

SUPPORTABLE RETAIL CAPACITY:
A DOWNTOWN VANCOUVER
CASE STUDY

By

DAVID SAMUEL TURNER

B.A., The University of Victoria, 1985

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

in

THE FACULTY OF GRADUATE STUDIES
School of Community and Regional Planning

We accept this thesis as conforming to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

September 1991

© David Samuel Turner, 1991

In presenting this thesis in partial fulfilment of the requirements for an advanced degree at the University of British Columbia, I agree that the Library shall make it freely available for reference and study. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by the head of my department or by his or her representatives. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Department of School of Community and Regional Planning

The University of British Columbia
Vancouver, Canada

Date October 10, 1991

ABSTRACT

Planning for the provision of retail growth and change within our increasingly complex urban areas is a challenge facing all large urban areas in Canada. The purpose of this thesis is to highlight the need for retail market analysis and its use as a tool for policy makers in predicting the consequences of long range planning policy options.

This study suggests that the notion of supportable retail floorspace is a concept which relies to a significant extent on non-market forces and as such, meaningful forecasts can only be achieved based on clearly defined regional and local government planning policy.

The literature review discusses the major theoretical contributions in retail evolution and modelling techniques to provide a context for the step-by-step approach to retail market analysis conducted in the case study. This is followed by a review of major trends in retail supply and demand which will affect retail development over the next decade. Lastly, a theoretical review of commercial development trends and an analysis of trends in the G.V.R.D. over the past decade is presented, highlighting the growth of regional town centres.

The case study applies the principles discussed by conducting a trade area analysis to develop a detailed retail expenditure potential model from which supportable retail floorspace estimates for the Downtown Vancouver peninsula are derived. The study utilizes secondary data sources including Statistics Canada, the G.V.R.D., and the City of Vancouver, as well as data from numerous other public and private sources. From the range of "planning options" or market share scenarios run, it becomes clear that the amount of retail floorspace supportable on the downtown peninsula depends to a large extent on regional market and non market forces outside the control of Vancouver planning authorities.

Conclusions derived from the analysis are of both practical and theoretical significance. From a practical standpoint it is clear that Vancouver's downtown peninsula will support additional retail growth over the next decade. However, the wide range of supportable floorspace estimates obtained through the five scenarios run highlights the need for both municipal and regional government to more vigorously identify the role that Downtown Vancouver should play within the regional market into the next century. This would enable the city to be proactive rather than reactive to retail development initiatives and proposals from developers by narrowing the supportable retail capacity to a more meaningful range.

From a theoretical perspective it is demonstrated that the step-by-step approach to market analysis is a useful tool in highlighting the market effects of long range planning options. It is also noted that retail models typically deal almost exclusively with the economic aspects of shopping activity and to be truly meaningful retail policy must also include social criteria relating to shopping activity. Furthermore, it is recognized that retail models are best used as a part of a wider analysis for an evaluation of the costs and benefits of retail development which also takes into account other policy fields and issues such as municipal finance, transportation planning, urban form and environmental considerations.

TABLE OF CONTENTS

Abstract.....	ii
List of Tables.....	vi
List of Figures.....	viii
Acknowledgements.....	ix
CHAPTER 1 INTRODUCTION	
1.1 Purpose.....	1
1.2 Context.....	2
1.3 Significance.....	5
1.4 Methodology.....	9
1.5 Scope and Limitations.....	10
1.6 Thesis Organization.....	11
1.7 Definitions.....	13
CHAPTER 2 THEORETICAL CONTEXT	
2.1 Changes in Retail Location.....	15
2.2 The Use of Models in Retail Planning.....	18
2.3 Types of Models.....	19
2.3.1 Central Place Theory.....	20
2.3.2 Spatial Interaction Models.....	22
2.3.3 Rent Models.....	23
2.3.4 The Step-by-Step Approach.....	24
2.4 Shopping Centre Development Trends.....	25
2.4.1 Development Trends.....	27
2.4.2 Urbanization of Regional Malls.....	28
2.4.3 Growth of Power Centres.....	28
2.4.4 Retail as Leisure.....	29
2.4.5 Vertical Centres.....	30
2.4.6 Hybrid Centres.....	31
2.4.7 In-fill Opportunities.....	32
2.4.8 Opportunities in the 1990s.....	32
2.4.9 Conclusion.....	33
2.5 Greater Vancouver Commercial Growth Trends.....	34
CHAPTER 3 RETAIL EXPENDITURE POTENTIAL	
3.1 Introduction.....	47
3.2 Trade Area Delineation.....	47
3.2.1 Regional Retail Competition.....	48
3.2.2 Accessibility.....	56
3.2.3 Trade Area Boundaries.....	58
3.3 Population Projections.....	60
3.4 Income Projections.....	69
3.5 Retail Sales as a Proportion of PDI.....	72
3.6 Retail Expenditure Profile.....	73

TABLE OF CONTENTS (Continued)

3.7	Retail Expenditure Potential	78
3.8	Visitor Generated Expenditure Potential	81
3.9	Total DSTM Expenditure Potential.....	85
 CHAPTER 4 DOWNTOWN VANCOUVER SUPPORTABLE RETAIL FLOORSPEACE		
4.1	Introduction.....	88
4.2	Downtown DSTM Retail Inventory.....	88
4.2.1	Introduction.....	88
4.2.2	Large Scale Retail Centres	93
4.2.3	Small Centres.....	94
4.2.4	Streetfront Retail Areas.....	97
4.3	Origin of DSTM Sales.....	100
4.4	Market Share of Sales.....	104
4.5	Supportable DSTM Retail Floorspace to 1999.....	105
4.5.1	Introduction.....	105
4.5.2	Option A: Status Quo Scenario.....	105
4.5.3	Option B: Moderate Regional Multinucleation Growth	107
4.5.4	Option C: Significant Regional Multinucleation Growth	109
4.5.5	Option D: Moderate CBD Regional Penetration Growth.....	110
4.5.6	Option E: Significant Total CBD Regional Penetration Growth.....	112
4.5.7	Supportable Retail Growth Summary	113
 CHAPTER 5 CONCLUSIONS AND PLANNING CONSIDERATIONS		
5.1	Downtown Vancouver Retail Capacity	115
5.2	Retail Planning Considerations for Downtown Vancouver.....	116
5.3	Conclusions about the Methodology.....	117
5.4	General Planning Considerations.....	120
5.5	Directions for Further Research	122
BIBLIOGRAPHY.....		124
 APPENDICES		
A	Statistics Canada Retail Category Definitions.....	127
B	Detailed Market Share Tables.....	129

LIST OF TABLES

1.1	Downtown Peninsula Proposed Major Retail Developments.....	7
2.1	Vertical Shopping Centres.....	31
2.2	Commercial Floorspace Growth in Municipalities That Contain Town Centres, 1983-1989.....	37
2.3	Commercial Floorspace in Town Centres, 1989.....	38
2.4	Regional Retail Floorspace Growth: 1983-1989	40
3.1	Regional Town Centre Retail Inventory, 1989.....	49
3.2	Major Shopping Centres.....	52
3.3	Vancouver Residents Shopping Centre Patronage Behaviour.....	55
3.4	Travel Times by Automobile to Downtown Vancouver, 1987.....	56
3.5	Trade Area Population 1961-1986.....	61
3.6	Trade Area Population Forecast, 1986-2001: Medium Net Migration Scenario	65
3.7	Trade Area Population Forecast, 1986-2001: High Net Migration Scenario.....	67
3.8	Population Forecast Summary, 1989-1999.....	68
3.9	Derivation of 1989 Personal Disposable Income For Trade Areas.....	70
3.10	Historical PDI Growth	71
3.11	Personal Disposable Income Projections.....	72
3.12	Retail Sales to PDI Ratio.....	73
3.13	Categories and Sub Groupings of Retail Outlets.....	74
3.14	Vancouver C.M.A. Retail Profile.....	76
3.15	Retail Profile Forecast, 1988-1999.....	77
3.16	DSTM Expenditure Potential: Net Migration Scenario	79
3.17	DSTM Expenditure Potential: High Net Migration Scenario.....	80
3.18	Overnight Visitors to Vancouver.....	81
3.19	Average Expenditures Per Day by Visitors to Vancouver, 1989.....	82
3.20	Overnight Visitors to Vancouver Trip Purpose, 1989.....	83
3.21	Number of Hotel and Motel Rooms in Greater Vancouver, 1990	84
3.22	Visitor Based DSTM Expenditure Potential Forecasts, 1989-1999	85
3.23	Total DSTM Expenditure Potential Growth Summary, 1989-1999.....	86
4.1	Retail Hierarchy.....	90
4.2	Downtown DSTM Floorspace Inventory and Sales Estimates, 1989.....	92
4.3	Pacific Centre Customer Origin.....	101
4.4	Downtown Vancouver Office Workers: Place of Residence.....	102
4.5	Customer Origin of Downtown Vancouver Retail Sales, 1989.....	103
4.6	Downtown Vancouver DSTM Market Share of Total Trade Area Sales, 1989.....	104
4.7	Supportable Floorspace: Option A.....	107
4.8	Supportable Floorspace: Option B.....	108
4.9	Supportable Floorspace: Option C.....	110
4.10	Supportable Floorspace: Option D	111
4.11	Supportable Floorspace: Option E.....	113

LIST OF TABLES (Continued)

B.1	Option A: Medium Population Growth Scenario.....	130
B.2	Option A: High Population Growth Scenario.....	131
B.3	Option B: Medium Population Growth Scenario	132
B.4	Option B: High Population Growth Scenario	133
B.5	Option C: Medium Population Growth Scenario	134
B.6	Option C: High Population Growth Scenario	135
B.7	Option D: Medium Population Growth Scenario.....	136
B.8	Option D: High Population Growth Scenario.....	137
B.9	Option E: Medium Population Growth Scenario.....	138
B.10	Option E: High Population Growth Scenario.....	139

LIST OF FIGURES

2.1	Retail Floor Space Per Capita, 1989	41
2.2	Shopping Centre Floorspace Per Capita, 1989.....	42
2.3	Major Office Concentrations in Greater Vancouver	44
3.1	Major Shopping Centres, Vancouver CMA.....	51
3.2	Existing Regional Road Network.....	57
3.3	Regional Skytrain Routes: Existing and Proposed	58
3.4	Downtown Vancouver Trade Area Boundaries	59
3.5	Net Migration to British Columbia.....	63
4.1	The Retail Hierarchy System	89
4.2	Location of Downtown Retail Corridors.....	95
4.3	Significant Downtown Retail Corridors.....	98
4.4	Supportable Retail Floorspace Summary.....	114

ACKNOWLEDGEMENTS

I would like to acknowledge my gratitude to Professor Brahm Wiesman for providing his support and guidance through the process of conducting this thesis, and to Hugh Carter for his support on many conceptual and technical aspects of the research. I would also like to thank my friend and mentor Ron Rothnie for nurturing my interest in academic and intellectual pursuits. Thanks are also extended to Jean MacMillan for her support. Most importantly, I would like to thank my mother and my wife Madeleine for their enduring commitment to supporting my education, without which this thesis would not have been possible.

CHAPTER 1

INTRODUCTION

1.1 Purpose

Robert McCabe, an acknowledged leader in retail development planning stated that the development of reliable public policies for guiding the growth of retail systems is one of the most formidable and fundamental challenges confronting municipalities (McCabe, 1974). He further believes that retail modelling is the best means by which municipal, regional and provincial governments can arrive at answers to policy questions crucial to the orderly growth of commercial areas.

This thesis concurs with the concept that analytical modeling has a useful role in the commercial planning process and to that end the objective of this thesis is to develop a retail model which explores the future retail requirements of Downtown Vancouver. Through this empirical exercise of trade area analysis it will be demonstrated that the notion of supportable retail floorspace is as fundamentally tied to municipal government planning policies and land use decisions as it is to the numerous factors interacting in the local economy which influence the demand for and supply of retail floorspace.

The hypothesis of this thesis is that a trade area analysis using the step-by-step approach can be developed to provide meaningful retail floorspace estimates, under different planning policy options, and thus, is a useful tool in informing retail planning policy.

The trade area analysis conducted in this thesis will highlight the significant implications of varying land use related elements such as population, employment, the nature and size of retail development and consumer travel times throughout the Greater Vancouver Region on the supportable retail capacity in downtown Vancouver over the next decade.

1.2 Context

Retailing is one part of a system which starts with the extraction of raw materials, continues through the production of consumer goods, through distribution by various trade channels and ends with the purchase and ultimately the use of goods by consumers.

Researchers from a wide variety of disciplines have tried to identify the forces and processes which determine the spatial distribution of retail floorspace and those working in an urban planning context have been developing techniques and models with a view to providing regional and local governments with knowledge about the probable consequences of alternative policies for influencing and guiding the provision of retail floorspace.

The potential usefulness of retail models for urban and regional planners and municipal decision makers rests on the claim that models can be helpful in providing answers to such basic planning questions as:

- How much retail space is required?
- Where should it be located?
- When will it be needed?

By answering such fundamental questions retail models can provide empirical findings upon which Official Community Plans can incorporate provisions to ensure that residents will continue to enjoy the benefits of reasonably located shopping facilities. Retailers too can be assured of a consistent set of policies within which they can plan for the best means of serving their customers.

Marketing studies first developed prior to the 1920s concentrated on problems dealing with individual shops or classes of goods and their market areas. Advances in marketing techniques continued and soon whole centres were being analyzed instead of just individual outlets. These marketing studies came to be known as Trade Area Analysis or the Step-by-Step approach.

The methods of retail trade area analysis have remained substantially unchanged from the form which developed in the 1930s. Until recently this method of analysis dominated studies of urban and regional markets. The assumptions underlying retail trade area analysis are not dissimilar to those underlying Central Place Theory and early gravity based models.

Retail trade area analysis has focused almost exclusively on the concept of retail trade areas and like other early retail shopping studies the approach appears to have been satisfactory in fulfilling the intended purpose of evaluating the retail potential of a single trading centre.

In order to overcome the limitations imposed by trade area analysis (which is based on numerous subjective judgements) in the study of intra-suburban and inter-regional retail systems the use of empirically derived mathematical models have become increasingly popular as stressed by McCabe (1974). Mathematical models which incorporate probability concepts have a number of important advantages over subjective methods of evaluation for the urban and regional planner, including:

1. The real world is represented in abstract and simplified terms.
2. The extensive analytical capabilities of the computer can be effectively used and the problem that an analyst faces in trying to keep a multiplicity of interacting variables in his mind at one time is overcome.
3. The speed of computers produces instant feedback and provides a methodology that is relatively inexpensive and easy to use.
4. The large amount of statistical data available for urban centres can be readily analyzed and speedily retrieved in readable form.

A number of Canadian cities have developed elaborate gravity based computers models (i.e. Regina, Edmonton, Oshawa to name a few) to monitor both the supply and demand characteristics of the retail market and better inform policy for retail

growth. This trend will likely continue as the benefits of retail models become more widely recognized in aiding policy makers to plan for retail change.

Among the major policy questions that models can help answer include:

1. What are the probable consequences of an absence of policies or of a continuation of current policies or practices on the location of retail facilities?
2. Are policies on retailing consistent with other policies concerned with population distribution and the provision of transportation and piped services?
3. To what degree do existing facilities adequately serve existing populations and what will be the effect of trends to new forms of retailing?
4. At what scale do retail facilities cease to be of purely municipal concern and become a matter of regional interest?
5. To what degree does a proposed shopping centre, or several proposed centres match the future desirable state of affairs envisioned in the official plan?
6. How much flexibility in defining exact retail locations can safely be built into a plan for the future?

As demonstrated by the preceding list of questions retail models have the ability to answer a broad range of policy related questions and thus are very useful policy tools.

As noted by McCabe the application of retail modeling techniques are extremely powerful particularly when they are employed with conventional step-by-step trade area analysis. Having developed two retail models in Ontario, McCabe stresses that it is essential to do a trade area analysis as a preliminary step in approaching a model application (McCabe 1974).

Further support for trade area analysis as a preliminary step in the overall planning process comes from England. In their work evaluating the use of retail modeling techniques in the planning process the Shopping Capacity Subcommittee of the Economic Development Committee for the Distributive Trades in England

found that in terms of generating a number of alternative plans for the provision of retail facilities that the step-by-step approach should be used to test alternative plans (VMISS 1970).

While it is acknowledged that large scale gravity based models are less subjective in nature than traditional trade area analysis and have the ability to answer a wider range of policy related questions, it is also recognized that development of such a model in the G.V.R.D. would require a large capital expenditure for its initial development and ongoing annual updating and is not likely in the foreseeable future. This is further reinforced by the fact that extensive and time consuming detailed inventories of the retail infrastructure as well as extensive consumer surveys would be required throughout all municipalities in the region for the model to be properly calibrated to ensure meaningful model outputs resulted. Even if the funds were available to develop such a model it is not clear whether it would be able to answer the question posed by this thesis more adequately than the step-by-step approach.

1.3 Significance

As noted by a prominent Canadian retail analyst the role of Downtowns within the overall retail structure has changed over the last two decades due to changes in both distribution patterns and the nature of retail competition (Ken Jones, 1987).

However, a number of major developments have continued to occur in the downtown areas of Canadian cities and by and large retailing in the downtowns of Canadian cities has continued to flourish. Continued market strength reflects the strong service and retail role of many Canadian cities supported by continued strong household and income growth in areas surrounding the central city. Thus, the future of retailing in the downtown areas of many Canadian cities including Vancouver will continue to be bright throughout the foreseeable future. This is

unlike many cities in the U.S. where inner city population and income declines have reduced the market potential for retail growth.

Since the adoption of the Liveable Region Plan in the mid 1970s growth of commercial town centres has accelerated throughout the Greater Vancouver region and these centres continue to evolve at a rapid pace.

As a result of retail growth in these town centre areas the importance and stature of downtown as a retail centre for the region has decreased. While this is reflective of the success of the Liveable Region Strategy in reducing the distances between where many people live, work and shop, it has raised a number of significant issues for the future of downtown Vancouver including the retail role downtown Vancouver should play within its regional context.

In order to address the complex planning issues facing downtown Vancouver Core Area Planners are currently involved in a planning process to develop a Central Area Plan that reflects the aspirations of Vancouver residents. During the planning process to date, the need to determine the retail capacity of the Central Area was identified. Once supportable retail capacity is determined, policy makers will be in a more informed position to plan for future retail development.

Presently, there are a number of significantly scaled developments being planned for the downtown peninsula, each of which has a large retail component. Table 1.1 lists these projects and identifies that over 800,000 square feet of retail floorspace is envisaged for these projects.

Table 1.1
Downtown Peninsula
Proposed Major Retail Development

Project	Location	Total Area (sq. ft)
International Village	False Creek	200,000
Pacific Place	False Creek	
• Quay Side Drive		100,000
• Other Retail		100,000
Coal Harbour	Burrard Inlet	
• Festival Market		150,000
• Other Retail		75,000
Waterfront Centre	200 Burrard St.	85,000
Station/Lafarge Site	False Creek	<u>95,000</u>
Total Retail Floorspace		<u>805,000</u>

Source: Various Sources

Assuming all of these projects proceed and are developed over the next decade, will the amount of floorspace planned be supportable? If they are all developed, will this cause deterioration in existing retail areas and lead to discontinuous retail strips and a development pattern which does not reflect a healthy retail hierarchy within the peninsula?

Currently, there is no Central Area Plan, but instead a myriad of plans and proposals for parts of the central area. Most significantly the by-laws and planning guidelines developed over the past fifteen years which require, encourage, suggest and permit retail development, and in effect create an unlimited retail capacity downtown, could be rationalized to encourage the continued evolution of a healthy retail market which supports the city's legitimate interests in retail development.

These civic interests in retail development are based on three basic municipal responsibilities including the provision of public facilities and services, the raising

of revenue to pay for these facilities and services, and maintaining and enhancing the quality of life. As stated in a manager's report (recommended by the Standing Committee of Council on Planning and Development which was approved by Vancouver City Council in 1985) intended to guide the city's future efforts in retail planning, the city's responsibilities and interests in retail development are as follows:

1. To ensure that the pattern of retail development protects the city's infrastructure investment by utilizing existing and planned facilities as fully and efficiently as possible.
2. To ensure that new public expenditures brought about by shifting retail patterns are minimized and that public costs incurred are justified by the increased public benefits received.
3. To ensure that retail change does not have a substantial negative effect on the city's tax base.
4. To ensure that retail change improves, and does not reduce, retail access for residents.
5. To ensure that retail change improves the public environment and is not accompanied by physical deterioration or reduction in area amenity.
6. To ensure that retail change at least maintains and preferably increases real and perceived safety.
7. To ensure that retail change maintains and preferably improves Vancouver's economic wellbeing.

The preceding points highlight the fact that retail planning interests relate to numerous other city planning policy fields, including economic development, the public environment, housing, transportation and municipal finance. Significantly, retail development directly affects the achievement of four of the seven goals identified in the Central Area Plan:

- The economic generator
- An alive downtown
- For all people
- A walkable central area

(City of Vancouver, 1991)

The empirical work conducted in this thesis is seen as a fundamental step in the retail planning process which will help to ensure that the city's interests in retail development are optimized and overall planning goals achieved. Once supportable retail capacity is ascertained, city policy makers will be in a more informed position to help rationalize, direct, and support future retail development through the implementation of the numerous land use policy tools available in facilitating retail change.

1.4 Methodology

This thesis employs the case study approach to develop, conduct and evaluate an analytical model using the step-by-step approach to retail market analysis.

The model developed is succinctly outlined as follows:

- Step 1 Delineate Downtown Vancouver's trade area boundaries.
- Step 2 Forecast population growth throughout the region.
- Step 3 Forecast retail expenditure potential for Downtown Vancouver over the next decade.
- Step 4 Analyse the existing retail infrastructure and estimate the market share of sales originating from the trading areas and from visitors to the city.
- Step 5 Run five downtown market share scenarios to determine retail floorspace requirements under different "policy options."

Data sources for this market analysis are both numerous and varied since by its nature retail market analysis employs a number of variables. Among the most significant data sources used in this study are Statistics Canada, The Conference

Board of Canada, the GVRD, the City of Vancouver, as well as a significant number of private corporate sources which were available to the author.

A number of criteria have been selected against which the trade area analysis conducted will be evaluated. This will determine the degree to which the hypothesis posed by this thesis has been satisfied in light of the limitations under which the research was conducted. These criteria are as follows:

- A. Objectives of the approach
- B. Restrictive assumptions made
- C. Data required
- D. Nature of results
- E. Sensitivity
- F. Treatments of changes through the system in time

Thus, conclusions drawn in Section 5 regarding the methodology employed will be subjective judgements highlighting the strengths and weaknesses of the analysis conducted and opinions regarding its usefulness in providing meaningful outputs to guide retail policy.

1.5 Scope and Limitations

Like any method which attempts to evaluate what is likely to happen in the future under varying circumstances, trade area analysis has its limitations. The principle limitations are:

1. The high cost in time and money needed to test more than a limited number of alternative development scenarios even under a restricted variety of assumptions about the future.
2. The lack of precision concerning the uncertainties involved in the use of estimates.
3. The large number of factors that have to be kept straight in an analyst's mind while doing step-by-step calculations.

These fundamental limitations extend to all trade area analysis. Except for the general step-by-step approach, the specific methodology employed to explore the retail capacity of downtown Vancouver is not transferable to retail markets in other cities since the specific questions being answered and data availability necessarily affect the analysis conducted.

From a geographic perspective the market area being analyzed is the entire downtown Vancouver peninsula bounded by water to the north, south and west, and Carrall Street to the east. The forecast horizon chosen is ten years since this is a reasonable time frame to model retail markets: it is long enough to be useful for long range planning, while not being so long that outputs are meaningless.

Five scenarios are provided, each under both low and high population growth forecasts in order to highlight the wide range of supportable floorspace under different planning policy options.

