is not decreasing, several policy options were considered for the City of Vancouver that could be used to quell the powerful business lobby while serving the interests of residents. It was found that the best policy alternative would be to conduct a robust public consultation process, allowing for residents and businesses to discuss the specific problems Vancouver's property taxation policy should address.

The next steps in the evaluation of this information is to generate research on the concerns of business and residents through the public consultation process. It is imperative that this process be implemented with every effort for more research, or the information campaign will simply be seen as a stalling tactic by City Council. Although this study was limited in the data used in analysis, the City could conduct similar research on the effects of taxation and services for different types of business, or different areas of the city. Further studies should also be conducted to investigate the use of alternative sources of funding for services, so that service levels will not rely so heavily on property tax revenues, whether derived from commercial or residential owners.

Appendices

Appendix A: Public Opinions Regarding Tax Increases

Since 1997, the City of Vancouver has conducted a yearly public consultation process in order to gather the opinions of residents on the desired level of taxes and services (City of Vancouver, 2007). This public consultation process typically consists of a telephone survey, a City Choices survey, and public meetings. The information is then used by City Council when determining the appropriate taxation levels in a given year. The results of the surveys answered by telephone (the most consistent medium from 2001-2007) are outlined below. In each year, residents would accept:

Year	Survey Results
2001	2% increase: 86% 4% increase: 80% 6% increase: 69%
2002	2% increase: 85% 4% increase: 75% 6% increase: 64%
2003	2% increase: 87% 4% increase:79% 6% increase: 62%
2004	2% increase: 84% 4% increase: 70% 6% increase: 57%
2005	2% increase: 86% 4% increase: 72% 6% increase: 57%
2006	2% increase: 87% 4% increase: 74% 6% increase: 62%
2007	2% increase: 87% 4% increase: 73% 6% increase: 63%

In 2006, the surveys also included questions regarding a tax shift to alleviate high tax burdens on businesses. The results of the survey indicated that 55 percent of residents did not want a tax shift but 41 percent would accept a tax shift of either 1 percent (25%), 3 percent (11%) or 5 percent (4%). Business owners were also surveyed with this question and results indicated that 31 percent did not want a tax shift, while 67 percent would support a tax shift of either 1 percent (25%), 3 percent (26%) or 5 percent (16%).

Appendix B: Multicollinearity

Multicollinearity refers to a strong relationship between two or more variables. While there is always some slight multicollinearity, if there is high multicollinearity within variables it can skew the results of a regression model. Several tests were conducted in order to determine whether severe multicollinearity occurs in this model.

The initial regression model included three types of taxes, including commercial property tax rates, residential property tax rates and commercial/residential property tax rate ratios. The simplest test used to determine multicollinearity was to drop some independent variables from the equation to determine whether the t-scores dropped dramatically. Although some t-scores did decline, none of them diminished to the point of the critical t-score (1.67).

Table 13 t-scores with various regression equations

Variable	Model 1	Model with only CPTR	Model with only tax rate ratio	Model with CPTR and tax rate ratio
Commercial Property Tax Rate	-4.127	-3.686	n/a	-3.337
Residential Property Tax Rate	2.951	2.451	n/a	n/a
Tax Rate Ratio	3.083	n/a	2.201	2.071

Along with this test, multicollinearity was tested by computing the Variance Inflation Factors (VIFs) for each variable. Although this is not a test, it can be a useful indicator of multicollinearity.

Variable	VIF
Commercial Property Tax Rate	3.78
Residential Property Tax Rate	4.02
Tax Rate Ratio	4.45
Log(Population)	1.83
Log(Property Value)	3.65
Transit	2.38
Crime Rate	1.76
Big Box Stores	3.04

Although the VIF test did not reveal severe multicollinearity (VIF > 5), it did highlight a slight problem with the commercial/residential property tax rate ratio. In view of this, the variable was dropped to determine whether the VIFs would decrease. A second test was conducted using the remaining six independent variables. It was determined that there was no problem with multicollinearity in this model.

Variable	VIF
Commercial Property Tax Rate	1.66
Residential Property Tax Rate	3.02
Log(Population)	1.83
Log(Property Value)	2.87
Transit	2.11
Crime Rate	1.75
Big Box Stores	3.01

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