The retail market analysis employed in this thesis cannot, and as such will not, determine how or where additional supportable retail floorspace should be distributed throughout the downtown peninsula. This requires further research which could be undertaken once this work is complete and a clear retail policy stance is adopted at both the regional level and within the City of Vancouver.

1.6 Thesis Organization

The thesis presents a theoretical background on the use of retail modelling, followed by a case study of the step-by-step approach to retail market analysis. Chapter One sets out the purpose of the thesis, puts it into a theoretical and practical context to convey its significance, outlines the methodology employed for the case study, and identifies the scope and limitations of the study.

Chapter Two further details the theoretical context of the thesis through a review of the major theoretical contributions in retail growth and change and by summarizing the types and uses of retail modelling. This is followed by a synopsis

of current and future trends affecting the retail development industry, and lastly by discussion of structural changes in the commercial structure of major metropolitan regions and an overview of past, present and future commercial development trends throughout the Greater Vancouver region.

Chapter Three develops the retail expenditure potential of the G.V.R.D. over the next decade. Trade areas are delineated for the downtown peninsula and then population, income and retail expenditure potentials are developed for these areas for use in the market share forecasting model developed in Chapter Four.

Chapter Four begins with an inventory of retail floorspace in the downtown peninsula highlighting existing D.S.T.M. floorspace and sales performance levels and culminates with the generation of existing sales estimates. From this data the proportion of retail sales generated from the various trade areas and from visitors to the city are estimated, providing a base from which five different market share "options", or scenarios, are run to identify a range of supportable retail floorspace for the downtown peninsula over the next decade.

Chapter five provides conclusions on the retail capacity of downtown Vancouver and the strengths and weaknesses of the methodology employed. Implications for planning are considered. The chapter ends with suggestions for further research.

1.7 Definitions

A number of retail industry terms and acronyms are used in the course of this study and are defined here as follows:

PTA	Primary Trade Area: the geographical area immediately surrounding a centre where the majority of sales are derived
STA	Secondary Trade Area: the area beyond the PTA where the majority of the remainder of a centre's sales are derived
INFLOW	Represents transient sales from outside of a centre's trade area (e.g.. irregular commuters, tourists)
PDI	Personal Disposable Income: total personal income less taxes
Regional	
Shopping Centre	A centre with a minimum of two full-line department stores (i.e. Eatons, The Bay, Woodwards) and a scale of 500,000 - 1,000,000 square feet (G.L.A)
Sub-Regional	
Shopping Centre	One full-line department store and one promotional (i.e. Zellers, Woolco, or K-Mart), and a scale of 300,000-500,000 square feet (G.L.A.)
Community	
Shopping Centre	A Centre with a minimum of one promotional department store and a supermarket and a scale of 100,00-300,000 square feet (G.L.A.)
Neighborhood Centre	May or may not be anchored by a supermarket or drugstore and a scale of 40,000-100,000 square feet (G.L.A.)
DSTM	Department Store Type Merchandise: is merchandise which is usually sold in department stores and smaller

specialty outlets. The merchandise includes:

apparel/accessories, household/hardware, specialty-retail, and personal accessories

CRU

Commercial Retail Units: the leasable retail area in a shopping centre which is not anchor floorspace (i.e. department store or supermarket floorspace)

GLA

Gross Leasable Area: is the total floor area designed for tenant occupancy and exclusive use. It has been adopted by the retail development industry as its standard for statistical comparison.

CHAPTER 2

THEORETICAL CONTEXT

2.1 Changes in Retail Location

Although limited, the literature on retail change is drawn from a wide variety of disciplines since geographers attempt to find regularity in the spatial organization of urban retailing (a brief synopsis of the most significant models developed is provided in Section 2.3 of this thesis).

Retail location, like other aspects of retailing, is in a constant state of change and yet with the exception of Ratcliff's ecological analogy few theoretical studies have accommodated this dynamic element (Dawson, 1980). Some studies refer in passing to the nature of the forces behind locational change, but few are explicitly temporal in their approach.

Perhaps the first contribution to retail location beyond the purely descriptive level came from Ratcliff in 1949 through the use of ecological concepts. In a later work, Ratcliff hypothesized the relationship between population growth of a city and the displacement of certain retail types from the central business district (Dawson, 1980).

The work of Berry (1963) marked a major step in the study of retail change by focussing on the relationship between population movements and the subsequent expansion or decline of retail centres. He concluded that retail change is directly related to urban social and commercial ecology.

In 1964 Simmons used Berry's ecological terms to analyse retail change where he concluded that the "range of a good" and its "demand level threshold" were the basic control mechanisms. And, interestingly, in his detailed study of Chicago Simmons agreed with Rolph's 1929 (25 years earlier) findings that the three most important factors determining retail location were population density, transportation and topography, and these factors remain true today. In his

conclusions Simmons raises aspects of change in retail patterns, not all of them purely locational, but all having significant implications for retail change:

- The larger the scale of a retail centre, the larger the trade area and the reliance on automobile transportation.
- Changes in consumption shift in response to income and demographic changes.
- Planned shopping centres are destroying the validity of both land value theory and central place theory in the analysis of intra-urban locational patterns.
- Planned centres clearly define their role in the retail hierarchy since they carry only a limited amount of low-order services.
- Greater specialization is resulting from the nature of planned centres and increased consumer mobility.
- There is a close response by business centres to the population and income characteristics of the area in which they are located (Simmons, 1964).

Perhaps the most comprehensive and important alternative view of retail change was put forward by Agergard, Olsen and Allpass in 1970 when they conceptualized the formulation of retail patterns based on "external" and "internal" forces acting on the retail firm, and thus explained the main factors of supply and demand. External forces include: population, income, levels of consumption and purchasing power, urban growth and competition. Internal factors refer to competitive parameters available to the retailer, including price, merchandising mix, service levels and location. They conclude that the retailer cannot thoroughly determine the choice of internal parameters without giving consideration to the external forces, which provide a framework within which a choice is made.

The decentralization of commercial activities has been a theme which has occupied a large extent of geographic research over the past century. Dawson

proposes that there seems to be agreement among researchers that decentralization may be subsumed under five main headings.

1. The decentralization of population/consumer demand
2. Increased personal mobility
3. Unsuitable city centres
4. Land availability
5. Institutional factors

The widespread decline in American inner city areas has been well documented and relates to declines in retail sales, increased traffic congestion, lack of parking, aging and deterioration of structures, marginal economic activities and encirclement by low income groups. However, as noted by Goldberg and Mercer (among others) the changes which have occurred in many U.S. inner cities have not occurred in Canada's large cities due to a host of interrelated factors which differentiate Canadian cities from American cities and Canadian inner cities have continued to flourish (Goldberg and Mercer, 1986).

From a retail perspective, one important way the CBD differs from most major suburban or out-of-town centres is the unique combination of activities it offers. Four major components can be identified as sources of retail patronage: metropolitan area residents; downtown employees; city centre residents; visitors to the central area including tourists and businessmen. While the metropolitan area shoppers may be diminishing in importance as many regions become multinucleated, the latter three demand sources listed above represent a "captive market" and offer considerable potential for the continued growth of inner city retailing. From the supply side, the CBDs of major Canadian cities retain much of their magnetism for specialized and higher-order retail goods and only those space-intensive uses such as automobile dealerships or mass merchandisers appear to be more appropriately located in suburban areas where land is less expensive and more abundant.

In conclusion it appears that processes of change will continue to affect the retail landscape within the intra-metropolitan context but the future of retailing within the central areas of major Canadian cities seems assured.

2.2 The Use of Models in Retail Planning

Models represent our understanding of the world in abstract and simplified terms and may take the form of either a verbal description or a mathematical statement. They are used to estimate unknown values of one variable, given a range of known values of other variables or values. This is achieved through the model builder formulating a hypothesis and constructing a model to express the hypothesis.

While the number of distinct models is considerable, the number of different approaches is relatively small. Not all aim at answering the same question, nor are they intended to be of use to every decision maker in the planning of urban areas. Models have very limited objectives and none of the past or current modeling techniques is a perfectly satisfactory tool for answering retail development related questions.

Most models attempt to describe, and to some degree explain, a present or past situation. Some models, like the one developed here, make conditional predictions.

The questions any particular study tries to answer depends on the viewpoint of the decision maker since developers, city planners, retailers and consumers do not all share the same interests in the retail system. Furthermore, the degree of control each party has over the variables differs widely:

- retailers can only take action over their own businesses
- developers are only responsible for the centres they build
- planning authorities have a much wider influence and their interests are more diverse

The form of the results derived from any particular model depends on the questions posed and the results may either explain a system's behaviour or make forecasts of its future.

2.3 Types of Models

The conceptual basis for present retail models can be traced to early gravity models which define shopping behaviours. For example, W.J. Reilly's theory of 1929 explained the attraction that adjacent centres exerted on intervening smaller communities and formed the basis for evaluating consumer purchase decisions. This model was revised and led to the trade area analysis put forth by Christaller in 1930.

Christaller in his central place theory established a link between retail location studies and marketing or consumer behaviour. A major conclusion was that the cost of a good will increase with the distance from a central place until a threshold is reached. Beyond that threshold consumer purchases of the good in question from that location is no longer likely.

Losh (1938) adopted similar assumptions to those of Christaller and produced a spatial pattern of supply locations, establishing the size of the trade area around first a single centre and then a system of market areas. This work allowed specification of individual market areas based on the sales required to make production of a good viable.

A major contribution to retail modelling was completed in 1959 by Berry. His typology produced a reformulation of the central place theory with a spatial classification in an attempt to organize commercial patterns. Berry's model stressed that the principles of size differentiation and numerical hierarchy were gross oversimplifications in that commercial development was more appropriately classified in nucleated centres, ribbon developments and special function areas.

Later research has refined these earlier models. Luce, in 1959, established that consumers do not appear to select one alternative consistently. The lack of consistency in choice becomes apparent where there are a large number of shopping centres of various sizes within a reasonable distance.

One of the more recent contributions to retail modeling was completed by Huff in 1963. He suggested that areas of competition between shopping centres continually overlap and that there was a probabilistic element in consumer behaviour.

Among the many models and theories which have been used to try to explain the workings of various aspects of retailing three basic lines of approach have been identified (Cordey Hayes, 1968):

- A. Central Place Theory: which relates to the purpose, frequency and lengths of shopping trips to a hierarchy of centres.
- B. Spatial Interaction Models: which deal with the aggregate movements of large numbers of shoppers.
- C. Rent Models: which seek to explain land use and location by applying a theory about the way in which land values are determined.

These model types are not competitive but complimentary. Planners working on problems relating to the provisions of retail floorspace may use all three, as is the case in this thesis, which incorporates each model either explicitly or implicitly in the separate stages of the step-by-step analysis.

2.3.1 Central Place Theory

This was originally developed by a geographer named Christaller and deals with the location, size and nature of markets and in its most basic form presupposes identical consumers able to travel freely in all directions being distributed uniformly over an unbounded and featureless plain. The theory postulates that for any given commodity there is a level of demand below which it will not be economic to offer

for sale. Depending on the level of demand for any particular types of good, from basic goods such as bread and milk to high order goods such as jewellery, there is a certain threshold population required to support a particular retail establishment and on this basis a stepped hierarchy of trading centres is established.

In studies making use of Central Place Theory centres are typically classified according to the number of facilities offered and the studies usually conclude by identifying some pattern of retail centres.

On the basis of this evidence planners have felt justified in assuming some kind of hierarchical organization of shopping centres is needed to serve households using two fundamental assumptions (Miller, 1970):

- A. that people will continue to walk to stores for certain "every day" items.
- B. that there will always be a need for a central shopping area where consumers may compare goods where a choice of style is involved.

This two-stage hierarchy is perhaps a little simplistic but clearly demonstrates the fundamental concept of retail hierarchy which is a fundamental assumption for any planner establishing policy for the way shopping should be carried out in the future. There is also a growing feeling among retail analysts that changing methods in retailing and transportation are beginning to illuminate the need and justification for highly concentrated centres with clearly definable functional differences.

As Berry pointed out over two decades ago, as retail markets continue to mature or "saturate" with retail floorspace, particularly those with highly developed public and private transport systems, shopping centres are no longer able to dominate a reasonably exclusive trade area, but that several centres can serve the same area and consumers may at some time visit all of them (Berry, 1967).

Consequently, since distance no longer provides protection from competition centres of similar size will increasingly compete through specialization as can be seen today by the continued introduction of new centre types (i.e. off price centres, festival markets, factory outlet centres, automalls etc.)

In summary, it is clear that some kind of retail hierarchy exists and will likely continue into the future. However, there is not reason to assume it represents some ideal solution, and thus, central place theory's chief value lies in its use as an analytical tool providing insights into the general nature of shopping activity.

2.3.2 Spatial Interaction Models

The best known spatial interaction model is Reilly's Law which states that the frequency with which the residents of an intermediate settlement trade with two towns is directly proportional to the populations of those two towns and inversely proportional to the square of the distances from the two towns to the intermediate settlement (Reilly, 1931).

Reilly's Law can be modified to derive "break points" between two towns, which are defined as the borders between market areas dominated by each town. This notion of break points is extremely useful in conceptualizing trade areas for particular retail centres but can also be misleading since it is the market penetration a centre has within a particular geographic area which determines its market influence, not geographic distance.

Early modifications of Reilly's Law introduced better operational variables for the "attractiveness" and "distance" factors and reformulated the law to account for spatial competition between more than two centres. More sophisticated modifications have been developed and now Reilly's Law is seen as a very special case of a general gravity model where the term "gravity" applies to any function which deals with the way in which drawing power lessens with increasing distance.

More recently, the general gravity formulation was derived on the basis of a notion of interaction. Britton Harris produced a general interaction model using a probability theory based on intervening opportunity which in a reduced form becomes a gravity model (Harris, 1964).

All spatial interaction models tend to be most helpful to retail analysts when used to interpret the mass behaviour of large aggregates of people.

2.3.3 Rent Models

A number of urban economists have developed simplified models seeking to represent and explain the underlying relationships between land use, location and rent. Classic price and rent theory is used in the analysis of such variables as distance from the city centre, quantity of land occupied, turnover of business, profits, operating costs and rents. These models assume perfect knowledge of the part of buyers and sellers, the absence of social and institutional constraints, and all land is assumed to be of uniform quality and perfectly flat.

The theory suggests that it is the competition of alternate uses for sites which sets the overall pattern of land utilization. This approach assumes that the land market alone ensures a site will be used by the highest bidder and thus the "highest and best use". The process of competitive allocation of sites is seen to lead to a systematic pattern of land use determined by the maximum rent that particular types of users will pay for a site. For every site it is assumed that there is a 'rent gradient' or downward sloping progression of maximum rents with decreasing accessibility to the market from the point of view of the particular type of user, depending partly on the population threshold required for any particular commercial operation to be viable.

In estimating store rents, a developer does not rely solely on an urban economists rent model, which traces the relationships between consumer spending and direct demand for floorspace by the retailer, but also on everyday contact with retailers and observation of the local market. A real estate valuer will estimate the value of a site to a developer by deducing development costs from a forecast of the revenue potential of a particular development scheme, and this type of an estimate often provides a sufficient basis for a developer to make a development decision.

To justify a scheme to a local planning authority, the developer usually has to produce evidence of growing consumer spending in the area, particularly if the development scheme is large or spans a long development phase of 10 or 20 years. In such cases developers benefit if they are able to use a forecast of consumer spending and from this estimate forecast floorspace demands and the market supportable rents using a rent model approach.

2.3.4 The Step-by-Step Approach

The step-by-step approach is a calculation which makes use of the three different models types previously described. The method has been employed over the past three decades at various levels of sophistication by retailers, developers and economic consultants and a wide variety of planning authorities. The basis of the technique can be traced to the development of marketing geography in the United States where it was first used to evaluate potential locations of individual shops and has since been expanded to shopping centre analysis.

Typically three classes of consumer goods are classified: convenience goods, shopping goods and specialty goods based on the buying habits of consumers and in particular on the effort involved in the search process, as well as the frequency and size of purchase.

The generalized model can be summarized as follows:

- Establish a trade area;
- Estimate retail expenditure potential;
- Analyse competitive shopping centres;
- Examine consumer trading patterns and attitudes;
- Compare the findings with current development proposals affecting the trade area.

The first four steps are concerned with the retail potential of the centre and for longer term forecasts, such as the one presented in the case study, a further

procedure is also used to translate sales forecasts into floorspace requirements using conversion factors. Floorspace requirements are usually expressed in sales per square foot but may also be expressed in the percentage of gross sales retailers will pay in rent.

A developer's appraisal of a potential development scheme often differs from a planning authority analysis since the planning authority typically uses a residual approach which allows for new retail growth but also allows for some of the expenditure potential growth to be absorbed by existing retailers. The developer, on the other hand, is interested in the number of stores that can be rented regardless of whether or not such a development would force some existing retailers out of business, and thus does not usually make allowance for expenditure growth to be shared with the existing establishments. The question of whether planning authorities should restrict their analysis to a residual calculation which allows for some of the growth to be absorbed by existing retailers cannot be decided on criteria yielded by the supportable floorspace analysis, since this is one of the areas where models cannot be used and where political and social considerations take over.

2.4 Shopping Centre Development Trends

Over the past decade, the shopping centre industry has undergone a profound evolution. Ten years ago we did not have West Edmonton Mall, mega-foodstores, superstores, warehouse stores or festival markets. The thought of "de-enclosing" an enclosed shopping centre was inconceivable. The notion of an upscale supermarket was contradictory and the development of a shopping centre catering solely to the Asian population would have seemed bizarre.

In this past decade, shopping centres have become even more intrinsically woven into our social fabric. They continue to seduce consumers with their increasingly sensual surroundings. From a standing start 40 years ago, the Canadian shopping centre industry has grown to over 3,500 centres totalling some 300 million

square feet of leasable area, representing half of non-automotive retail sales in Canada and employing over 900,000 people.

Growth in the shopping centre industry is certain, and by the turn of the century it has been estimated that over 60% of retail expenditures will be spent in shopping centres. For many developers involved in the industry since its beginnings in the 1950s, it has been a panacea. Yet, as the industry's life cycle changes and adjusts to the new economic realities, it is clear that the halcyon days are over. Accordingly, the industry will need to adjust and embrace many challenges, including:

At the macro level,

- A bearish economic outlook.
- consumer credit at record levels,
- GST.
- cross border shopping,
- free trade,
- the environmental movement
- an aging population, and
- overbuilding/saturation in most markets

At the micro level,

- more consolidations/mergers among retailers,
- rising vacancy rates, and unsustainable rent levels in certain markets
- higher tenant inducements, and thus, lower effective rents for mall owners, and
- shopper fatigue with malls that have grown too big and look too similar.

From a retail standpoint, traditional downturns in economic cycles have tended to be short-lived. High growth and inflation have kept the industry on its upward growth spiral. Yet this time around, because of many such interrelated factors, a correction is likely to last longer than previous experience suggests. While the

immediate industry outlook is bearish, there remains some excellent opportunities for retail investment in Canada for three basic reasons:

1. Many existing centres are run-down and not optimally responding to the needs of the marketplace, therefore offering significant retrofit/expansion possibilities.
2. A host of retailers are developing new retailing forms that cannot be housed in traditional shopping centres.
3. While Canada is experiencing reduced population growth rates as a whole, there are still some markets that are growing rapidly, offering opportunities for large scale retail development.

2.4.1 Development Trends

Industry analysts predict that fifty percent of tenants in regional malls will be different by the turn of the century. Phenomenal pressure will be exerted on developers to adjust to the changing marketplace.

Design is going to play an even greater role as the industry moves from mega to smaller, human scale, green environments. The need to break away from the traditional design to eradicate the sameness problem will be acute.

Three factors that will segment the industry into highly specialized forms are:

- a) consumers' desire for convenience,
- b) increasing time poverty and the need for one stop shopping, and
- c) society's increasing orientation towards leisure and entertainment.

These factors will continue to manifest themselves through the urbanization of regional malls, the growth of "power" centres and super convenience centres, increase the recreation component in malls and create vertical projects, hybrid centres, and mixed-use projects.

2.4.2 Urbanization of Regional Malls

There has been a dramatic slowdown in the construction of new regional centres throughout Canada and the U.S. over recent years as markets become saturated. Many existing regional malls are evolving from first generation, single-purpose retail centres to second-generation, multi-purpose town centres. The regional centre for the 1990s is created not only by its scale and multiplicity of functions, but also through the relative location of its various uses, establishing a synergistic framework of linkages.

Accordingly, regional centres are becoming enhanced through the addition of other elements such as residential, office and hotel components. Some developers are more cautious than others in embracing the new trends as they struggle with such fundamentals as lease covenant, responsibility, access, vandalism and legal agreements.

Landlords will continue to maximize their investments by increasing density through mixed-use/multi-use town centre projects in the next decade. Square One and Scarborough Town Centre in Toronto personify this evolution. Rapidly following this trend is the Mill Woods Town Centre in Edmonton, Eaton Centre at Metrotown in Vancouver, and, on a smaller scale, Don Mills Shopping Centre in Toronto.

2.4.3 Growth of Power Centres

Power centres offer the same potential growth that regional centres experienced over the past few decades. They require less rent, less common area maintenance, and promotion fees while doing the same sales and thus offering enormous opportunity for certain retailers. Today in the U.S., 85% of retail development is in non-enclosed centres and of that, the majority is in power centres.

Power centres range in size from three or four anchors and 200,000 square feet to upwards of 1,000,000 square feet. Their typical tenant mix is 80% anchors and 20%

ancillary tenants versus the 60/40 split of a traditional regional centre. The principal objective of power centres is to attract “category killer” tenants and other aggressive destination type retailers and become market leaders in specific market segments. Examples of power anchor categories are food, drugs, auto supplies, home improvement, electronics and toys.

Offering national brands, discount prices, and a bewildering selection, power centre retailers generate high traffic. To illustrate, a typical mega-foodstore of 90,000 square feet with annual sales of \$50 million to \$60 million generates 40,000 customers weekly. Considering the opportunity power centres represent, keen activity exists among developers across Canada to build these superstores for tenants like Toys R Us, The Brick, London Drugs, HQ Office Supplies, and Future Shop, to name a few. Power centres are already being developed in Canada and include such examples as Station Square in Vancouver and Sunwood Square in Calgary; Mayfield Common and Southpark Village in Edmonton; and Crossroads in Toronto. This retail form will become much more prevalent, particularly in Southern Ontario, as land prices continue to decline, making power centres more feasible to develop.

2.4.4 Retail as Leisure

West Edmonton Mall is the largest shopping centre in the world and functions as an entertainment and leisure complex. While still arguably an experiment, it serves as a model for other centres aggressively embracing the entertainment function in markets such as the U.S., U.K., Europe, Brazil and Australia. These new centres recognize that shopping should be a pleasure, not a chore. Twenty-four hour activity cycles are created through the incorporation of hotels, nightclubs and cinemas. Disney is putting 13 specialized entertainment complexes into regional shopping centres owned by the Rouse Company. The much anticipated Mall of America, influenced by West Edmonton Mall, will include Knotts Berry Farm as the entertainment anchor.

Developers who have added entertainment components to existing centres claim that their trade areas expand by 10% to 15%. Disappointingly, little evidence exists on whether such elements make money. In terms of actual facilities, carousels, cinemas, food courts and mini-golf are the most popular features in malls today. Other facilities increasingly appearing in select markets include ice skating and roller skating rinks, upscale video arcades, and civic facilities such as libraries, senior citizen's drop-in centres and daycare/nursery centres. Also being considered are Video Malls and IMAX theatres. Woodbine and Erin Mills in Toronto and Les Galeries de la Capitale in Quebec City are examples of centres that have several of these features.

2.4.5 Vertical Centres

Until recently, multi-level projects were resisted in North America. Anything over a single level was considered risky. Today, two and three level malls are commonplace and the trend is to go considerably higher as land becomes increasingly scarce and expensive in inner city locations. The idea was embraced early in Japan and today, centres go as high as 16 levels there. Already in North America some interesting examples exist, as the following table illustrates.

Table 2.1
Vertical Shopping Centres

City	Centre Name	# of Levels
Minneapolis	Gavidaai Common	5
Chicago	Watertower Place	6
Chicago	900 North Michigan	6
New York	A&S Plaza	9
San Francisco	San Francisco Centre	9
Victoria	Victoria Eaton Centre	4
Montreal	Place Montreal Trust	5

Source: Various Sources

2.4.6 Hybrid Centres

Specialty centres are becoming increasingly prevalent in markets throughout Canada to compliment, rather than compete directly with, regional centres. They include festival markets, power centres (discussed previously), auto malls, home centre malls, off-price centres and outlet malls.

Festival markets are particularly interesting and some location criteria have finally emerged based on successful projects: they should be located in a densely populated urban area; have water exposure; be part of a mixed-use development; be on a historical landmark; and have excellent local and regional access.

Vancouver has enjoyed excellent success with its first three festival markets, including Granville Island, Westminster Quay and Lonsdale Quay. Two recent additions, however, have not fulfilled expectations. Manufacturers' Outlet Malls, on a growth spree in the U.S., will find infertile ground in Canada as the market here is simply too small to attract retailers looking to roll out multiple locations. Such hybrid centres frequently locate next to a regional mall and exploit its gravitational pull. Excellent examples would be the Roundhouse opposite Devonshire Mall in

Windsor and the plethora of hybrids surrounding Sunridge in Calgary and Northwood in Edmonton.

2.4.7 In-fill Opportunities

These are developed on smaller strategically located sites in downtown and mid-town areas of many Canadian cities. In downtown areas they are supported by underground pedestrian systems, as in Toronto, Montreal and Winnipeg, and above grade systems in Calgary and Edmonton. Opportunities will continue to exist outside downtown where smaller sites located on high traffic arterial routes will be recycled into excellent retail developments. Many opportunities are appearing at rapid transit stations and bus stations in cities such as Toronto, Montreal, Calgary and Vancouver.

2.4.8 Opportunities in the '90s

Over the next decade, Canadian shopping centres are going to be far more specialized and thus follow more global trends. As more mega-retailers enter the Canadian marketplace, the regional mall must re-focus and broaden its appeal as a town centre to ensure its dominance as the social and focal point for the community it serves.

As the pace of development slows in response to decreased population growth rates in many markets, opportunities will exist to reposition and enhance existing centres. This will require acute emphasis on property management and retail marketing to ensure optimal market penetration.

Little opportunity will exist for non-anchored strip centres due to their vast oversupply. Little threat will exist from home shopping since most Canadians prefer the tactile and sensory experiences offered in comparison shopping environments, and increasingly view shopping as part of a multi-purpose event that includes socialization, entertainment and eating.

Tremendous change is making the industry riskier for those players not familiar with leading trends. Knowledgeable developers realize that the industry is strongly self-regulating due to the dynamics of retail supply and demand. Thus shopping centres will always find favour with astute investors who understand the fundamentals and trends affecting the industry. In terms of size and function of centres, the following opportunities will emerge:

1. Regional Malls - will continue moving towards mixed-use, town centre type projects.
2. Power Centres - excellent opportunities exist in most Canadian markets, particularly in Southern Ontario.
3. Downtown/infill projects - through exploiting higher densities and creating synergy among residential, retail, office, hotel, institutional and entertainment uses.
4. Community centres - while considered the dinosaur of the industry, in some markets the opportunity exists to recycle well-located enclosed centres through expansion, or sometimes through de-enclosing to enhance its convenience appeal to consumers and reduced occupancy costs for tenants.
5. Themed specialty centres - opportunities abound to develop new hybrids, particularly home centres and auto malls.

2.4.8 Conclusion

The growth of the shopping centre industry will slow considerably for the next three to four years. This is due to many interrelated factors including: a weakening economy creating sluggish retail sales; high interest rates encouraging consumer debt repayment; a high level of personal savings; slowing population growth in many markets; and the present saturation of many markets. This will result in continuing turmoil among retailers with many not surviving. While this may sound gloomy and industry professionals need to be cautious, the industry has

weathered this storm many times before. While the next year or so will likely see a depressed economy, it is projected that the economy will turn around by 1992.

When the upswing starts, since the retail sector is one of the first to participate in a recovery as consumers satisfy pent-up demand, the industry again will be poised for growth and investment.

Since the shopping centre industry is only as strong as the retailers that commit to its projects, it is essential that retailers clearly understand the business that they are in and the markets they are targeting for profitability and growth over the next decade.

The shopping centre hierarchy will become even more critically segmented and polarized as the decade unfolds and, therefore, developers must clearly understand the dynamics of specific markets to respond to market opportunities effectively.

2.5 Greater Vancouver Commercial Growth Trends

As noted by Daniels in his work on service sector restructuring and metropolitan development, the economic and urban landscape in post industrial economic structures is increasingly shaped by forces operated at global rather than national scales (Daniels, 1991). A major element in the restructuring of the space economy of major cities in Canada as well as in major cities in other advanced nations is the service sector. In a Canadian context, the growth of services has had a major impact on the evolution of urban structure among many of Canada's cities, characterized by the functional specialization of the CBD, in favour of the corporate complex (Gad, 1985); processes of gentrification and displacement in the inner city (Ley, 1988); and the multi-nucleation of the metropolitan region, marked by the dispersal of residentiary services and the increasingly important role of commercial activity in the development of regional town centres (Hutton and Davis, 1985).

Over the past two decades, the dominance of downtown core areas as the primary location of business services within metropolitan regions has been

predominant in North American cities. However, while some 43% of office space in large American metropolitan areas was in the central city (Leitman, 1988), the figure for Canadian cities was much higher: 68% in Toronto's central district (Gad, 1985) and 79% for the central City of Vancouver (Ley and Hutton, 1984).

Commercial growth trends in metropolitan Vancouver have followed the general trends. During the 1960s and 1970s, growth pressures occurred throughout the Greater Vancouver Region as evidenced by some inner city deterioration, an over-supply of office space and the destruction of older housing, while at the same time there was rapid growth in the suburbs. These changes prompted city leaders to debate the region's alternative urban futures.

Beginning in 1966, the G.V.R.D. adopted the "Town Centres Policy" which has since been adjusted to reflect varying concerns but has remained consistent in its focus on the development of town centres which contribute to the overall efficiency and quality of the region.

The Town Centres Policy was based on a number of objectives, including:

- To establish new official designated centres outside of Downtown Vancouver.
- To provide various cultural, educational and specialized facilities close to where residents lived.
- To facilitate development of high quality regional public transit.
- To more equitably distribute the costs and benefits of high density development throughout the region.

The concept of "regional town centres" has been a fundamental component of the G.V.R.D.'s Liveable Region Strategy since the early 1970s. One measure of the support for the regional town centre program over the past two decades is the extent to which member municipalities of the G.V.R.D. have been supportive of the concept and embraced town centre development.

While the original policy conceptualized only four centres (Burnaby, Metrotown, Downtown New Westminster, Coquitlam Town Centre and Surrey's Whalley-

Guildford), in subsequent years Lonsdale in the City of North Vancouver and Richmond Centre were added and now there are six.

The G.V.R.D.'s 1990 status report on the regional town centres presents data on the town centres illustrating how each evolved and on the distribution of retail, office and residential land uses. A synopsis of the data compiled reveals a number of interesting observations:

- Each town centre has a unique position in the G.V.R.D. by virtue of its location, competitive economic advantage and distinctive history.
- Differences in the growth of retail, office and residential floorspace over the past two decades provides evidence of the centres' hierarchical nature, with each serving different functions within the region.
- Town centres have achieved a significant degree of geographic "centrality" within the municipalities they occupy.
- At the regional scale, town centres have not become significant business locations and function predominantly as retail centres.

(G.V.R.D., 1990)

Table 2.2 shows the retail and office floorspace in municipalities that contain town centres. The earliest date that historically comparable data is available from the G.V.R.D. commercial floorspace database is 1983.

Table 2.2
Commercial Floorspace Growth in Municipalities
That Contain Town Centres, 1983 and 1989 (sq. ft)

	Retail Floorspace 1983	%of GVRD	Retail Floorspace 1989	%of GVRD	Office Floorspace 1983	%of GVRD	Office Floorspace 1989	%of GVRD
Richmond	2,986,723	5.9%	4,505,446	7.2%	3,156,293	8.4%	3,566,621	7.5%
Burnaby	4,190,888	8.3%	6,339,960	10.2%	3,801,893	10.1%	4,870,966	10.2%
Coquitlam	2,401,043	4.8%	3,256,294	5.2%	694,027	1.8%	556,111	1.2%
New Westminster	2,132,541	4.2%	2,459,109	3.9%	1,367,046	3.6%	1,652,590	3.5%
Surrey	5,076,008	10.1%	6,955,253	11.1%	1,857,074	4.9%	1,997,244	4.2%
City of North Van.	1,494,004	3.0%	2,392,311	3.8%	608,311	1.6%	1,602,569	3.4%
Vancouver	24,529,000	48.8%	27,858,076	44.6%	24,437,371	65.1%	31,385,267	65.9%
Total GVRD	50,286,466	100.0%	62,431,758	100.0%	37,539,084	100.0%	47,634,160	100.0%

Source: GVRD Development Services CIFS Data Base, 1983 and 1989.

Analysis of this data reveals a number of significant conclusions regarding commercial growth throughout the region during the 1980s. Vancouver has continued to be the dominant municipality for the location of office and retail development in keeping with the traditional core-periphery development pattern observed by Gad (1989), Hutton and Davis (1985). While commercial growth has been strong in municipalities that contain town centres it also continues to be strong in Vancouver and the proportion of commercial, office and retail development between Vancouver and the suburban municipalities has remained fundamentally unchanged over the 1983-1989 period.

Table 2.3 presents an overview of the Regional Town Centres commercial floorspace for 1989.

Table 2.3
Commercial Floorspace in Town Centres, 1989

Town Centre	Office (sq ft)	% of GVRD Office	Retail (sq ft)	% of GVRD Retail	Total Com. (sq ft)	% of GVRD Commercial
Richmond Town Centre	1,045,871	2.2%	1,831,825	2.9%	2,877,696	2.6%
Burnaby Metrotown	1,333,737	2.8%	2,098,134	3.4%	3,431,871	3.1%
Coquitlam Town Centre	108,221	0.2%	1,732,006	2.8%	1,840,227	1.7%
New West Downtown	599,969	1.3%	726,543	1.2%	1,326,512	1.2%
Surrey Whalley- Guildford	529,604	1.1%	3,078,061	4.9%	3,607,665	3.3%
North van. Lonsdale	1,184,542	2.5%	1,165,106	1.9%	2,349,648	2.1%
Vancouver CBD	18,562,023	39.0%	4,564,000	7.3%	23,126,023	21.0%
Total Suburban Town Centres	4,801,944	10.1%	10,631,675	17.0%	15,433,619	14.0%
Total GVRD	47,634,160	100.0%	62,431,758	100.0%	110,065,918	100.0%

Source: GVRD Development Services CIFS Data Base, 1989.

Analysis of the data reveals the following general characteristics:

- The current floorspace inventory of the regional town centres illustrates that they are very different in terms of the amount and mix of activities they support.
- Downtown Vancouver continues to be by far the dominant commercial centre in the region, supporting 18.6 million sq. ft. of office space and 4.6 million sq. ft. of retail floorspace.
- While Downtown Vancouver supports the most retail floorspace of all the town centres (4.6 million sq. ft.), its hierarchical role as the dominant retail centre in the region is not beyond challenge since Whalley-Guildford supports over 3 million sq. ft. and Metrotown supports 2.1 million sq. ft.
- The town centres vary considerably in terms of their relative prominence as retail and business centres within their respective trade areas. Whalley and Coquitlam town centres function primarily as shopping centres while

Lonsdale is primarily an office centre and Richmond, Metrotown and New Westminister play a more balanced economic role within their respective trade areas.

In their analysis of the role of office location in regional town centre planning, Hutton and Davis point to several factors which provide a partial explanation of the apparent failure of the regional town centres to develop as major office centres:

- Misrepresentation of the evolving regional economy. The Vancouver regional economy is not yet mature enough to decentralize.
- Miscalculation of the behaviour of the office markets. While the federal government and regional authorities are attempting to support the regional town centre program, the business sectors locational decisions are based primarily on economic factors, not social or community objectives.
- Failure to designate locational priorities in the regional town centre program. Attempting to support four major suburban office centres simultaneously might have been too ambitious; designation of priorities could have provided a clearer focus, both for public and private investment.
- Ineffective policy approaches on the part of municipal authorities. Inappropriate zoning approaches appear to have contributed to confusion among developers (eg. by permitting large scale shopping centres and other non-office uses in prime regional town centre locations) as to the specific development objective of the regional town centre program.
- Competition from non-designated suburban centres. A significant proportion of suburban office growth has been located in non-designated suburban areas and a significant amount is located at manufacturing and industrial sites.
- Inadequate central city/regional town centre linkages. A lack of satisfactory CBD/RTC linkages in Greater Vancouver may have acted as a constraint on suburban office development. In the short term, the LRT system may also act as a

centralizing factor both by increasing the capacity into the CBD and by facilitating the penetration of regional markets by downtown office firms (Hutton, Davis 1985)

An historical regional retail growth perspective is provided in Table 2.4 which shows retail floorspace absorption by major subregion. Since retail trade area boundaries are influenced more by population distribution, geography and transportation networks, it is useful to examine floorspace by subregion than by individual municipality.

Table 2.4
Regional Retail Floorspace Growth: 1983-1989

Region	1983	Average Annual Increase (1983-1989)	1989
City of Vancouver	24,529,000	453,095	27,247,570
Inner Suburban Municipalities (Burnaby, Richmond, Delta, North Shore)	14,440,902	772,424	19,075,449
Outer Suburban Municipalities (Coquitlam, New Westminster, Port Coquitlam, Port Moody, Surrey, White Rock)*	<u>11,316,564</u>	<u>852,332</u>	<u>16,431,758</u>
Greater Vancouver	<u>50,286,466</u>	<u>2,024,215</u>	<u>62,431,758</u>

* Not including Langley

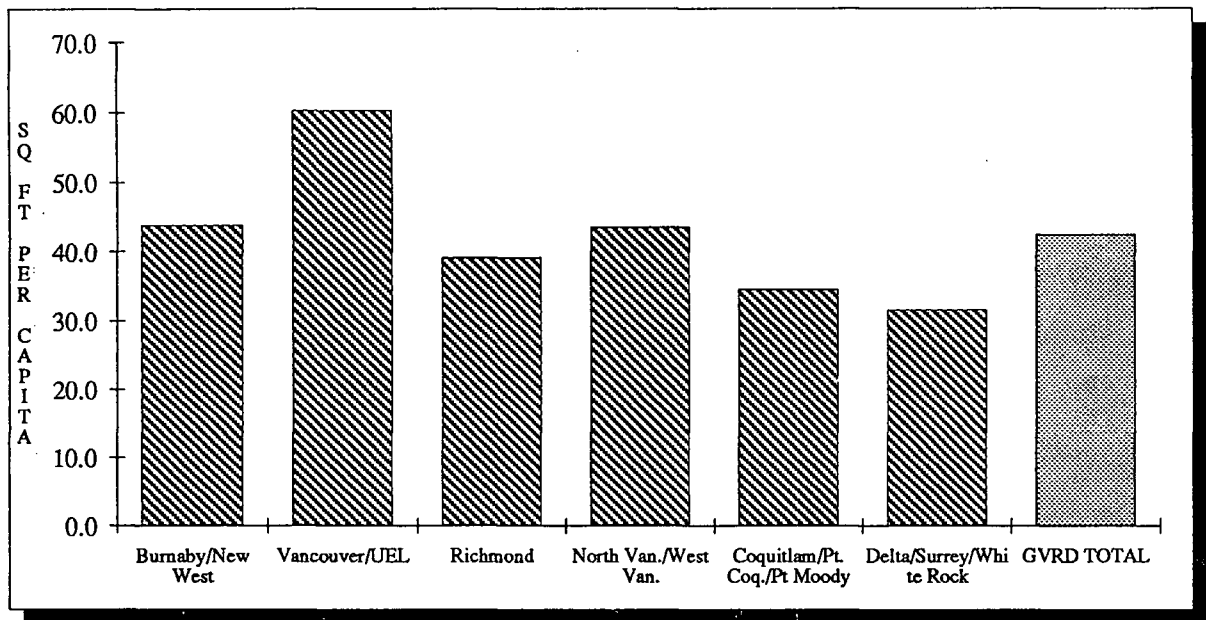
Note: GVRD commercial floorspace database was originated in 1982.

Source: GVRD Development Services, Commercial Floorspace Inventory, 1989.

This analysis reveals that Greater Vancouver has supported an average retail growth of two million sq. ft. from 1983 to 1989. The majority of retail growth has taken place within the inner and outer suburban regions of the Lower Mainland.

A meaningful way to analyse the adequacy of retail floorspace is to compare it to population, obtaining retail floorspace per capita estimates. Thus, population and retail floorspace data has been compiled for six major subregions within the G.V.R.D. and retail floorspace per capita information is presented in graphic form in figures 2.1 and 2.2.

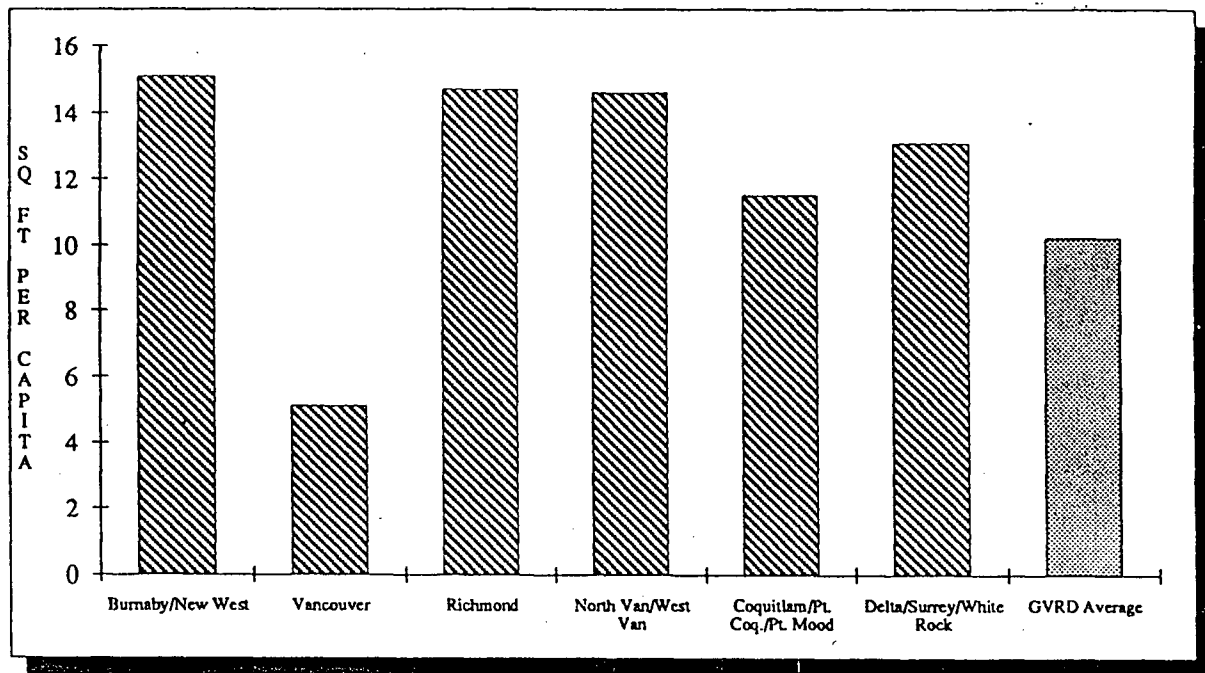
Figure 2.1
Retail Floorspace Per Capita, 1989



Sources: B.C. Central Statistics Bureau.
GVRD Development Services, 1989.

Analysis of this data reveals that in 1989 G.V.R.D. retail floorspace averaged 41 sq. ft. per capita. The range of floorspace ratios vary from a low of 33 sq. ft. per capita in the Delta-Surrey-White Rock subregion to a high of 60 sq. ft. per capita within the Vancouver-U.E.L. subregion. While this total retail floorspace analysis makes it appear as though Vancouver is potentially overretailed from a regional perspective, analysis of retail floorspace within shopping centres over 30,000 sq. ft. in size reveals a significantly different picture as highlighted in Figure 2.2.

Figure 2.2
Shopping Centre Floorspace Per Capita, 1989



Sources: B.C. Central Statistics Bureau.
 Estimates, Thomas Consultants Inc.

This graph reveals that the G.V.R.D.'s retail floorspace is approximately 10 sq. ft. per capita for shopping centres greater than 30,000 sq. ft. in size. While some subregions support up to 15 sq. ft. per capita of this type of retail floorspace, Vancouver supports only 5 sq. ft. per capita. This is due to the fact that Vancouver supports a large amount of marginal performing retail areas which evolved in commercial areas such as the downtown east side and along retail corridors such as the Broadway and Kingsway commercial strips.

In the next 10 to 20 years a number of interrelated factors will affect the amount, type and distribution of commercial development that occurs throughout the region. Growth in town centres will continue to be affected by both market and non market forces. As stressed in the policy discussion paper on town centres, three policy issues (i.e. non market forces) include:

1. The level of municipal investment that will be made in the town centre (i.e. cultural facilities, parks, parking, transit, civic institutions).
2. The extent to which development in other locations in the municipality will

be restricted in order to avoid loss of town centre development potential.

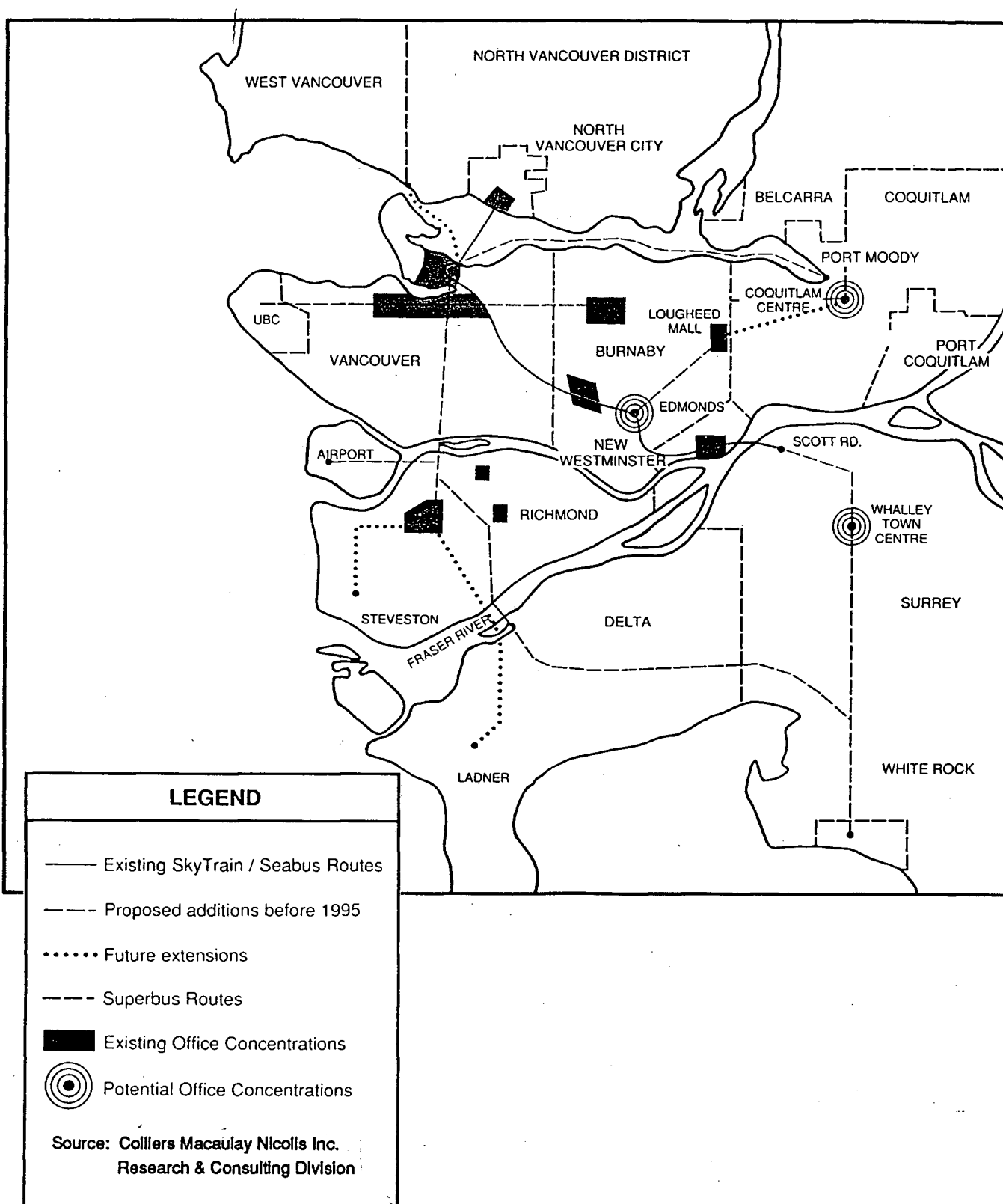
3. The trade-offs between accommodating land uses that are viable in the short term versus holding land to accommodate future high density uses.

Since no town centre or Downtown Vancouver will come anywhere near reaching its planned capacity for commercial development in the next decade, this will not be a constraint on growth. Locational advantages and disadvantages (i.e. market forces) between Downtown Vancouver and the town centres also significantly affect how the region will evolve over the next decade. It is useful to conceptualize the regional town centres as part of a hierarchy with Downtown Vancouver as the region's major retail and office centre. From a regional perspective the Broadway Corridor is part of the central Vancouver node but from a more localized perspective it acts as a distinct office location. The Broadway Corridor contains slightly less office space than all six regional town centres combined.

The next tier in the hierarchy contains all of the six town centres as well as Park Royal and the Canada Way corridor which act as significant centres although they do not have regional town centre status. The next tier is occupied by a large number of community scaled commercial centres typically anchored by shopping centres and some older "downtown areas" that are pedestrian oriented such as Steveston and Fort Langley. Lastly, there are a number of smaller neighbourhood commercial centres.

Major office concentrations are illustrated in Figure 2.3 and this hierarchy exists mainly due to market forces, historical development patterns and the physical character of the region. Regional Town Centre Policy has influenced this pattern but it is unlikely that the pattern would be very different in the absence of the policy. (G.V.R.D., 1990)

Figure 2.3
Major Office Concentrations
in Greater Vancouver



The historical location of office space in Greater Vancouver has been a function of many factors consistent with what has been observed throughout North American cities, but also by a number of factors which make Vancouver atypical. The most important points are highlighted as follows:

- Physical and political boundaries have constrained CBD expansion to the west, north and south.
- Access to the core is limited since there are no high speed automobile access routes.
- The most prestigious residential areas are located to the northwest and southwest of the downtown in the opposite direction of rapid population expansion.

These factors have had varying influences on the development of Greater Vancouver's office space. Historically, major office relocation from the core to suburban markets has been primarily by government departments, while suburban office growth slowed during the mid 1980s. Over the past few years, with the Skytrain catalyst, suburban office growth has again increased. (Colliers Macaulay Nicholls Inc., 1990)

There are a number of issues surrounding the decentralization of office space for the occupant and these are highlighted as follows:

Occupancy Cost: Presently Downtown Vancouver is 30% more expensive than suburban markets for similar quality space, due to higher lease rates, operating costs and taxes.

Parking: Is more available and less expensive in the suburban markets.

Transportation: Is becoming an increasingly important issue due to growing congestion.

Labour Force: Housing prices in the core are making it unaffordable for employees to live in inner municipalities and driving times to outlying areas are increasing.

Image: Is an important locational issue for many firms, and the lack of prestige in suburban office markets may deter many firms from relocating.

Amenities: Such as hotels, restaurants and retail concentration to service office populations will continue to expand in suburban town centres.

Client Base: Many firms require frequent personal contact and such firms will not likely consider moving to suburban markets until the breadth of services approaches that of downtown.

The regional office space inventory has been forecast to grow by 15-20 million square feet over the next decade. The physical constraints on growth to the west and north and rapidly escalating housing costs near the core suggest that the suburban areas office space market will continue to capture a large portion of the market over the next decade. The CBD will remain the financial centre of the city and province, but many firms will need to relocate outside the downtown to satisfy cost, employee and client service demands. Each suburban market will become more specialized, attracting tenants of a similar nature and will lead to a number of independent, mature office space markets spread throughout the Lower Mainland. Perhaps the success of establishing a multinucleated system of suburban office concentrations throughout Greater Vancouver requires focusing on those centres with the greatest market potential backed by the necessary resources and intermunicipal commitment (Hutton and Davis, 1985).

Further analysis of Greater Vancouver's retail market is provided in Section 3.2.1.

CHAPTER 3

RETAIL EXPENDITURE POTENTIAL

3.1 Introduction

This chapter defines trade area boundaries for the downtown peninsula and based on the primary, secondary and tertiary trade areas identified retail expenditure potentials are estimated for the 1989 base year and forecast to 1999 using estimates of population, income, and retail expenditure trends by major retail category. Visitor generated retail expenditure potential is also forecast and together with the locally based retail expenditure potential estimates, total DSTM demand is forecast over the projection period. This analysis forms the basis for the market share analysis presented in Chapter 4.

3.2 Trade Area Delineation

The trade area for any retail centre is generally considered the region from which 75% to 95% of the shopping trips originate. The remaining 5% to 25% of the trade can be expected to come from transient traffic beyond the boundaries defined. The boundaries of the trade area are generally influenced by factors such as:

- The size and type of the retail centre
- Regional and local accessibility
- The relative location and strength of competing retail areas and facilities
- Major patterns of residential and community development
- Natural and man-made barriers

While each of these factors has a bearing on the trade area, it is the cumulative effect of all these factors which ultimately leads to the definition of primary, secondary and tertiary trade areas.

In the case of the downtown peninsula, there are a wide variety of retail centres and streetfront retail areas which serve different roles and functions within the marketplace and as such have trading areas of differing size and market penetration.

Since Pacific Centre is the largest retail centre within the downtown core and since consumer research has been obtained on its trading patterns (see Section 4.3) its primary, secondary and tertiary trading areas will serve as the geographic basis upon which market penetration levels among various retail centres and streetfront areas within the downtown peninsula are estimated. This information is then used to determine the peninsula's 1989 retail market share which forms the basis for the supportable floorspace analysis in Chapter 4.

3.2.1 Regional Retail Competition

The downtown peninsula is by far the most dominant retail centre in the region with an estimated 4.56 million square feet of retail floorspace (see Table 4.2), and thus, is competitive primarily with other large scale retail concentrations located throughout the region.

The retail stature of the downtown peninsula was briefly discussed in Section 4.2 and is further described in Table 3.1 which compares the amount of retail-type floorspace in the suburban town centres to Downtown Vancouver.

Table 3.1
Regional Town Centre
Retail Inventory, 1989

	Floorspace (Square Feet)	% of Total	% of Downtown Peninsula
Downtown Peninsula	4,564,000	30.0%	100%
Metrotown	2,098,134	13.8%	46%
New Westminster Downtown	726,534	4.8%	16%
Coquitlam	1,732,006	11.4%	38%
Whalley/Guildford	3,078,161	20.3%	67%
Richmond	1,831,825	12.1%	40%
Lonsdale	1,165,106	7.7%	26%
Total Retail in Town Centres	15,195,666	100.0%	

Source: GVRD Development Services CIFS Data Base, 1989.

The downtown peninsula presently supports the largest amount of retail floorspace among the regional town centres and its importance as a DSTM comparison shopping centre is actually understated in the preceding table since automotive related retail is a much less significant proportion of retail floorspace on the peninsula than in the suburban town centres. Furthermore, there is a much larger component of higher order retail trade in the peninsula (ie.. antique stores, upper price point apparel and accessories stores, art galleries, etc.) than in the retail mix of suburban town centres.

The downtown peninsula competes with other large regional shopping centres (most of which are located in regional town centres) throughout the region, since, like the downtown core they function as comparison shopping environments for DSTM type goods.

Figure 3.1 identifies the locations of the dominant retail centres throughout the region and Table 3.2 provides descriptive summary information including the year they were opened, their scale, the number of stores and anchor tenants.

The degree of competition among of these centres predominantly results from their location relative to downtown Vancouver, their overall scale and their anchor tenant characteristics.

Figure 3.1
Major Shopping Centres
Vancouver CMA

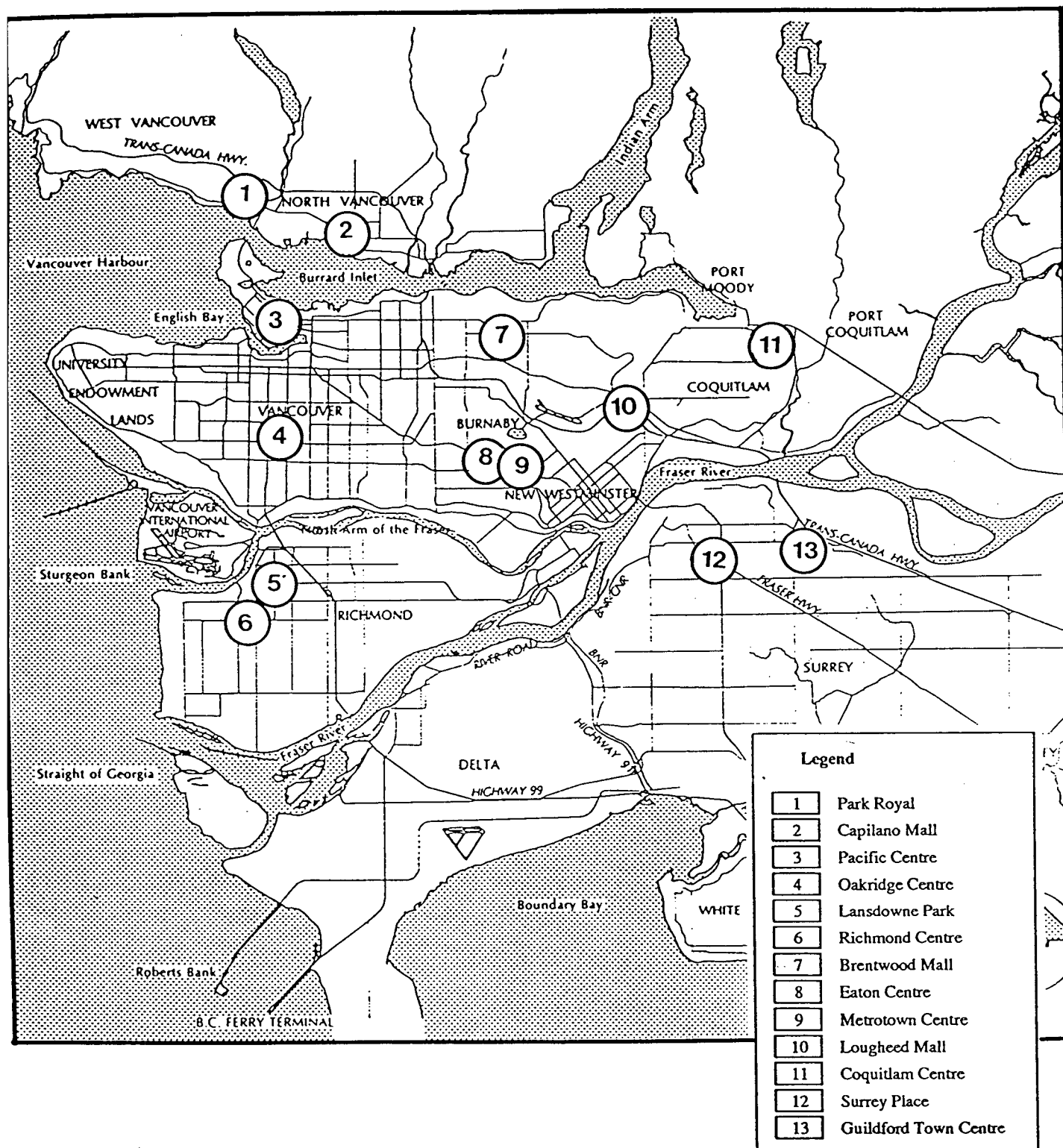


Table 3.2
Major Shopping Centres

Centre Name/Location	Year Opened	Distance From Site (Miles)	Gross Leaseable Area (Sq.Ft)	Number of Stores	Centre Type	Anchor Tenants	Anchor Sq.Ft.	CRU Sq.Ft.	Owner
Pacific Centre Granville St., Vancouver	1975	0	1,006,000	189	Super Regional	Eatons, Holt Renfrew	688,000	318,000	Cadillac Fairview
Vancouver Centre Granville St., Vancouver	1977	0	85,000	24	Downtown	Adjoining The Bay 554,000 sq.ft.	-	85,000	Northwest Freehold Brisco Investments
Oakridge Cambie St., Vancouver	1959	3.5	570,568	157	Sub Regional	Woodward's Woodward's Food Floor	315,599	254,969	Cambridge
Park Royal Marine Dr., West Vancouver	1950	3.75	862,937	185	Super Regional	Eaton, Woodward's, The Bay, Woodward's Food Floor, Super Valu	506,048	356,889	British Pacific Properties
Capilano Mall Marine Dr., North Vancouver	1967	3	404,376	108	Sub Regional	Sears, Woolco	245,404	158,972	Cambridge
Brentwood Mall Lougheed, Burnaby	1961	11.25	471,887	120	Sub Regional	Eatons, Zellers	259,550	212,337	Trileia Centres
Metrotown Centre Kingsway, Burnaby	1986	7	650,000	160	Regional	Woodward's, Sears	350,000	300,000	Manufacturers Life Cal Investments
Eaton Centre, Metrotown Kingsway, Burnaby	1989	7	575,162	190	Regional	Brettons, Eatons Real Canadian Superstore	294,890	280,272	Cambridge
Lansdowne Park No.3 Rd., Richmond	1977	8	613,766	143	Regional	Woodward's, Eatons Safeway	378,610	235,156	Van Prop Investments
Richmond Centre No.3 Rd., Richmond	1989 (Phase 1)	8.25	800,000 (Upon Completion)	n/a	Regional	Sears, The Bay, Zellers	370,000	430,000	Markborough Confederation

Table 3.2 (continued)
Major Shopping Centres

Centre Name/Location	Year Opened	Distance From Site (Miles)	Gross Leaseable Area (Sq.Ft)	Number of Stores	Centre Type	Anchor Tenants	Anchor Sq.Ft.	CRU Sq.Ft.	Owner
Lougheed Mall Lougheed, Burnaby	1969	11.5	579,762	172	Sub Regional	The Bay, Woolco Safeway	327,786	251,976	Trileia Centres
Guildford Town Centre 152nd St. Surrey	1966	27	850,000	192	Regional	Woodward's, Eatons, Woolco	456,050	393,950	Laing Properties
Coquitlam Centre Barnet Hwy., Coquitlam	1979	23	735,000	160	Super Regional	Woodward's, The Bay Eatons, Zellers (1990)	452,500	282,500	Pension Fund Realty
Surrey Place King George Hwy., Surrey	1972	23	698,000	108	Super Regional	Sears, The Bay, Zellers	312,000	386,000	Markborough

Source: Canadian Directory of Shopping Centres, 1989.

One indication of the competitiveness of a regional shopping centre is the number of consumers it serves on a regular basis. In order to understand the shopping behaviour of Vancouver residents, an analysis of patronage among regional scaled shopping centres has been summarized from a shopping behaviour survey conducted by MarkTrend Marketing Research in 1989. Results of this study are summarized in Table 3.3.

Ranked in order of popularity and patronage among Vancouver residents the top retail centres are as follows:

- Pacific Centre
- Oakridge Centre
- Metrotown Centre
- Lansdowne Shopping Centre
- Eaton Centre (Metrotown)

Of the 5.64 million shopping trips made by Vancouver residents to regional retail centres in 1988, 46% are to centres located within Vancouver (Pacific Centre, Oakridge Centre), 51% are to centres located in the inner suburbs and 2% are to centres located in the outer suburbs. Thus, Vancouver area residents presently shop more often in centres located outside of the city proper than inside.

Adjusted for the inflow of suburban residents shopping in Vancouver centres, there is a net outflow of over 2 million shopping trips to suburban centres annually indicating that retail demand is not presently being satisfied within Vancouver for residents of the City.

Table 3.3

Vancouver Residents Shopping Centre Patronage Behaviour, 1988

	Shoppers in Past Month	% of Shoppers From Van.	Total Monthly Shoppers (May, 1989)	Annualized Shopping Behaviour*
A.) Outflow From Vancouver To:				
Inner Suburbs				
Capilano Mall	70,100	13%	9,113	109,356
Eaton Centre	104,800	44%	46,112	553,344
Lougheed Mall	118,200	14%	16,548	198,576
Lansdowne Shopping Centre	150,700	32%	48,224	578,688
Metrotown Centre	232,000	34%	78,880	946,560
Park Royal	92,800	13%	12,064	144,768
Richmond Square/ Centre	117,000	25%	29,250	351,000
Subtotal	885,600		240,191	2,882,292
Outer Suburbs				
Coquitlam Centre	91,300	4%	3,652	43,824
Guilford Town Centre	142,100	2%	2,842	34,104
Surrey Place	116,000	4%	4,640	55,680
Subtotal	349,400		11,134	133,608
Total Suburban Outflow			251,325	3,015,900
B.) Inflow From Suburbs To Vancouver:				
Pacific Centre	168,700	34%	57,358	688,296
Oakridge Centre	132,100	19%	25,099	301,188
Total Suburban Inflow	300,800		82,457	989,484
C.) Net Vancouver Resident Outflow to Suburban Shopping Centres (Outflow - Inflow)				
			168,868	2,026,416
D.) Vancouver Residents Shopping in Vancouver:				
Pacific Centre	168,700	66%	111,342	1,336,104
Oakridge Centre	132,100	81%	107,001	1,284,012
Total	300,800		218,343	2,620,116

* Assumes that the month of May reflects typical shopping patterns.

Note: Brentwood Mall and Champlain Mall not included in survey sample.

Source: Marktrend Marketing Research, 1989.

3.2.2 Accessibility

As illustrated in figure 3.2 the downtown peninsula is accessible by automobile by a number of arterial roads. Travel times by automobile have been estimated by the GVRD Development Services transportation model and this information is summarized in Table 3.4.

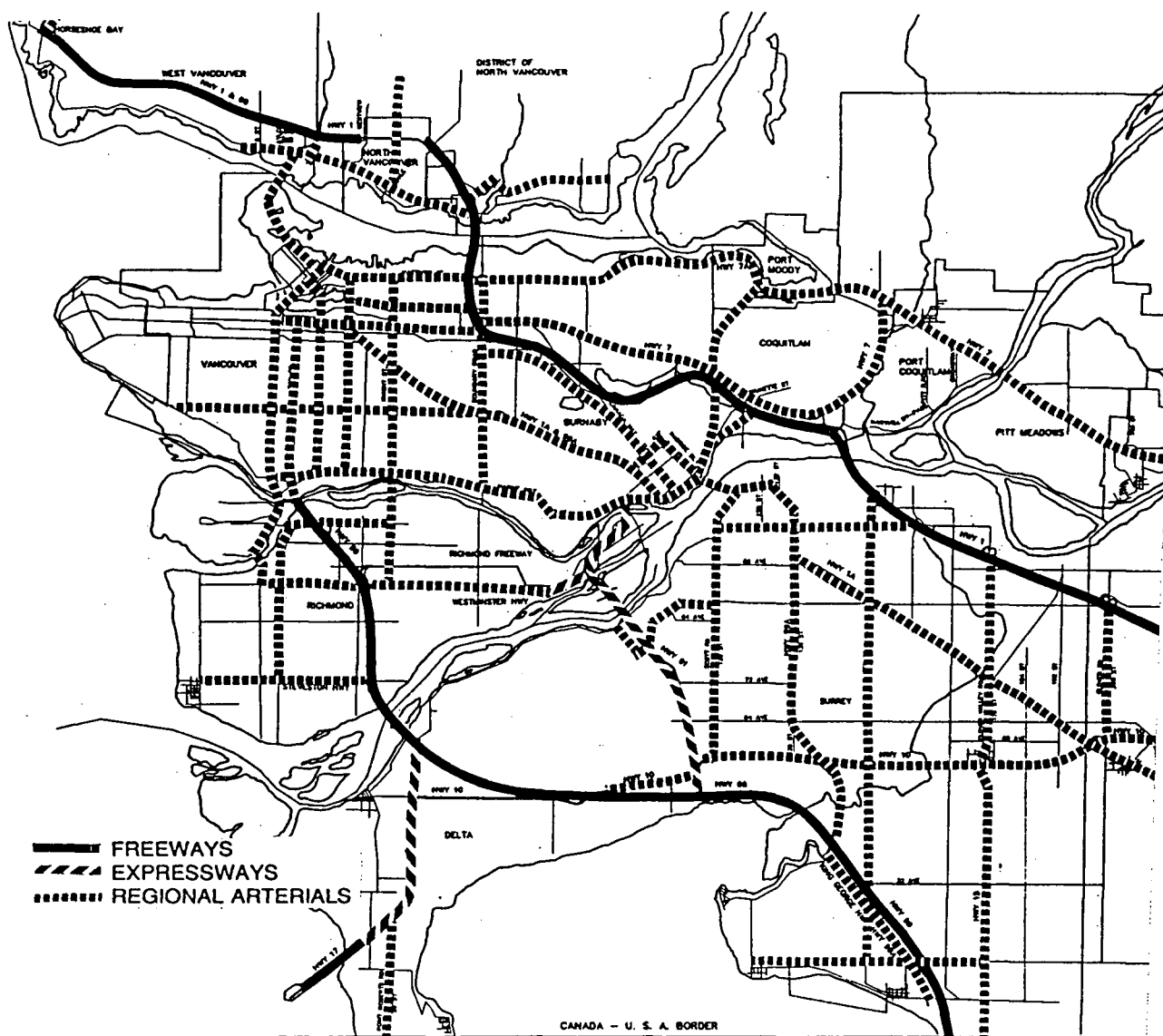
Table 3.4
Travel Times By Automobile to
Downtown Vancouver, 1987

Geographical Area	Travel Times (in minutes)
Burnaby/New West	25
Langley	59
Maple Ridge	59
Northeast Sector	39
North Delta/Surrey	46
North Vancouver	25
Richmond	30
South Delta	40
Vancouver	12
West Vancouver	24
White Rock	52

Note: Weighted average travel times in morning peak-hour traffic from midpoints within each sub-region.

Source: Greater Vancouver Regional District, Development Services, 1987.

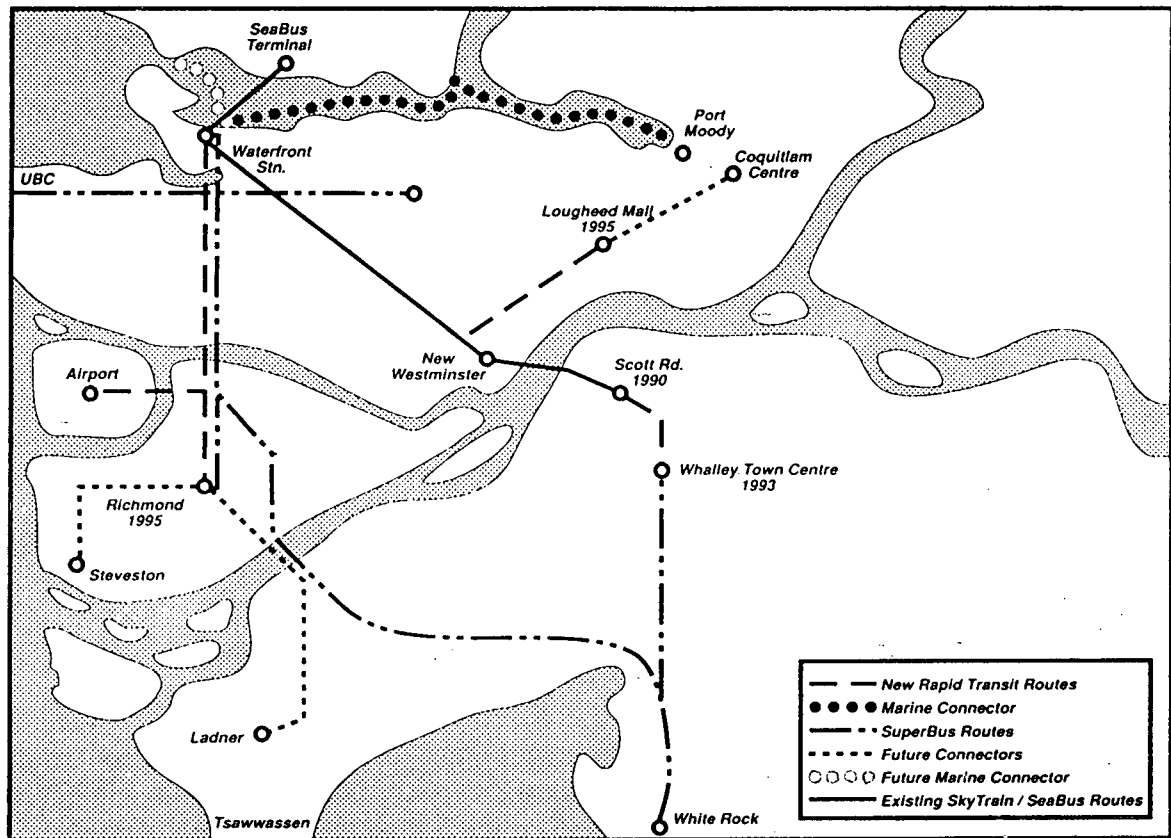
Figure 3.2
Existing Regional Road Network



Source: Greater Vancouver Transportation Task Force, July 1989

The downtown peninsula is also well served by public transportation. The Vancouver Regional Transit Commission provides bus service to the CBD from throughout the region and also provides commuter rail service through the Advanced Light Rapid Transit System. Figure 3.3 identifies the LRT's existing guideway alignments and future connections. Through continued expansion of the skytrain system the CBD's accessibility from certain suburban areas will be enhanced over the coming decade and beyond.

Figure 3.3
Regional Skytrain Routes: Existing and Proposed

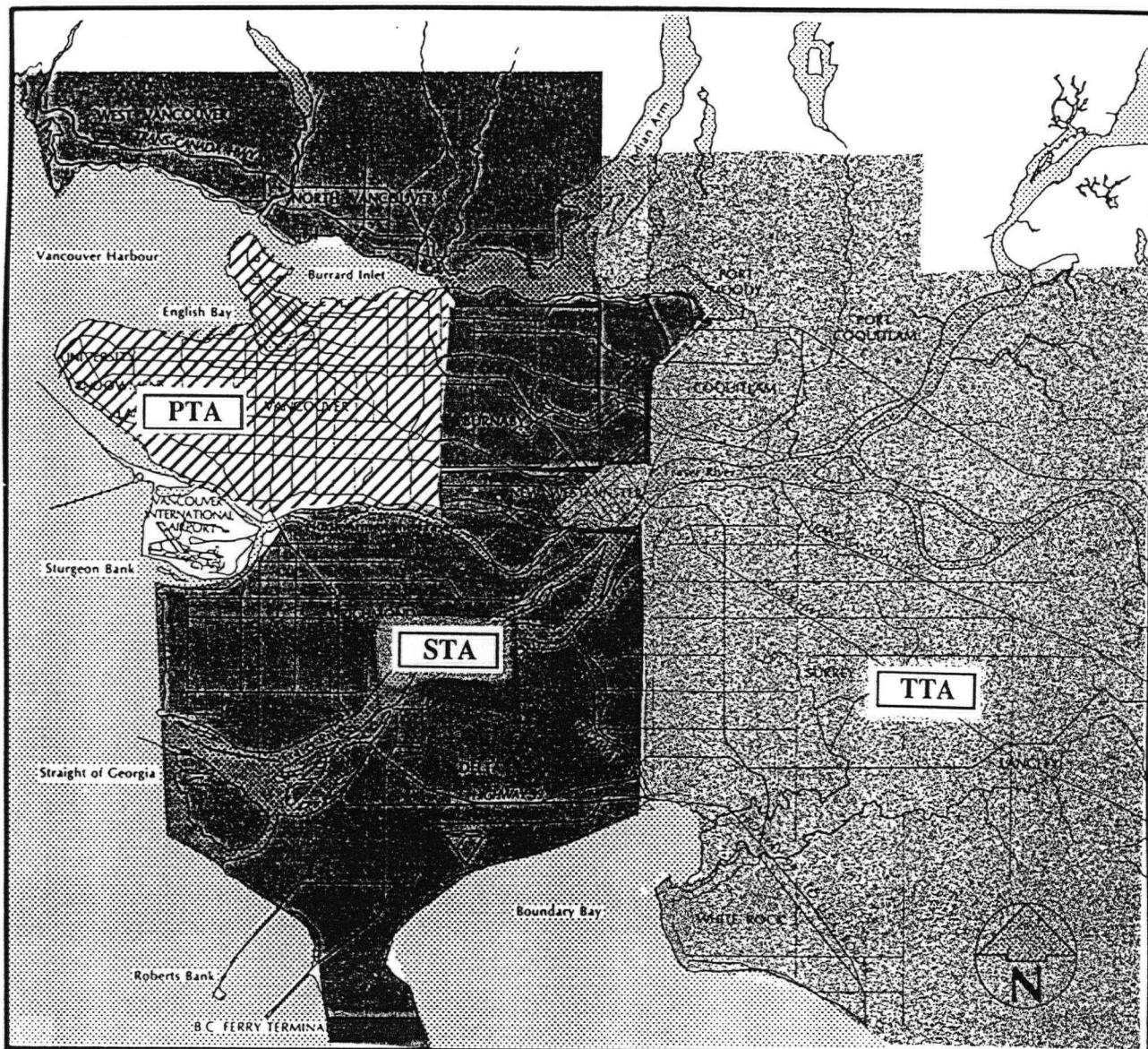


Source: Western News, August 2, 1989

3.2.3 Trade Area Boundaries

Based on the interrelated factors discussed in Section 3.2, retail trade area boundaries have been delineated for the downtown peninsula as illustrated in figure 3.4. The primary, secondary and tertiary boundaries correspond with municipal boundaries allowing the use of population projection forecasts developed by the GVRD in the expenditure potential model.

Figure 3.4
Downtown Vancouver Trade Area Boundaries



3.3 Population Projections

Population is fundamental to the derivation of retail expenditure potential within Downtown Vancouver's trade areas. Historical population data has been compiled as background information for the downtown peninsula's primary, secondary and tertiary trading areas. This information is presented in Table 3.8 and summarized below:

- The Vancouver C.M.A. population grew from 824,350 in 1961 to 1,380,729 in 1986 indicating an average growth rate of 2.1% per annum over the 25 year period.
- The City of Vancouver (including the U.E.L.) has grown from 387,794 in 1961 to 435,997 in 1986 with a period of growth from 1961 to 1971 followed by a net decrease in population during the 1970s, growth picked up in the 1981 to 1986 period.
- While population in the inner suburbs has been increasing at decreasing rates since the 1960s its population grew from 246,158 in 1968 to 475,730 in 1986.
- Population growth over the past 25 years in the outer suburbs has remained strong with growth rates of 3% to 4% per annum. This strong growth has increased population from 190,398 in 1961 to 469,002 in 1986.

Table 3.5

Trade Area Population, 1961-1986

	1961	1971	Ave. Ann. Growth 61-71	1981	Ave. Ann. Growth 71-81	1986	Ave. Ann. Growth 81-86
Primary Trade Area							
Vancouver/ UEL	387,794	429,792	1.03%	419,290	-0.25%	435,997	0.78%
Total PTA	387,794	429,792	1.03%	419,290	-0.25%	435,997	0.78%
Secondary Trade Area							
Burnaby	100,157	125,660	2.29%	136,485	0.83%	145,161	1.24%
Richmond	43,323	62,121	3.67%	96,150	4.47%	108,492	2.44%
Delta	14,597	45,860	12.13%	74,810	5.02%	79,783	1.30%
West Vancouver	25,454	36,440	3.65%	36,890	0.12%	37,997	0.59%
North Vancouver (A)	62,627	89,708	3.66%	99,810	1.07%	104,297	0.88%
Total STA	246,158	359,789	3.87%	444,145	2.13%	475,730	1.38%
Tertiary Trade Area							
New Westminster	35,104	42,835	2.01%	38,525	-1.05%	39,972	0.74%
The Langley's (B)	16,950	26,620	4.62%	59,740	8.42%	70,457	3.36%
Maple Ridge/ Pit Meadows	18,935	27,249	3.71%	38,670	3.56%	44,120	2.67%
North East Sector (C)	42,118	83,568	7.09%	103,560	2.17%	114,160	1.97%
Surrey/ White Rock	77,291	108,950	3.49%	160,890	3.98%	196,070	4.03%
CT 250, Subd. A, I. Bay, Bel.	N.A.	N.A.		N.A.		4,223	
Total TTA	190,398	289,222	4.27%	401,385	3.33%	469,002	3.16%
Total Trade Area (CMA)	824,350	1,078,803	2.73%	1,264,820	1.60%	1,380,729	1.77%

Notes: (A) North Vancouver City, North Vancouver District

(B) Langley City, Langley District

(C) Coquitlam, Port Coquitlam, Port Moody

Source: Statistics Canada, Census 1986

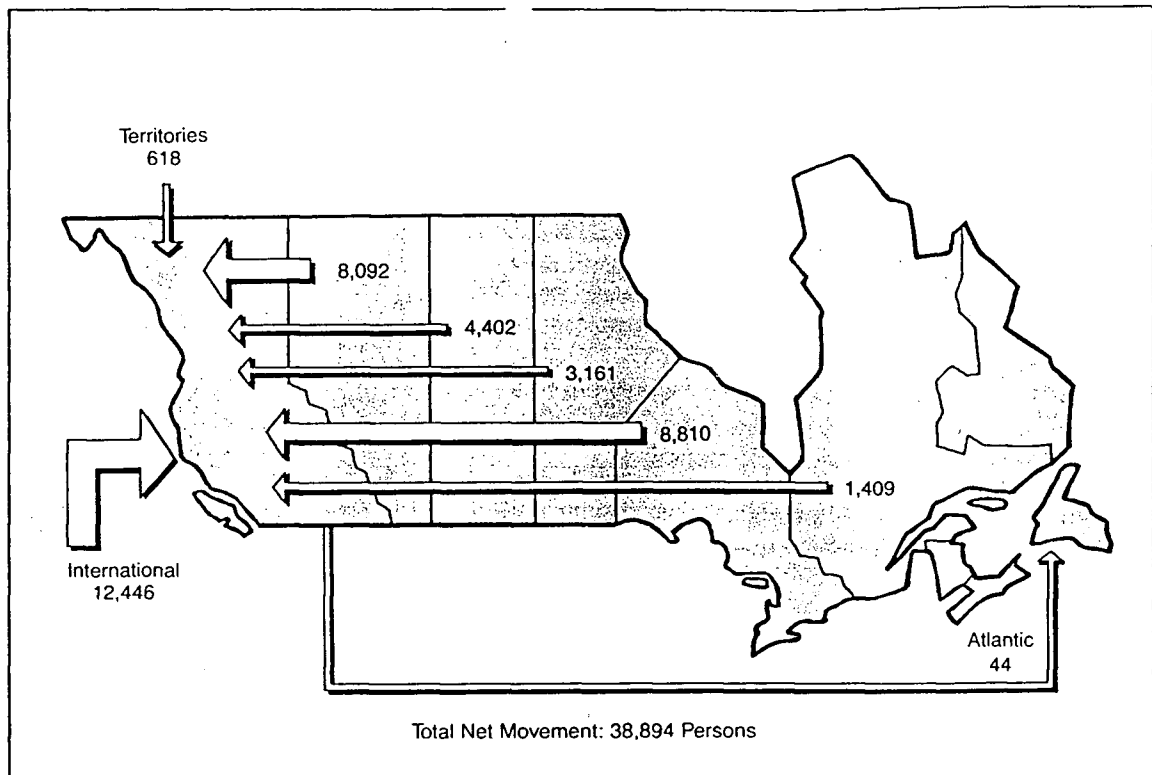
Population forecasts for the trade areas identified are based on forecasts developed by the G.V.R.D.'s development services department which were prepared using a Cohort-Survival model. The model incorporates the effects of age and sex specific fertility, mortality and net migration rates as well as the aging of the population in each age group. The base population for the model was the 1986 census prepared by Statistics Canada.

Historically, net migration has been the major factor affecting the rate of population growth in Greater Vancouver, varying from a high of 77% of the total growth in the 1966-1971 period to a low of 62% in the 1981-1986 period. The total level of net migration to the Greater Vancouver region has varied in absolute terms from a low of 55,000 in the 1971-1976 period to a high of 115,000 in the 1966-1971 period. The average during the 25 years was from 1961 to 1936 was 15,000 and from 1976 to 1986 the average was 14,000 net migrants per year.

The level of migration to Greater Vancouver is influenced by a number of factors including the economic well-being of British Columbia and Greater Vancouver, and the desirability of Greater Vancouver as a place to live and work.

The following figure illustrates the origin of net migration to B.C. and this is reflective of Greater Vancouver trends since this region accounts for approximately one-half of all provincial migration.

Figure 3.5
Net Migration to British Columbia
(Jan. 1, 1989 - Sept. 20, 1989)



Source: Colliers Macaulay Nicolls Inc.

With the dominance of the net migration factor in the region's population growth, the G.V.R.D. has developed a range of population forecasts reflecting different net migration rates.

A number of factors suggest that net migration to Vancouver in the future will be somewhat higher than in the past decade since the economy is growing, becoming increasingly diverse with rapidly growing connections to the Pacific Rim. The most recent G.V.R.D. estimates indicate that net migration to Greater Vancouver in 1989 was 28,000 people.

Two of the population growth scenarios developed by the G.V.R.D. are described below and used in developing forecast retail expenditure potentials throughout the region. Discussions with GVRD planning staff indicate that they are the most probable scenarios over the next decade.

Scenario 1: Medium Net Migration

Under this scenario 22,000 net migrants per year are assumed between 1986 and 1990 and 18,000 net migrants per year from 1991 to 2010. Results of these projections are shown in Table 3.6 and summarized here:

- The City of Vancouver's population will reach 457,000 people by 1991 and grow to 484,000 people by 2001.
- The average annual growth rate implied by these figures is 0.71% per annum from 1986 to 2001.
- Inner suburbs will grow to 513,300 people by 1991 and reach 573,300 people by 2001 implying a growth rate of 1.25% per annum between 1986 and 2001.
- The outer suburbs are projected to grow from 469,002 in 1986 to 729,600 in 2001, indicating an average annual growth rate of 2.99% per annum from 1986 to 2001.

Table 3.6

Trade Area Population Forecast, 1986-2001:

Medium Net Migration Scenario

	1986	1991	Ave. Ann. Growth 86-91	1996	Ave. Ann. Growth 91-96	2001	Ave. Ann. Growth 96-01
Primary Trade Area							
Vancouver/ UEL	435,997	457,000	0.95%	471,711	0.64%	484,700	0.54%
Total PTA	435,997	457,000	0.95%	471,711	0.64%	484,700	0.54%
Secondary Trade Area							
Burnaby	145,161	153,900	1.18%	159,100	0.67%	163,900	0.60%
Richmond	108,492	123,700	2.66%	136,500	1.99%	147,900	1.62%
Delta	79,783	85,000	1.27%	90,100	1.17%	95,300	1.13%
West Vancouver	37,997	38,200	0.11%	39,000	0.42%	39,900	0.46%
North Vancouver (A)	104,297	112,500	1.53%	119,500	1.21%	126,300	1.11%
Total STA	475,730	513,300	1.53%	544,200	1.18%	573,300	1.05%
Tertiary Trade Area							
New Westminster	39,972	42,300	1.14%	43,700	0.65%	45,100	0.63%
The Langley's (B)	70,457	83,600	3.48%	97,400	3.10%	111,900	2.81%
Maple Ridge/ Pit Meadows	44,120	55,200	4.58%	65,900	3.61%	75,300	2.70%
North East Sector (C)	114,160	135,700	3.52%	152,600	2.38%	169,000	2.06%
Surrey/ White Rock	196,070	244,700	4.53%	286,000	3.17%	321,300	2.35%
CT 250, Subd. A, I. Bay, Bel.	4,223	5,200	4.25%	6,100	3.24%	7,000	2.79%
Total TTA	469,002	566,700	3.86%	651,700	2.83%	729,600	2.28%
Total Trade Area (CMA)	1,380,729	1,537,000	2.17%	1,667,611	1.64%	1,787,600	1.40%

Notes: (A) North Vancouver City, North Vancouver District

(B) Langley City, Langley District

(C) Coquitlam, Port Coquitlam, Port Moody

Source: GVRD Development Services. July, 1989.

Scenario 2: High Net Migration

Under this scenario 30,000 net migrants per year are assumed between 1986 and 1989 and 22,500 net migrants per year from 1991 to 2010. Results of these projections are described in Table 3.7 and summarized below:

- Population within the city of Vancouver will grow at decreasing rates from 1986 to 2001. Population will reach 467,800 by 1991 and 507,300 by 2001.
- The inner suburbs will grow from 475,730 in 1986 to 600,600 by 2001 at an average growth rate of 1.57% per annum over the 15 year period.
- The outer suburbs are projected to grow from 469,002 in 1986 to 780,900 by 2001 implying a growth rate of 3.45 over the projection period.

Summary results of these two forecasts used in the projection model are shown in Table 3.8 for 1994 and 1999. 1989 estimates were obtained from the B.C. Central Statistics Bureau and are the best estimates available for the 1989 base year.

Table 3.7

Trade Area Population Forecast, 1986-2001
High Net Migration Scenario

	1986	1991	Ave. Ann. Growth 86-91	1996	Ave. Ann. Growth 91-96	2001	Ave. Ann. Growth 96-01
Primary Trade Area							
Vancouver/ UEL	435,997	467,800	1.42%	488,500	0.87%	507,300	0.76%
Total PTA	435,997	467,800	1.42%	488,500	0.87%	507,300	0.76%
Secondary Trade Area							
Burnaby	145,161	159,200	1.86%	167,300	1.00%	174,800	0.88%
Richmond	108,492	125,300	2.92%	139,400	2.16%	152,400	1.80%
Delta	79,783	87,100	1.77%	93,500	1.43%	100,000	1.35%
West Vancouver	37,997	39,000	0.52%	40,200	0.61%	41,500	0.64%
North Vancouver (A)	104,297	115,100	1.99%	123,600	1.44%	131,900	1.31%
Total STA	475,730	525,700	2.02%	564,000	1.42%	600,600	1.27%
Tertiary Trade Area							
New Westminster	39,972	43,700	1.80%	46,300	1.16%	48,700	1.02%
The Langley's (B)	70,457	88,700	4.71%	107,000	3.82%	126,300	3.37%
Maple Ridge/ Pit Meadows	44,120	57,500	5.44%	70,100	4.04%	81,600	3.08%
North East Sector (C)	114,160	139,400	4.08%	158,900	2.65%	178,300	2.33%
Surrey/ White Rock	196,070	251,400	5.10%	297,700	3.44%	338,700	2.61%
CT 250, Subd. A, I. Bay, Bel.	4,223	5,300	4.65%	6,300	3.52%	7,300	2.99%
Total TTA	469,002	586,000	4.55%	686,300	3.21%	780,900	2.62%
Total Trade Area (CMA)	1,380,729	1,579,500	2.73%	1,738,800	1.94%	1,888,800	1.67%

Notes: (A) North Vancouver City, North Vancouver District

 (B) Langley City, Langley District

 (C) Coquitlam, Port Coquitlam, Port Moody

Source: GVRD Development Services. July, 1990.

Table 3.8
Trade Area Population Forecast Summary, 1989-1999

	1989 (1)	1994 (2)	1999 (2)
<u>Scenario 1: Medium Net Migration</u>			
PTA	451,778	467,539	479,458
STA	504,307	537,463	565,582
TTA	537,936	616,286	697,381
Total Trade Area	1,494,021	1,621,288	1,742,421
<u>Scenario 2: High Net Migration</u>			
PTA	451,778	480,112	499,695
STA	504,307	548,356	585,683
TTA	537,936	644,296	741,588
Total Trade Area	1,494,021	1,672,764	1,826,966
		51,476	84,545

Sources: (1) Province of British Columbia Central Statistics Bureau, October 1989.
 (2) Derived from Table 3.6 and Table 3.7.

The difference between the two forecasts is 51,476 people by 1994 and 84,545 people by 1999. The implications of these differences in population for supportable retail floorspace growth in Downtown Vancouver will be described in Chapter 4 of this thesis.

3.4 Income Projections

As income is fundamental to retail expenditure potential within a trading area, it is necessary to analyze the income characteristics of Greater Vancouver residents.

Personal disposable income (PDI) per capita, the most meaningful income statistic relating to retail expenditure potential, is not reported by Statistics Canada. It is more meaningful than total personal income which is reported since it includes wages, salaries, interest and dividends, government transfer payments less personal income taxes. Unlike total personal income figures which Statistics Canada reports every five years (the last year being 1986) the Conference Board of Canada does publish total PDI estimates for each province on an annual basis making it the best source of income data for deriving retail expenditure potential. 1989 PDI data for B.C. has been obtained from the Conference Board of Canada and forms the basis of PDI per capita estimates for each of the trade areas.

Total personal income data is available at the municipal level from Statistics Canada, and has been compiled for the three trade areas as shown in Table 3.9. This data is used to establish relationships between the provincial average total personal income and the average total personal incomes for the trade areas. From this base, and by assuming that PDI varies proportionately with total personal income, PDI estimates for each of the trading areas have been derived from the 1989 PDI estimates for B.C.

Table 3.9
Distribution of 1989 Personal Disposable Income

	1986 Total Personal Income/Capita (1)	Total Income as a % of Vancouver CMA	1989 PDI Per Capita
B.C.	\$12,762	100%	\$13,986 (2)
Primary Trade Area	14,069	110.24	15,418
Secondary Trade Area	15,248	119.48	16,618
Tertiary Trade Area	12,443	97.50	13,637

Sources: (1) Statistics Canada, 1986 Census Data.

(2) Conference Board of Canada, Provincial Outlook, Winter 1990.

Trade area personal disposable income characteristics are summarized below:

- PTA (City of Vancouver) PDI was \$15,418 per capita in 1989 or 10.24% higher than the provincial average.
- STA (inner suburban municipalities) PDI was \$16,618 per capita in 1989 or 19.48% higher than the provincial average.
- TTA (outer suburban municipalities) PDI was \$13,637 per capital or 2.5% lower than the provincial average.

Having established PDI estimates for a 1989 base year it is necessary to derive a reasonable income growth rate for projection purposes. Historical data has been compiled on PDI per capita and is shown in Table 3.10. By adjusting this historical data by the consumer price index, real (ie. inflation adjusted) estimates of PDI have been derived. This analysis concludes that during the last decade, a decade with both high and low economic growth in the province, PDI grew at an average rate of 1.21% per annum.

Table 3.10
Historical PDI Growth

	Total PDI (2)	B.C. Population (1)	Total PDI Per Capita	CPI	Total PDI Per Capita (1981 \$)
1978	\$18,029,000,000	2,542,300	\$7,092	76.10%	\$9,319
1979	\$20,527,000,000	2,589,400	\$7,927	80.00%	\$9,909
1980	\$23,651,000,000	2,666,000	\$8,871	87.50%	\$10,139
1981	\$27,643,000,000	2,744,200	\$10,073	100.00%	\$10,073
1982	\$31,175,000,000	2,787,700	\$11,183	110.50%	\$10,120
1983	\$32,391,000,000	2,813,800	\$11,511	116.50%	\$9,881
1984	\$33,775,000,000	2,847,700	\$11,860	121.20%	\$9,786
1985	\$36,452,000,000	2,870,100	\$12,701	125.00%	\$10,160
1986	\$39,040,000,000	2,883,367	\$13,540	128.70%	\$10,520
1987	\$41,713,000,000	2,925,700	\$14,257	132.50%	\$10,760
1988	\$43,602,000,000	2,984,000	\$14,612	137.30%	\$10,642
					Ave. Annual Growth 78-88 1.21%

Sources: 1- Statistics Canada
2-Conference Board of Canada.

For the purposes of projections it is reasonable to assume that over the next decade, through both strong and weak economic times in B.C. that PDI will continue to fluctuate, but will on average grow at the average historical rate of 1.21% per annum in real terms.

Based on the foregoing assumption PDI estimates for each trade area have been forecast over the projection period as shown in Table 3.11.

Table 3.11
Personal Disposable Income Projections

	1989 (1)	1994	1999
Primary Trade Area	\$15,418	\$16,373	\$17,389
Secondary Trade Area	\$16,618	\$17,648	\$18,742
Tertiary Trade Area	\$13,637	\$14,482	\$15,380

Note: (1) See Table 3.9

3.5 Retail Sales As a Proportion of PDI

Having derived PDI estimates it is now necessary to relate this data to retail sales in order to project retail sales on a per capita basis in the trade areas. As shown in Table 3.12 the ratio of retail sales to PDI in British Columbia from 1978 - 1988 fluctuated from 37.7% to 45.7% and averaged 41.4%.

This historical average proportion of retail sales to PDI for the province forms the basis of retail sales estimates for each trade area over the projection period. While it is a generally accepted premise that the proportion of PDI spent on retail goods varies among different income groups little or no empirical work has been done to determine the elasticity of retail spending among various income groups. Consequently, without an empirical base upon which to make adjustments to the relationship between PDI and retail sales for the three trading areas, the ten year historical provincial average between 1978 and 1988 will be used and held constant over the projection period.

Table 3.12
Retail Sales to PDI Ratio

	Total Retail Sales in B.C. (1)	Total PDI (2)	Retail Sales as a % of PDI
1978	\$8,240,400,000	\$18,029,000,000	45.71%
1979	\$9,189,500,000	\$20,527,000,000	44.77%
1980	\$10,572,030,000	\$23,651,000,000	44.70%
1981	\$11,999,831,000	\$27,643,000,000	43.41%
1982	\$11,766,220,000	\$31,175,000,000	37.74%
1983	\$12,256,905,000	\$32,391,000,000	37.84%
1984	\$13,004,645,000	\$33,775,000,000	38.50%
1985	\$14,303,583,000	\$36,452,000,000	39.24%
1986	\$15,566,997,000	\$39,040,000,000	39.87%
1987	\$17,116,476,000	\$41,713,000,000	41.03%
1988	\$18,608,850,000	\$43,602,000,000	42.68%
			Ave. Annual Ratio 78-88 41.41%

Sources: 1-Statistics Canada, Various Publications.
2-Conference Board of Canada.

3.6 Retail Expenditure Profile

Retail trade statistics are reported by Statistics Canada for the Provinces and major metropolitan areas by retail category. Table 3.13 shows the 28 retail expenditure categories defined by Statistics Canada (detailed definitions are provided in Appendix A). This profile of retail categories has been regrouped into more meaningful categories for the purposes of retail trade area analysis by Thomas Consultants Inc., a leading retail market analysis firm in Canada, and these categories have been adopted here for deriving DSTM expenditure potentials for the trade areas defined.

Table 3.13
Categories and Sub-Groupings of Retail Outlets

Thomas Consultants Major Categories Convenience Oriented Retail	Thomas Consultants Sub-Groups Food	Statistics Canada Categories -Combination stores -Grocery, confectionery and sundries stores -All other food stores
	Drug	Pharmacies, patent medicine and cosmetics stores
Department Store Type Merchandise (DSTM) Retail	General Merchandise	-Department stores -General merchandise stores -General stores -Variety stores
	Apparel and Accessories	-Men's clothing stores -Women's clothing stores -Family clothing stores -Specialty shoe stores -Family shoe stores -Jewellery stores
	Hardware and Home Furnishings	-Hardware stores -Household furniture stores -Household appliances stores -Furniture, television, radio & appliances stores
	Personal Accessories	-Personal accessory stores -Book and stationary stores -Florists
	Automotive Parts and Accessories Stores	
	Other	-Sporting goods and accessories stores
Automotive-Oriented Retail		-Motor vehicle dealers -Used car dealers -Service stations -Garages
All Other	Other Retail	-Appliance & jewellery repair shops -All other stores

Source: Statistics Canada Retail Trade Catalogue #63-005
Thomas Consultants Inc.

Based on these categories the pattern of retail expenditures for the major retail groups and sub-groups have been derived for the Vancouver CMA and are shown in Table 3.14. Analysis of this information reveals that DSTM expenditures in 1988 totalled nearly \$3 billion in Greater Vancouver and represented 31.3% of all retail expenditures. However, retail expenditure patterns are not static as demonstrated in Table 3.15 which shows how expenditures have varied among the various retail categories within the Vancouver CMA between 1978 and 1988.

This data reveals that although total retail sales growth averaged 2.18% per annum in real terms, department store, general merchandise store and variety store sales did not keep pace with inflation and consequently these types of stores lost some market share to other types of retail stores. Detailed analysis of the supply and demand factors influencing these trends is beyond the scope of this thesis, however the reader is referred to Section 2.3 for an overview of retail market development trends. Since trends in expenditure patterns among retail categories are relevant to the projection model, trends of the past decade have been used to forecast expenditure patterns among retail categories over the next decade. By applying the inflation adjusted average annual growth rates (by retail category) to the 1988 estimates, probable changes in the distribution of retail expenditures have been derived for 1994 and 1999.

This analysis reveals that while DSTM sales will continue to grow, the proportion of total retail expenditure on DSTM goods will likely decline slightly relative to convenience and automotive type goods. As such, DSTM expenditures as a proportion of total retail sales will decline from 31.29% in 1988 to 29.24% in 1994 and to 27.72% by 1999.

Table 3.14
Vancouver CMA Retail Profile

Retail Category	1988 (\$'000)	%
CONVENIENCE		
Combination Food	\$1,604,372	17.02%
Other Food Stores	\$695,290	7.38%
Drug	\$506,610	5.37%
Total Convenience	\$2,806,272	29.77%
DSTM		
General Merchandise		
Department Stores	\$1,034,606	10.97%
General Merchandise	\$67,920	0.72%
Variety Stores	\$6,507	0.07%
Apparel & Accessories	\$719,801	7.64%
Hardware & Home Furnishings	\$521,861	5.54%
Specialty DSTM	\$286,236	3.04%
Automotive Parts & Accessories	\$132,726	1.41%
Other	\$180,140	1.91%
Total DSTM	\$2,949,798	31.29%
Automotive	\$3,006,656	31.89%
Other	\$664,792	7.05%
TOTAL RETAIL	\$9,427,518	100.00%

Source: Statistics Canada Catalogue #63-005; March, 1989.

Table 3.15
Retail Profile Forecast, 1988-1999

Retail Category	Average Annual Growth						
	1988 (\$'000)	1988 (Actual)	1978-1988 (CPI Adjusted)	1994 (\$'000)	1994	1999 (\$'000)	1999
CONVENIENCE							
Combination Food	\$1,604,372	17.02%	1.92%	\$1,764,421	16.72%	\$1,940,436	16.27%
Other Food Stores	\$695,290	7.38%	2.91%	\$802,516	7.60%	\$926,279	7.77%
Drug	\$506,610	5.37%	4.72%	\$638,002	6.04%	\$803,471	6.74%
Total	\$2,806,272	29.77%	3.73%	\$3,204,939	30.37%	\$3,670,185	30.77%
DSTM							
General Merchandise							
Department Stores	\$1,034,606	10.97%	-2.84%	\$895,803	8.49%	\$775,622	6.50%
General Merchandise	\$67,920	0.72%	-5.33%	\$51,649	0.49%	\$39,275	0.33%
Variety Stores	\$6,507	0.07%	-6.01%	\$4,773	0.05%	\$3,501	0.03%
Apparel & Accessories	\$719,801	7.64%	3.06%	\$836,880	7.93%	\$973,002	8.16%
Hardware & Home Furnishings	\$521,861	5.54%	1.22%	\$554,481	5.25%	\$589,140	4.94%
Specialty DSTM	\$286,236	3.04%	2.92%	\$330,539	3.13%	\$381,700	3.20%
Automotive Parts & Accessories	\$132,726	1.41%	3.80%	\$159,935	1.52%	\$192,721	1.62%
Other	\$180,140	1.91%	6.93%	\$251,830	2.39%	\$352,051	2.95%
Total DSTM	\$2,949,798	31.29%	5.69%	\$3,085,890	29.24%	\$3,307,013	27.72%
Automotive	\$3,006,656	31.89%	2.95%	\$3,477,087	32.94%	\$4,021,122	33.71%
Other	\$664,792	7.05%	3.42%	\$786,518	7.45%	\$930,532	7.80%
TOTAL RETAIL	\$9,427,518	100.00%	2.18%	\$10,554,434	100.00%	\$11,928,853	100.00%

Sources: Statistics Canada Retail Trade, Catalogue #63-005; 1978-1989.
Statistics Canada Consumer Price Index, Catalogue #62-001; 1978-1988.

3.7 Retail Expenditure Potential

Having compiled the information required to develop the retail expenditure potential of Greater Vancouver residents in preceding sections of this chapter, this section presents the results of the DSTM expenditure potential model developed. These results are shown in Table 3.16 and Table 3.17 reflect DSTM expenditure potential under both medium and high population growth scenarios respectively. Highlights of this analysis are:

- In 1989 City of Vancouver (PTA) residents spent an average of \$1,997 per capita on DSTM goods for a total DSTM expenditure potential of \$902.3 million.
- The 504,309 inner suburban (STA) residents spend \$2,153 per capita on DSTM goods in 1989 for a total of \$1.086 billion.
- Outer suburban (TTA) residents spent \$1,767 per capita on DSTM goods in 1989 for a total of \$950.3 million.
- Within the City of Vancouver DSTM expenditure potential is projected to grow to \$956.8 million by 1999 under the medium growth scenario and to \$997.2 million under the high growth scenario.
- Together, the inner and outer suburban areas will generate \$2.447 billion in DSTM sales potential by 1999 under the medium growth scenario and reach \$2.569 billion if population projections under the high growth scenario are reached.
- Retail expenditure potential within the entire Greater Vancouver Region will grow by \$465 million to \$3.404 billion under the medium growth scenario. Under the high population growth scenario retail expenditure potential will grow by \$628 million and reach \$3.566 billion.

Table 3.16
DSTM Expenditure Potential:
Medium Net Migration Scenario

	1989	1994	1999
PRIMARY TRADE AREA			
Population (1)	451,778	467,539	479,458
PDI Per Capita (2)	\$15,418	\$16,374	\$17,389
RetailSales/ PDI (3)	41.40%	41.40%	41.40%
Retail Sales/ Capita	\$6,383	\$6,779	\$7,199
Total Retail Sales	\$2,883,722,466	\$3,169,370,205	\$3,451,640,197
DSTM/ Total Retail (4)	31.29%	29.24%	27.72%
DSTM/ Capita	\$1,997	\$1,982	\$1,996
Total DSTM Potential	\$902,316,760	\$926,723,848	\$956,794,663
SECONDARY TRADE AREA			
Population (1)	504,307	537,463	565,582
PDI Per Capita (2)	\$16,618	\$17,648	\$18,742
RetailSales/ PDI (3)	41.40%	41.40%	41.40%
Retail Sales/ Capita	\$6,880	\$7,306	\$7,759
Total Retail Sales	\$3,469,557,523	\$3,926,850,868	\$4,388,457,067
DSTM/ Total Retail (4)	31.29%	29.24%	27.72%
DSTM/ Capita	\$2,153	\$2,136	\$2,151
Total DSTM Potential	\$1,085,624,549	\$1,148,211,194	\$1,216,480,299
TERTIARY TRADE AREA			
Population (1)	537,936	616,286	697,381
PDI Per Capita (2)	\$13,637	\$14,482	\$15,380
RetailSales/ PDI (3)	41.40%	41.40%	41.40%
Retail Sales/ Capita	\$5,646	\$5,996	\$6,367
Total Retail Sales	\$3,037,034,958	\$3,694,972,295	\$4,440,447,989
DSTM/ Total Retail (4)	31.29%	29.24%	27.72%
DSTM/ Capita	\$1,767	\$1,753	\$1,765
Total DSTM Potential	\$950,288,238	\$1,080,409,899	\$1,230,892,183

Sources: 1- Table 3.6

2- Table 3.9

3- Table 3.12

4- Table 3.15

Table 3.17
DSTM Expenditure Potential:
High Net Migration Scenario

	1989	1994	1999
PRIMARY TRADE AREA			
Population (1)	451,778	480,112	499,695
PDI Per Capita (2)	\$15,418	\$16,374	\$17,389
RetailSales/ PDI (3)	41.40%	41.40%	41.40%
Retail Sales/ Capita	\$6,383	\$6,779	\$7,199
Total Retail Sales	\$2,883,722,466	\$3,254,600,510	\$3,597,327,291
DSTM/ Total Retail (4)	31.29%	29.24%	27.72%
DSTM/ Capita	\$1,997	\$1,982	\$1,996
Total DSTM Potential	\$902,316,760	\$951,645,189	\$997,179,125
SECONDARY TRADE AREA			
Population (1)	504,307	548,356	585,683
PDI Per Capita (2)	\$16,618	\$17,648	\$18,742
RetailSales/ PDI (3)	41.40%	41.40%	41.40%
Retail Sales/ Capita	\$6,880	\$7,306	\$7,759
Total Retail Sales	\$3,469,557,523	\$4,006,438,089	\$4,544,424,505
DSTM/ Total Retail (4)	31.29%	29.24%	27.72%
DSTM/ Capita	\$2,153	\$2,136	\$2,151
Total DSTM Potential	\$1,085,624,549	\$1,171,482,497	\$1,259,714,473
TERTIARY TRADE AREA			
Population (1)	537,936	644,296	741,588
PDI Per Capita (2)	\$13,637	\$14,482	\$15,380
RetailSales/ PDI (3)	41.40%	41.40%	41.40%
Retail Sales/ Capita	\$5,646	\$5,996	\$6,367
Total Retail Sales	\$3,037,034,958	\$3,862,907,594	\$4,721,928,104
DSTM/ Total Retail (4)	31.29%	29.24%	27.72%
DSTM/ Capita	\$1,767	\$1,753	\$1,765
Total DSTM Potential	\$950,288,238	\$1,129,514,181	\$1,308,918,470

Sources: 1- Table 3.7

2- Table 3.9

2- Table 3.12

4- Table 3.15

3.8 Visitor Generated Expenditure Potential

Further demand for retail floorspace in downtown Vancouver is generated from the large volume of visitor dollars which flow into the market from non-Greater Vancouver residents on an annual basis. The retail expenditure potential of these visitors is forecast by projecting the total number of visitors to the city and the amount of money they typically spend on retail goods.

Visitor growth to Greater Vancouver has been strong over the past few years and is expected to continue growing over the coming decade as business and leisure pursuits increasingly draw visitors to Vancouver. Between 1986 and 1989 overnight visitors to Greater Vancouver averaged 5.42 million people and excluding the 1986 Expo year (when Vancouver hosted 6.06 million visitors) growth has average 7.4% per annum. As shown in Table 3.18 over 5.9 million visitors came to Greater Vancouver in 1989.

Table 3.18
Overnight Visitors to Vancouver

	1986	1987	1988	1989
Total Overnight Visitors	6,060,000	4,769,000	5,248,000	5,907,800

Source: Tourism Vancouver, Vancouver Facts and Research.

For the purposes of projecting visitor growth a conservative growth rate of 5% per annum has been employed. Based on this assumption overnight visits are projected to grow to 7,540,000 by 1994 and to 9,623,000 by the year 1999.

Estimates of average daily retail expenditures by visitors to Greater Vancouver have been compiled based on two separate surveys: one conducted by the Ministry of Tourism which reflects expenditures by out of province tourists in southwestern B.C., and one conducted by Tourism Vancouver which primarily reflects the expenditure patterns of business visitors to Vancouver.

Table 3.19
Average Expenditures Per Day
By Visitors to Greater Vancouver, 1989

	Business Travellers (1)	Tourists (2)
Accommodation	\$54.79	\$ 21.57
Air Transportation	30.56	7.26
Auto Transportation	9.92	3.84
Other Transportation	5.74	9.20
Restaurants	29.83	15.39
Groceries	4.00	3.46
Recreation	4.30	2.36
Entertainment	5.90	N/A
Shopping	33.67	11.04
Other Expenses	6.35	2.67
Total Expenditures	\$195.06	\$76.88

Note: Data adjusted to 1989 \$s.

Sources: (1) Tourism Vancouver, October 1987 Survey.

(2) Ministry of Tourism, Recreation and Culture March 1988 Survey.

This data reveals that business type travellers typically spent an average of \$33.67 per day on DSTM goods and tourists spent an average in real terms of \$11.04 per day (inflation adjusted) in 1989. Expenditure growth per visitor is projected at 1.25% per annum over the projection horizon.

A visitor survey conducted by Tourism Vancouver in 1989 identified the various reasons why non-British Columbians come to Vancouver and this information is detailed in Table 3.20.

Table 3.20
Overnight Visitors to Greater Vancouver
Trip Purpose, 1989

Trip Purpose	%
Business Travellers	
Conventions	8.9
Business	<u>15.9</u>
Total Business	24.8
Tourist Type Travellers	
Visiting Friends and Relatives	34.6
Touring Trip	22.7
Other Pleasure or Leisure	11.9
Recreation/Wilderness	3.8
Other	<u>2.2</u>
Total Tourist Type Travellers	75.2
Total Trips	100%

Source: Vancouver Facts and Research, Tourism Vancouver, 1989

A further assumption also needs to be made regarding the proportion of DSTM expenditure potential spent within Downtown Vancouver, the inner suburbs and outer suburbs. By using the number of hotel and motel rooms located in each trade area as a proxy for the location of retail spending, and assuming similar occupancy rates among hotels and motels throughout the region, and an even distribution of business and tourist type travellers within each trade area, visitor generated expenditure potential originating in each trade zone can be derived.

Data on the number of hotel rooms by trade zone has been compiled and summary information is provided in Table 3.21.

Table 3.21
Number of Hotel and Motel Rooms
In Greater Vancouver, 1990

	Total Number	% of Total
Downtown Vancouver	8,247	63%
Vancouver (not downtown)	858	6.5%
Inner Suburb (STA)	2,959	22.6%
Outer Suburbs (TTA)	<u>1,022</u>	<u>7.8%</u>
	13,086	100%

Source: B.C. Ministry of Tourism, Accommodations, 1990.

This analysis reveals that 69.5% of Greater Vancouver hotel and motel rooms are located in the City of Vancouver, 22.6% are located in the inner suburbs and 7.8% are located in the outer suburbs. These figures have been slightly adjusted to further reflect the locations where visitors likely spend their DSTM dollars. Thus, 75% of visitor based DSTM dollars are estimated to be spent in Vancouver, 20% in the inner suburbs and 5% in the outer suburbs.

Based on all the foregoing assumptions visitor based DSTM expenditure potentials have been derived for the three trading areas and are shown in Table 3.22.

Table 3.22
Visitor Based DSTM
Expenditure Potential Forecasts, 1989-1999

	1989	1994	1999
Over Night Visitors (1)			
Business Visitors (@ 24.8%)	1,465,134	1,869,920	2,386,504
Tourist Type Visitors (@ 75.2%)	4,442,666	5,670,080	7,236,496
Total	5,907,800	7,540,000	9,623,000
DSTM Expenditure Potential (2)			
Business Visitors (@ \$33.67/ Day)	\$49,331,075	\$66,999,234	\$90,973,532
Tourist Type Visitors (@ \$11.04/ Day)	\$49,047,028	\$66,623,440	\$90,456,200
Total	\$98,378,103	\$133,622,674	\$181,429,732
Visitor Expenditure Potential by Trade Area (3)			
Primary Trade Area (@ 75%)	\$73,783,578	\$100,217,005	\$136,072,299
Secondary Trade Area (@ 20%)	\$19,675,621	\$26,724,535	\$36,285,946
Tertiary Trade Area (@ 5%)	\$4,918,905	\$6,681,134	\$9,071,487
Total	\$98,378,103	\$133,622,674	\$181,429,732

Sources: 1- Table 3.18

2- Table 3.19

3- Estimates Based on Data in Table 3.21

This analysis reveals that visitor generated retail expenditure potential in Greater Vancouver will grow from \$98.4 million in 1989 to \$181.4 million by 1999. The implication of this expenditure potential for supportable floorspace growth in Downtown Vancouver is shown in Chapter 4 of this study.

3.9 Total DSTM Expenditure Potential

Total DSTM expenditure potential for each trade area is a combination of resident and visitor based expenditure potentials. Table 3.23 summarizes the expenditure potential forecasts derived for local residents and visitors under both population growth scenarios. The highlights of this summary are:

Table 3.23
Total DSTM Expenditure
Potential Growth Summary, 1989-1999

	1989	1994	%of Total Growth	1999	%of Total Growth
SCENARIO #1 (MED. NET MIGRATION)					
Primary Trade Area					
Residents (1)	\$902,316,760	\$926,723,848		\$956,794,663	
Growth	\$0	\$24,407,088	9.7%	\$54,477,903	9.9%
Visitors (2)	\$73,783,578	\$100,217,005		\$136,072,299	
Growth	\$0	\$26,433,427	10.5%	\$62,288,721	11.3%
Total PTA Growth		\$50,840,515	20.1%	\$116,766,624	21.3%
Secondary Trade Area					
Residents (1)	\$1,085,624,549	\$1,148,211,194		\$1,216,480,299	
Growth	\$0	\$62,586,645	24.8%	\$130,855,750	23.8%
Visitors (2)	\$19,675,621	\$26,724,535		\$36,285,946	
Growth	\$0	\$7,048,914	2.8%	\$16,610,325	3.0%
Total STA Growth		\$69,635,559	27.6%	\$147,466,075	26.9%
Tertiary Trade Area					
Residents (1)	\$950,288,238	\$1,080,409,899		\$1,230,892,183	
Growth	\$0	\$130,121,661	51.6%	\$280,603,945	51.1%
Visitors (2)	\$4,918,905	\$6,681,134		\$9,071,487	
Growth	\$0	\$1,762,229	0.7%	\$4,152,582	0.8%
Total TTA Growth		\$131,883,890	52.3%	\$284,756,527	51.9%
Total	\$3,036,607,651	\$3,288,967,615		\$3,585,596,877	
Total Growth	\$0	\$252,359,964	100.0%	\$548,989,226	100.0%
SCENARIO #2 (HIGH NET MIGRATION)					
Primary Trade Area					
Residents (3)	\$902,316,760	\$951,645,189		\$997,179,125	
Growth	\$0	\$49,328,429	14.1%	\$94,862,365	13.3%
Visitors (2)	\$73,783,578	\$100,217,005		\$136,072,299	
Growth	\$0	\$26,433,427	7.6%	\$62,288,721	8.8%
Total PTA Growth		\$75,761,856	21.7%	\$157,151,086	22.1%
Secondary Trade Area					
Residents (3)	\$1,085,624,549	\$1,171,482,497		\$1,259,714,473	
Growth	\$0	\$85,857,948	24.6%	\$174,089,924	24.5%
Visitors (2)	\$19,675,621	\$26,724,535		\$36,285,946	
Growth	\$0	\$7,048,914	2.0%	\$16,610,325	2.3%
Total STA Growth		\$92,906,862	26.6%	\$190,700,249	26.8%
Tertiary Trade Area					
Residents (3)	\$950,288,238	\$1,129,514,181		\$1,308,918,470	
Growth	\$0	\$179,225,943	51.3%	\$358,630,232	50.5%
Visitors (2)	\$4,918,905	\$6,681,134		\$9,071,487	
Growth	\$0	\$1,762,229	0.5%	\$4,152,582	0.6%
Total TTA Growth		\$180,988,172	51.8%	\$362,782,814	51.1%
Total	\$3,036,607,651	\$3,386,264,541		\$3,747,241,800	
Total Growth	\$0	\$349,656,890	100.0%	\$710,634,149	100.0%

Sources: 1- Table 3.16
2- Table 3.22
3- Table 3.17

Medium Population Growth Scenario

- Growth in DSTM expenditure potential within the City of Vancouver will reach \$50.8 million by 1994 and \$116.8 million by 1999. More than one-half of this growth will be attributable to expenditures by business visitors and tourists.
- The inner suburbs will experience slightly greater retail growth potential than the City with an increase of \$69.6 million by 1994 and a total of \$147.5 million by 1999. Unlike the City of Vancouver which will rely heavily on visitors for new expenditure potential approximately 90% of the growth in the inner suburbs will be attributable to population and income growth of these area's residents.
- The outer suburbs are projected to achieve DSTM sales growth of \$131.9 million by 1994 and \$284.8 million by 1999. Due to the small amount of visitors to this region only 1% of this growth is attributable to visitor spending while the remaining 99% is based on resident expenditure growth.
- DSTM growth throughout the region will total \$252.4 million by 1994 and reach \$549.0 million by 1999. Approximately 52% of this increase will be based on residential growth in the outer suburbs, 27% from growth in the inner suburbs and 21% from growth within the City of Vancouver.

High Population Growth Scenario

- Under this scenario total DSTM growth within Greater Vancouver is projected to total \$349.0 million by 1994 and \$710.6 million by 1999. This is \$97 million more by 1994, and \$162 million more by 1999, than is forecast under the medium net migration scenario.

The DSTM expenditure potential forecasts form the basis of the supportable floorspace analysis presented in the following chapter.

CHAPTER FOUR

DOWNTOWN VANCOUVER SUPPORTABLE RETAIL FLOORSPACE

4.1 Introduction

This chapter provides an inventory of existing DSTM retail floorspace and estimates sales productivities for the various retail centres and other retail concentrations in downtown Vancouver. From this data, downtown Vancouver's DSTM market shares of sales are determined for each of the three trade areas and provide a basis for estimating the supportable DSTM floorspace over the projection period under five market share options.

4.2 Downtown DSTM Retail Inventory

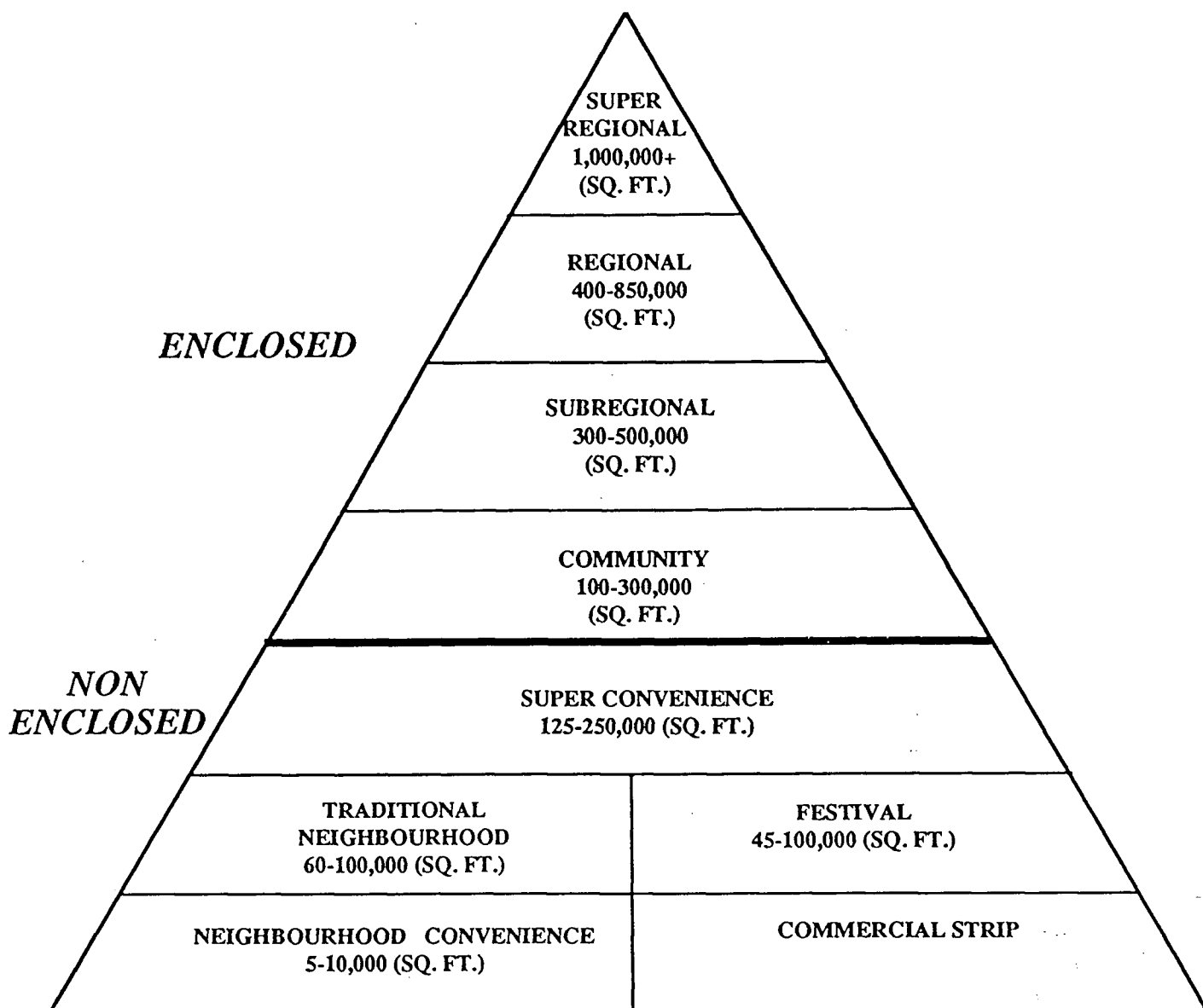
4.2.1 Introduction

Downtown Vancouver supports a hierarchy of retail centres and areas which in turn support varying amounts of DSTM floorspace depending on each area's role and function in the market. An understanding of this hierarchy is important in determining how a given retail concentration trades, and thus, its market penetration levels into the trade areas identified for downtown Vancouver.

A conceptual model of the retail hierarchy is illustrated in figure 4.1 and general characteristics of this hierarchy are summarized in table 4.1. While downtown Vancouver does not support each type of retail centre identified, this model provides a useful framework in order to assess the existing retail inventory.

An inventory of downtown Vancouver's DSTM floorspace has been compiled and is presented in table 4.2. Data in the first column on "Total Retail Floorspace" was derived from the GVRD's land use inventory data base: the best source of information for retail floorspace for Vancouver's streetfront retail areas at the time this study was conducted. Although the City of Vancouver has recently updated the GVRD's commercial retail inventory this information was not available at the time

Figure 4.1
The Retail Hierarchy System



Source: Thomas Consultants Inc.

Table 4.1
Retail Hierarchy

ENCLOSED FORMS					
Type of Centre	Super Regional	Regional	Sub Regional	Community	
Anchor Tenants	3 Full Line Department Stores	2 Full Line Department Stores	1 Full Line 1 Promotional Department Store and Supermarket	1 Promotional Department Store and Supermarket	
Project Size (Sq.Ft. GLA)	1,000,000+	400 - 850,000	300 - 500,000	100 - 300,000	
Site Size (Acres)	75+	30 - 60	20 - 50	15 - 30	
Trade Area Population	400,000+	75 - 125,000	50 - 100,000	20 - 50,000	
Drive Time (Minutes)	30+	20 - 30	15 - 25	10 - 15	
Dwell Time	Up To 2 Hours	1 - 2 Hours	1 - 2 Hours	0.75 - 1.5 Hours	
Example (Vancouver CMA)	Pacific Centre	Metrotown Centre	Capilano Mall	Scottsdale Mall	
NON-ENCLOSED FORMS					
Type of Centre	Super Convenience	Specialty or Festival	Traditional Neighbourhood	Neighbourhood Convenience	Commercial Strip
Anchor Tenants	Mega Food Store + Mass Merchandiser + 30 Specialty Stores	None	Supermarket + Convenience Store + 20 Specialty Stores	Convenience Store + 5-7 Stores	Corner Grocery Store and Supermarkets Drug Store, Financial Institutions
Project Size (Sq.Ft. GLA)	125-250,000	45-100,000+	60-100,000	5-10,000	60,000-200,000+
Site Size (Acres)	10 - 15	N/A	5 - 10	Less Than 1	N/A
Trade Area Population	100-125,000	300-500,000	10-15,000	N/A	10,000-60,000+
Drive Time (Minutes)	10 - 15	30 - 45	5	N/A	5 - 10+
Dwell Time	60 - 90	30 - 45	30 - 60	5 - 10	10 - 60+
Example (Vancouver CMA)	Pinetree Village (Coquitlam)	Lonsdale Quay	King Edward Mall	Corner Convenience Plazas	Kerrisdale, South Granville

Source: Thomas Consultants Inc.

this study was undertaken and thus is not utilized here. However, like the GVRD's inventory, the city's updated inventory does not classify retail floorspace by type of use and includes all of the following use categories in the definition of retail floorspace: DSTM floorspace, supermarkets and food stores, personal service businesses, automobile dealerships and repair shops, restaurants, bars and cabarets. Even if this updated data were available, assumptions regarding the proportion of retail floorspace in each retail sub area by retail category would still have to be estimated, since it has not been effectively disaggregated by retail category.

Total floorspace estimates for the large and small scale retail centres were derived by the author of this thesis from a variety of sources including the 1990 Canadian Directory of Shopping Centres as well as from interviews with shopping centre managers. Sales estimates were obtained from a variety of industry sources including leasing agents, shopping centre managers and retail market analysts.

Table 4.2
Downtown DSTM Floorspace Inventory
and Sales Estimates, 1989

	Total Retail (sq. ft.)	DSTM as a % of Total Retail	Total DSTM (sq.ft.)	Sales (\$/ sq.ft.)	Total DSTM Sales (\$)
Large Retail Centres					
Pacific Centre-Eatons	690,000	100%	690,000	\$200	\$138,000,000
-CRU	318,000	80%	254,400	\$600	\$152,640,000
The Bay	554,000	100%	554,000	\$165	\$91,410,000
Woodwards	383,000	100%	383,000	\$70	\$26,810,000
Subtotal	1,945,000		1,881,400	\$217	\$408,860,000
Smaller Centres					
Vancouver Centre	85,000	80%	68,000	\$310	\$21,080,000
The Landing	31,000	80%	24,800	\$300	\$7,440,000
Royal Centre	107,000	60%	64,200	\$330	\$21,186,000
Harbour Centre	60,000	50%	30,000	\$250	\$7,500,000
Bentall Centre	54,000	40%	21,600	\$310	\$6,696,000
Sinclair Centre	45,000	60%	27,000	\$300	\$8,100,000
Subtotal	382,000		235,600	\$306	\$72,002,000
Streetfront Retail Areas					
Denman (700-1200 blks.)	153,000	35%	53,550	\$240	\$12,852,000
Davie (1000-1200 blks)	109,000	45%	49,050	\$220	\$10,791,000
Davie (1500-1700 blks)	22,000	35%	7,700	\$165	\$1,270,500
Robson (1000-1100 blks)	212,000	75%	159,000	\$500	\$79,500,000
Robson (1500-1700 blks)	114,000	35%	39,900	\$175	\$6,982,500
Granville (800-1200 blks)	783,000	35%	274,050	\$150	\$41,107,500
Gastown (0-300 blks Water St.)	244,000	55%	134,200	\$220	\$29,524,000
Other Retail Areas (ie. Richards, Seymore, Homer, other areas)	600,000	40%	240,000	\$150	\$36,000,000
Subtotal	2,237,000		957,450	\$228	\$218,027,500
Total	4,564,000		3,074,450	\$227	\$698,889,500

Sources: G.V.R.D. Commercial Floorspace Inventory
City of Vancouver
Thomas Consultants Inc.

4.2.2 Large Scale Retail Centres

Pacific Centre - Downtown Vancouver presently supports one traditional super-regional shopping centre, namely Pacific Centre. This internally oriented mall is anchored by a 688,000 square foot Eaton's department store and a 59,000 square foot Holt Renfrew store. The centre was recently expanded by a 110,000 square foot, three-level mall extension which connects to the existing centre through underground and above grade connections across Dunsmuir Street to the existing mall. The majority of tenants in the centre are national chain stores and the tenant mix is dominated by DSTM retailers primarily in the categories of ladies wear, shoes, jewellery and men's wear. Average sales for CRU tenants are estimated at \$600 per square foot, making it by far the most successful centre in the Lower Mainland from a sales perspective and one of the most successful centres in Canada. Eaton's sales are estimated at \$152.6 million or \$200 per square foot of GLA.

The Bay - Although not owned by Cadillac Fairview Corporation (the owner of Pacific Centre) the Hudson's Bay store with 554,000 square feet of GLA acts as an anchor for Pacific Centre since it is directly linked through an underground connection. Sales for the Bay are estimated at \$165 per square foot of GLA.

Woodward's - Located on West Hastings Street, several blocks east of the major downtown commercial activity, presently supports 383,000 square feet of retail floorspace at average sales of \$70 per square foot which is far below industry standards and not enough for that store to be profitable for the chain. Having recently undergone a significant corporate restructuring, the company has not yet determined its future plans for this particular store, and thus it will be assumed to remain operational in its present status over the projection period.

4.2.3 Small Centres

Downtown Vancouver supports a number of internally oriented retail centres which support a significant amount of DSTM floorspace. The location of retail centres in downtown Vancouver is illustrated in figure 4.2.

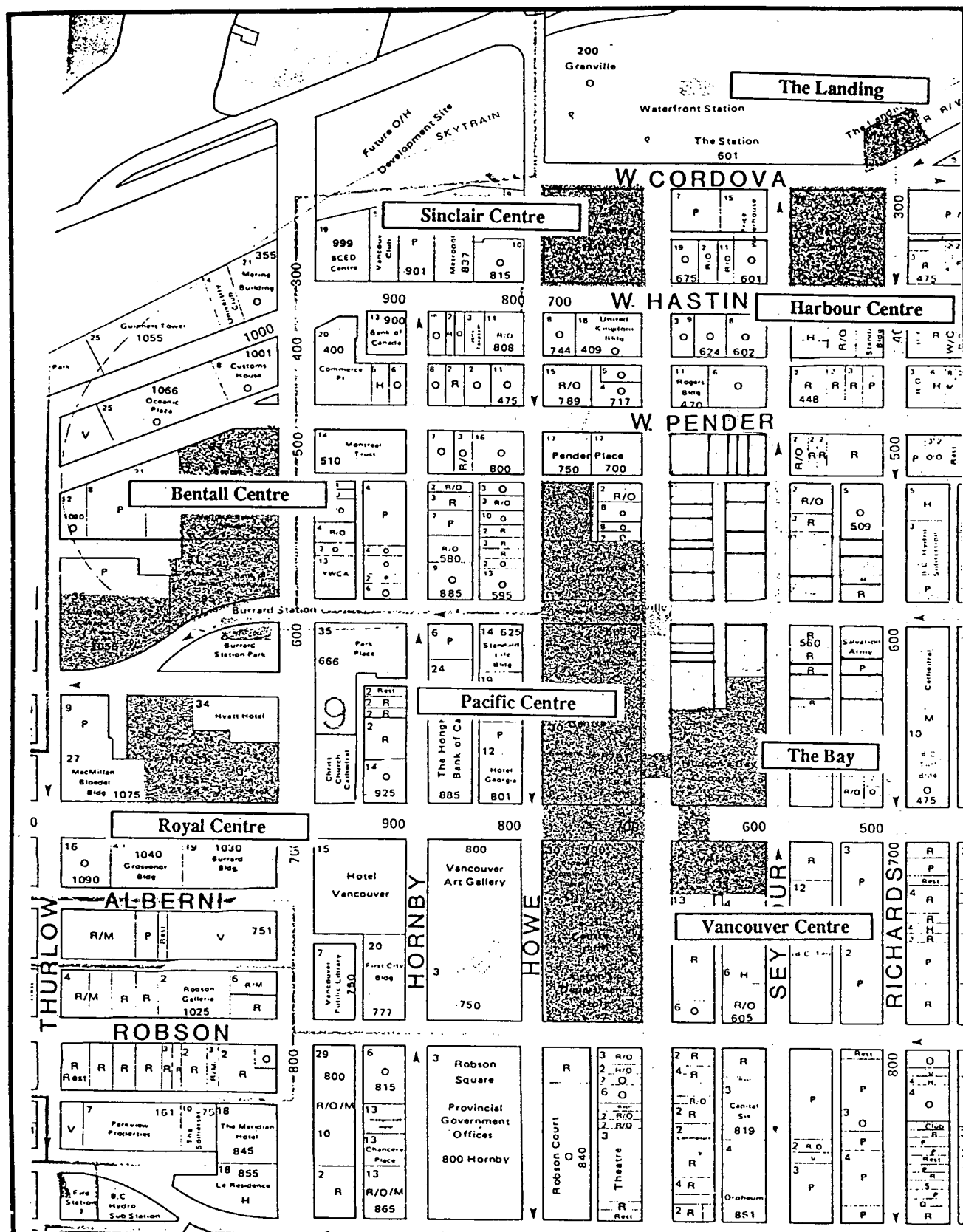
Vancouver Centre (85,000 square feet of GLA) is linked to both Pacific Centre and The Bay and supports an estimated 68,000 square feet of DSTM floorspace. Vancouver Centre's most prominent tenant is Birks which specializes in jewellery, and higher priced gift items. Supplementing Birks is the Scotia Bank, a small selection of shops selling fashions and specialty products, and a food fair which primarily serves nearby office buildings. The mall itself lacks the size and selection to independently attract a significant number of shoppers, but its direct exposure to Pacific Centre shoppers allows it to draw customers from that mall and generate average DSTM sales of \$310 per square foot.

The Landing is a 31,000 square foot upscale retail project in the westernmost portion of Gastown. It is merchandised with 21 upscale fashion and specialty retail shops and relies to a large degree on tourist traffic. DSTM floorspace is approximately 24,806 square feet and sales are estimated to average \$300 per square foot.

The Royal Centre mall is part of a mixed use development which includes the Hyatt Regency Hotel, and the Royal Centre office tower. It recently underwent an expansion and renovation of the existing mall resulting in a 107,000 square foot centre which connects to the Burrard Street ALRT station. Previously, its tenant mix was split between restaurants and convenience retailers serving the adjacent office buildings and hotels, plus a small selection of apparel stores. Royal Centre is expected to continue appealing primarily to the convenience needs of local office workers and hotel guests, because it lacks the size and anchor store necessary to effectively compete as a destination for comparison shoppers. DSTM floorspace is estimated at 64,4200 square feet with sales averaging \$330 per square foot.

Figure 4.2

Location of Downtown Retail Centres



Harbour Centre's relative isolation from the city's retail core limits its success as a destination for comparison shopping. With the departure of the Sears department store anchor, Harbour Centre is now the location of the Simon Fraser University's downtown campus. The retail component of Harbour Centre has been reduced to 64,200 square feet with no major anchor tenants. The retail component of the Centre's G.L.A. primarily serves the convenience needs of office workers and students. DSTM floorspace is estimated at 30,000 square feet with sales averaging \$250 per square foot.

The Bentall Shopping Centre is a 54,000 sq.ft. underground mall which connects to the four Bentall Centre office towers and the Burrard ALRT station. This centre, by virtue of its location, is heavily reliant on on-site and nearby office workers, and as such is focussed upon convenience retail and fast food. With the development of the proposed Bentall 5 tower, an additional underground connection to the ALRT station is likely. While the developer is proposing an additional 28,742 sq.ft. of retail space for the new underground mall connection, the City has indicated that only a very small amount of new retail space will likely be permitted within this connector, primarily for security purposes. Additional retail is also proposed within the lobby area. DSTM floorspace is estimated at 21,600 square feet with sales averaging \$310 per square foot.

Sinclair Centre comprises four heritage Federal Government Buildings which have been joined by enclosing the spaces between buildings to create an atrium space. The retail area within the complex is 45,000 square feet. Specialty retail tenants and food and beverage facilities serve the needs of local employees and visitors. Two large upscale fashion tenants, Leone's and Escada, anchor the Hastings Street side of this project. This fashion component will be a destination for higher income customers and tourists, due to the high price point of these stores. DSTM floorspace is estimated at 27,000 square feet with sales averaging \$300 per square foot.

4.2.4 Streetfront Retail Areas

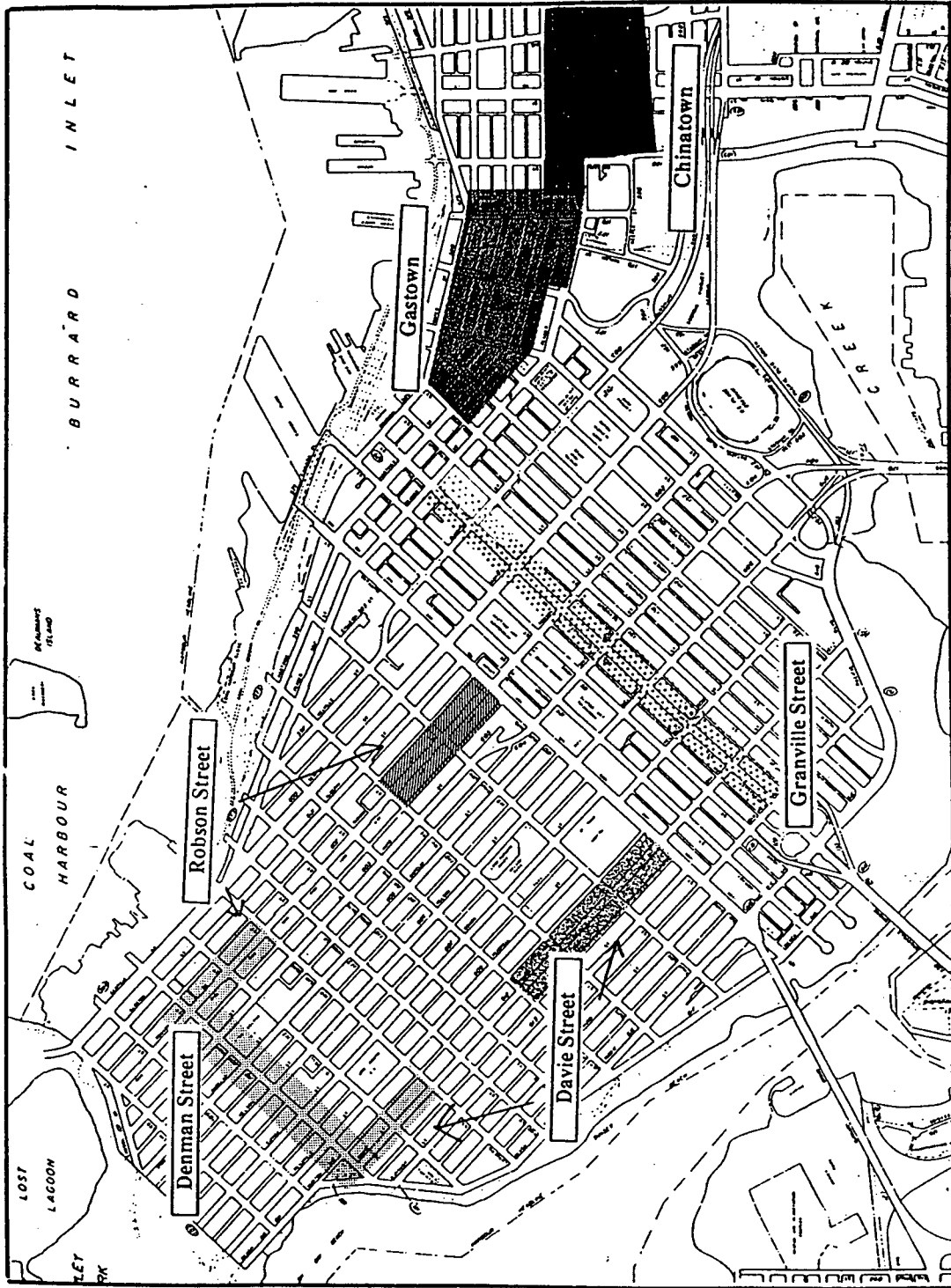
As mentioned previously in this section neither the GVRD or the City of Vancouver have compiled an accurate retail floorspace inventory by major retail category or by geographic sub-area. As such, the DSTM component of major retail areas has been estimated based on aggregate GVRD data, subjective judgements on the character of each area, its role and function in the downtown retail market, as well as from numerous public and privately funded retail studies that were accessible to the author. The location of significant retail areas within the downtown peninsula are illustrated in figure 4.3 and characteristics of each area are detailed here as follows:

Denman Street - This retail corridor supports 153,000 square feet of continuous retail restaurant and service type uses from the 700 - 1200 blocks. It primarily serves the service and convenience needs of West End residents. DSTM floorspace has been estimated at 53,500 square feet and sales at \$240 per square foot.

Davie Street - Like Denman Street, Davie Street primarily serves the service and convenience needs of West End residents. Retail floorspace is concentrated between the 1000 - 1200 blocks where an estimated 49,050 square feet of DSTM floorspace is supported at an average sales productivity of \$220 per square foot. Between the 1500 - 1700 blocks 7,700 of DSTM floorspace is supported at an average sales productivity of \$165 per square foot.

Robson Street - Robson Street has two distinct retail districts. The area between Denman and Nicola Streets offers a wide variety of restaurants, personal service, and convenience stores serving the needs of local residents. This area supports approximately 39,900 square feet of DSTM floorspace which averages \$175 per square foot in sales. The concentration of retail floorspace between Bute and Burrard has become Vancouver's premier streetfront fashion precinct with a strong mix of apparel and gift shops, many of which are national retail chains. An estimated

Figure 4.3
Significant Downtown Retail Corridors



159,000 square feet of retail floorspace is supported here at sales productivities averaging \$500 per square foot, thus DSTM sales total \$79.5 million.

Granville Street - Despite the City's efforts to revitalize Granville Street as a vibrant retail corridor efforts to date have had only limited success. There is a significant concentration of retail, service, restaurant and entertainment type businesses located between the 800 - 1200 blocks and 274,050 square feet of this commercial floorspace is estimated to support DSTM type retailers. This secondary retail area has a poor selection of DSTM tenants most of which are local retailers and thus DSTM sales are estimated to average \$150 per square foot in this marginal retail area.

Gastown - The predominant retail uses in Gastown are tourist oriented gift and specialty shops, full-service restaurants and apparel shops. Once a thriving retail area this area has had limited success in more recent years with a number of retailers and restaurants leaving the area. The Landing project on the western edge of Gastown has provided a quality anchor to this corridor and continued positive prospects for tourism in Vancouver will lend further support to it's future success. DSTM floorspace is estimated at 134,200 square feet with sales averaging \$220 per square foot.

Other Retail Areas - There are minor retail concentrations located in the downtown area which add to the total inventory of DSTM floorspace. The 500 block of Seymour Street is a well known home entertainment precinct and Pender (400 - 900 blocks) and Hastings (400 - 900 blocks) Streets support a number of retailers. Richards Street also supports a number of DSTM type retailers such as office supplies and home furnishings. Other areas also support stand alone DSTM type retailers but are too numerous and varied to detail here. Taken together, the amount of DSTM floorspace not included in the retail areas previously discussed is estimated to total approximately 240,000 square feet and achieve average sales of \$150 per square foot.

Chinatown - This retail area is located on the outside border of the downtown peninsula and supports an estimated 147,000 square feet of DSTM floorspace and functions as a specialized ethnic market. For these reasons it has not been included as part of the downtown peninsula inventory.

In total, downtown Vancouver supports an estimated 4.56 million sq ft of retail floorspace of which 3.07 million represents DSTM uses. Of the total DSTM floorspace, 31% is located in streetfront areas, 8% is in smaller centres and 61% is located in large retail centres (Pacific Centre, The Bay, Woodward's). Based on a blended sales productivity of \$227 per sq ft of GLA, DSTM sales total \$699 million per annum.

4.3 Origin of DSTM Sales

In order to determine the present regional retail market share of Downtown Vancouver it is necessary to allocate retail sales among the trade areas defined for each retail concentration identified in section 4.2.

Sales have been allocated as shown in Table 4.3 to each of the trade areas and from tourists based primarily on consumer research and general knowledge of retail trading patterns from previous research conducted by the author and other retail market analysts.

Trading characteristics for Pacific Centre, the Bay and Vancouver Centre are based on consumer research conducted by Pacific Centre in 1987 and 1988. These in-mall surveys concluded that 32% of Pacific Centre's customers in the summer and 18% in the fall are visitors to Vancouver, and thus, on an average annual basis visitors to the city account for 18% of total the centre's customers or 2.99 million visits of the estimated 16.6 million visits per year. The remaining 82% of Pacific Centre's customers reside throughout the Greater Vancouver region .

Table 4.3
Pacific Centre Customer Origin

	% of Resident Customers (1)	% of Total Customers (1)	% of Total Sales (2)
Primary Trade Area (includes City of Vancouver)	54.6%	45%	47%
Secondary Trade Area (includes Burnaby, Richmond, Delta, North Shore)	34.3%	28%	29%
Tertiary Trade Area (includes remainder of Vancouver CMA)	<u>11.1%</u>	9%	9%
Total - All residential sources	<u>100.0%</u>		
Visitors to Vancouver		<u>18%</u>	<u>15%</u>
Total - All sources		<u>100%</u>	<u>100%</u>

Sources: (1) Pacific Centre Consumer Research, 1987.

2) Estimates.

This consumer research concludes that of the 82% of Pacific Centre's customers that live in Greater Vancouver, 45% reside in the City of Vancouver, 28% in the inner suburbs and 9% live in the outer suburbs. Based on this customer origin data it is estimated that while visitors represent 18% of mall traffic they represent only 15% of the centre's annual sales. Assuming similar average sales per trip to Pacific Centre among GVRD residents then it is reasonable to assume that 47% of the centre's sales originate from the City of Vancouver, 29% from the inner suburbs and 9% from visitors.

Other Pacific Centre consumer research findings reveal that among residents 78% of shopping trips to the centre originate from home, and 22% originate from downtown offices.

The smaller centres located in the office core (i.e. Royal Centre, Harbour Centre, Bentall Centre, and Sinclair Centre) are all internally oriented and primarily serve the daily office worker population. In order to allocate DSTM sales among the trade

areas defined, downtown office worker origin data was obtained from the City of Vancouver. This information is shown in table 4.4 and reveals that 53% of Downtown office workers reside within the City of Vancouver (PTA), 34% within the inner suburbs (STA), and 13% within the outer suburbs (TTA).

Table 4.4
Downtown Vancouver Office Workers:
Place of Residence

Region	% of Total Downtown Office Workers
PRIMARY TRADE AREA	
Downtown Core Area	24%
City of Vancouver (Outside Core Area)	29%
Subtotal	53%
SECONDARY TRADE AREA	
North Shore	13%
Burnaby/ New Westminster	12%
Richmond/ Delta	9%
Subtotal	34%
TERTIARY TRADE AREA	
N.E. Sector	5%
Surrey/ White Rock	5%
Fraser Valley	3%
Subtotal	13%
Total	100%

Source: City of Vancouver Planning Department, Quarterly Review. July, 1984.

Once the proportion of sales attributed to city visitors was established for each retail area the office worker origin data was used to help allocate sales among the trade areas on a proportional basis and adjusted slightly to reflect weekend shopping behaviour. This analysis is detailed in Table 4.5.

Highlights of this analysis are:

- Of the \$409 million in DSTM sales derived by large scale retail centres, 48% originates from City of Vancouver residents.

Table 4.5
Customer Origin of Downtown Vancouver Retail Sales, 1989

	Total DSTM Sales (1) (\$)	PTA Based Sales (%)	(\$)	STA Based Sales (%)	(\$)	TTA Based Sales (%)	(\$)	Tourist Based Sales (%)	(\$)
Large Retail Centres									
Pacific Centre-Eatons	\$138,000,000	47%	\$64,860,000	29%	\$40,020,000	9%	\$12,420,000	15%	\$20,700,000
-CRU	\$152,640,000	47%	\$71,740,800	29%	\$44,265,600	9%	\$13,737,600	15%	\$22,896,000
The Bay	\$91,410,000	47%	\$42,962,700	29%	\$26,508,900	9%	\$8,226,900	15%	\$13,711,500
Woodwards	\$26,810,000	69%	\$18,364,850	20%	\$5,362,000	4%	\$1,072,400	8%	\$2,010,750
Subtotal	\$408,860,000	48%	\$197,928,350	28%	\$116,156,500	9%	\$35,456,900	15%	\$59,318,250
Smaller Centres									
Vancouver Centre	\$21,080,000	47%	\$9,907,600	29%	\$6,113,200	9%	\$1,897,200	15%	\$3,162,000
The Landing	\$7,440,000	44%	\$3,273,600	27%	\$2,008,800	9%	\$669,600	20%	\$1,488,000
Royal Centre	\$21,186,000	47%	\$9,957,420	29%	\$6,143,940	9%	\$1,906,740	15%	\$3,177,900
Harbour Centre	\$7,500,000	47%	\$3,525,000	29%	\$2,175,000	9%	\$675,000	15%	\$1,125,000
Bentall Centre	\$6,696,000	50%	\$3,348,000	31%	\$2,075,760	9%	\$602,640	10%	\$669,600
Sinclair Centre	\$8,100,000	50%	\$4,050,000	31%	\$2,511,000	9%	\$729,000	10%	\$810,000
Subtotal	\$72,002,000	47%	\$34,061,620	29%	\$21,027,700	9%	\$6,480,180	14%	\$10,432,500
Streetfront Retail Areas									
Denman (700-1200 blks)	\$12,852,000	70%	\$8,996,400	13%	\$1,670,760	7%	\$899,640	10%	\$1,285,200
Davie (1000-1200 blks)	\$10,791,000	77%	\$8,309,070	14%	\$1,456,785	3%	\$269,775	7%	\$755,370
Davie (1500-1700 blks)	\$1,270,500	77%	\$978,285	14%	\$171,518	3%	\$31,763	7%	\$88,935
Robson (1000-1100 blks)	\$79,500,000	47%	\$37,365,000	29%	\$23,055,000	9%	\$7,155,000	15%	\$11,925,000
Robson (1500-1700 blks)	\$6,982,500	77%	\$5,376,525	14%	\$942,638	3%	\$174,563	7%	\$488,775
Granville (800-1200 blks)	\$41,107,500	77%	\$31,652,775	10%	\$4,110,750	3%	\$1,027,688	11%	\$4,316,288
Gastown (0-300 blks Water St.)	\$29,524,000	36%	\$10,628,640	26%	\$7,676,240	8%	\$2,361,920	30%	\$8,857,200
Other Retail Areas (ie. Richards, Seymore, Homer, other areas)	\$36,000,000	77%	\$27,720,000	13%	\$4,500,000	4%	\$1,260,000	7%	\$2,520,000
Subtotal	\$218,027,500	60%	\$131,026,695	20%	\$43,583,690	6%	\$13,180,348	14%	\$30,236,768
Total	\$698,889,500	52%	\$363,016,665	26%	\$180,767,890	8%	\$55,117,428	14%	\$99,987,518

Sources: 1 - Table 4.2

Estimates, based on past Thomas Consultants Inc. retail market studies
conducted in downtown Vancouver, 1980-1990.

- The smaller centres \$72 million in DSTM sales originate from the following sources: PTA 47%; STA 29%; TTA 9%; and 14% from visitors to the city.
- Of the \$218 million in DSTM sales derived by streetfront retail areas, 60% originate from the PTA, 20% from the STA, 6% from the TTA and 14% from visitors to the city.
- In total, \$363 million (or 52%) of downtown's \$699 million in DSTM sales originates from the PTA, \$181 million (or 26%) from the STA, \$55 million (or 8%) from the TTA, and \$100 million (or 14%) originates from visitors to the city.

4.4 Market Share of Sales

Having identified total DSTM sales potential in Chapter 3 of this study and determined the origin of sales among the three trade areas and among visitors to the city for the 1989 base year, market shares of sales can be derived. Table 4.6 details Downtown Vancouver's market share of sales in each trade area defined.

Table 4.6

Downtown Vancouver DSTM Market Share of Total Trade Area Sales, 1989

	PTA	STA	TTA
Total DSTM Potential (1)	\$976,100,338	\$1,105,300,170	\$995,207,143
Total Downtown DSTM Sales (2)	\$363,016,665	\$180,767,890	\$55,117,428
Downtown Market Share of Sales	37.19%	16.35%	5.77%

Sources: 1- Table 3.23

2- Table 4.5

This analysis reveals that in 1989 Downtown Vancouver's DSTM retail infrastructure had a 37.19% share of Vancouver's DSTM expenditure potential, a 16.35% share of the inner suburbs potential and 5.77% of the DSTM expenditure potential of the outer suburbs. These 1989 market shares form the basis for the development of supportable DSTM floorspace estimates to 1999.

4.5 Supportable DSTM Retail Floorspace to 1999

4.5.1 Introduction

The notion of supportable retail floorspace is somewhat flexible and is influenced by both market and non-market forces on the supply side. Having established 1989 market shares as a base for projections five options will be tested which vary downtown Vancouver's market share of sales among the City of Vancouver, the inner suburbs, and outer suburbs to reflect different future states. In effect, this analysis alters the stature of downtown Vancouver as a retail centre within the region and estimates the resulting floorspace requirements associated with each option.

For each of the five "policy" options, sensitivity is provided by running each scenario under both the medium and the high population growth scenarios. Since historical retail inventories and sales histories are not available for retail floorspace for the city, the province or the country, determination of a historical average retail sales growth rate is not possible and thus is not available for projection purposes. In order to recognize competitive changes in the retail environment which would alter the overall sales performance of downtown retail areas from their 1989 average of \$227 per sq ft, sensitivity is provided by employing a range of sales performance levels from \$227 per sq ft to \$256 per sq ft.

While tourism and business visitors will grow over the projection period it is assumed under all five options that regional shopping patterns satisfying this demand will remain static. Thus, it is assumed that 75% of their DSTM expenditures will be spent in Downtown Vancouver, 20% in the inner suburbs and 5% in the outer suburbs.

4.5.2 Option A: Status Quo Scenario

This option projects the supportable DSTM retail floorspace for downtown Vancouver under the assumption that it maintains its existing status as a retail

centre within its regional context. Thus, the CBD's existing market penetration throughout the region remains unchanged for the PTA (37.2%), STA (16.4%), and TTA (5.8%) over the next decade. There are a number of premises underlying this option including the following:

- The relative proportions of office workers in downtown vis-a-vis the region will remain fundamentally unchanged (ie. the growth of office space will be shared among existing office centres so that each maintains its present competing position within the region).
- There will be continual reinvestment in downtown retail areas to ensure they stay competitive with competitive changes in the inner and outer suburbs.
- No significant new regionally scaled retail centres will be developed within the City of Vancouver over the projection period and there will only be moderate growth in existing areas to maintain market share in an evolving retail environment.
- Transit improvements to the CBD will ensure that it remains easily accessible by both public and private modes of transportation.

Table 4.7 summarizes the supportable retail floorspace growth under this option (detailed tables are provided in appendix B).

Table 4.7
Supportable Floorspace: Option 'A'

	1989	1994	1999
MEDIUM POPULATION GROWTH SCENARIO			
Total Residual Growth (1)	\$0	\$48,140,897	\$59,951,433
Supportable Floorspace			
@ \$227	0	212,074	264,103
@ \$241	0	199,755	248,761
@ \$256	0	188,050	234,185
HIGH POPULATION GROWTH SCENARIO			
Total Residual Growth (2)	\$0	\$64,047,319	\$70,634,897
Supportable Floorspace			
@ \$227	0	282,147	311,167
@ \$241	0	265,757	293,091
@ \$256	0	250,185	275,918

Source: 1- Table B-1
2-Table B-2

Under this option a minimum of 234,185 sq ft and a maximum of 311,167 sq ft of new DSTM floorspace will be supportable in downtown Vancouver by 1999.

Assuming that the relationship between DSTM floorspace to "total retail floorspace" (as defined for the floorspace data base adopted by the City of Vancouver for commercial planning purposes, which includes DSTM floorspace, supermarkets and food stores, restaurants, bars, cabarets, private art galleries, personal services, auto repair shops and auto dealerships) remains at its 1989 proportion of 67% to 1999, then the city will support between 347,765 sq ft and 462,083 sq ft of new "total retail floorspace" under this option.

4.5.3 Option B: Moderate Regional Multinucleation Growth

Under this option the status of downtown retailing within the City of Vancouver is enhanced incrementally from its 1989 market share level of 37.2% to 45.3% by 1999. At the same time the proportion of retail dollars spent downtown by secondary and tertiary trade area residents are reduced from 16.3% to 13.4% in the STA and from 5.8% to 4.7% in the TTA by 1999.

Premises underlying this option include:

- the rate of commercial growth in the regional town centres will slightly outpace the rate of growth in the C.B.D. over the next decade.
- as commercial town centres grow in size, suburban residents will make fewer shopping trips to the C.B.D. on a per capita basis.
- the rate of retail growth in the C.B.D. will slightly outpace the rate of growth in other retail areas throughout the City of Vancouver.

Table 4.8 summarizes the supportable retail floorspace under this option (detailed tables provided in appendix B).

Table 4.8
Supportable Floorspace: Option 'B'

	1989	1994	1999
MEDIUM POPULATION GROWTH SCENARIO			
Total Residual Growth (1)	\$0	\$59,927,899	\$76,627,299
Supportable Floorspace			
@ \$227	0	264,000	337,565
@ \$241	0	248,663	317,956
@ \$256	0	234,093	299,325
HIGH POPULATION GROWTH SCENARIO			
Total Residual Growth (2)	\$0	\$76,158,433	\$88,154,165
Supportable Floorspace			
@ \$227	0	335,500	388,344
@ \$241	0	316,010	365,785
@ \$256	0	297,494	344,352

Source: 1- Table B-3
2-Table B-4

Under this option a minimum of 299,325 sq ft and a maximum of 388,344 sq ft of new DSTM floorspace will be supportable by the year 1999. Thus, the amount of "total retail type floorspace" supportable by the year 1999 will lie between 446,754 sq ft and 579,618 sq ft depending on the rate of population growth throughout the region.

4.5.4 Option C: Significant Regional Multinucleation Growth

Under this option the status of downtown Vancouver as a retail centre within the City of Vancouver is incrementally enhanced from its present 37.2% retail market share to a 55.0% share by 1999 while at the same time it's STA and TTA market shares decline from 16.4% to 10.9% and 5.8% to 3.8% respectively.

Premises underlying this option include:

- the rate of office growth in suburban town centres will significantly outpace the rate of office growth in Vancouver's CBD over the next decade.
- as suburban centres grow in size so will their status as retail centres and suburban residents will make more retail purchases at these centres than at present even though Vancouver's CBD will continue to offer a wider range of goods and services than it presently supports. Reduction in the desirability of suburban shoppers to travel to the CBD will be partially due to travel times from suburban areas to the CBD, as well as the increased retail selection available at the town centres.
- Vancouver residents will moderately alter their retail shopping patterns by making fewer trips to suburban centres and focus more of their retail spending in the growing CBD.

Table 4.9 summarizes the retail floorspace supportable under this option (detailed tables are provided in appendix B).

Table 4.9
Supportable Floorspace: Option 'C'

	1989	1994	1999
MEDIUM POPULATION GROWTH SCENARIO			
Total Residual Growth (1)	\$0	\$76,598,475	\$111,836,394
Supportable Floorspace			
@ \$227	0	337,438	492,671
@ \$241	0	317,836	464,051
@ \$256	0	299,213	436,861
HIGH POPULATION GROWTH SCENARIO			
Total Residual Growth (2)	\$0	\$93,285,348	\$125,072,608
Supportable Floorspace			
@ \$227	0	410,949	550,981
@ \$241	0	387,076	518,973
@ \$256	0	364,396	488,565

Source: 1- Table B-5
2-Table B-6

Under this option a minimum of 436,861 sq ft and a maximum of 550,981 sq ft new DSTM floorspace are supportable by 1999. Thus, the amount of total "retail type" floorspace supportable by 1999 will lie between 652,031 sq ft and 822,360 sq ft depending on the rate of population growth throughout the region.

4.5.5 Option D: Moderate CBD Regional Penetration Growth

Under this option the status of downtown retailing grows not only within the City of Vancouver but also throughout the region. The CBD's penetration into the PTA grows from 37.2% to 45.3%, from 16.4% to 19.9% in the STA and from 5.8% to 7.3% in the TTA by 1999.

Assumptions underlying this option are highlighted by the following points:

- The growth of office space in the CBD will slightly outpace the growth of office space in suburban town centres over the next decade and continue to reinforce the CBD as the dominant commercial centre within the region.

Thus, the proportion of office workers downtown will slightly increase vis a vis suburban town centres.

- There will be continued strong reinvestment in existing retail areas within the CBD.
- ALRT and road improvements will continue to maintain the CBD accessible to the regional population with travel times not significantly different than at present.

The retail floorspace supportable under this option is detailed in table 4.10 (detailed tables are provided in appendix B).

Table 4.10
Supportable Floorspace: Option 'D'

	1989	1994	1999
MEDIUM POPULATION GROWTH SCENARIO			
Total Residual Growth (1)	\$0	\$110,007,159	\$138,720,169
Supportable Floorspace			
@ \$227	0	484,613	611,102
@ \$241	0	456,461	575,602
@ \$256	0	429,715	541,876
HIGH POPULATION GROWTH SCENARIO			
Total Residual Growth (2)	\$0	\$127,568,275	\$153,801,227
Supportable Floorspace			
@ \$227	0	561,975	677,538
@ \$241	0	529,329	638,179
@ \$256	0	498,314	600,786

Source: 1- Table B-7
2-Table B-8

Under this option a minimum of 541,876 sq ft and a maximum of 677,538 sq ft of DSTM floorspace is supportable by 1999. Thus, the amount of total "retail type" floorspace supportable by 1999 will be between 808,770 sq ft and 1,011,251 sq ft depending on the rate of regional population growth.

4.5.6 Option E: Significant Total CBD Regional Penetration Growth

This option assumes that the CBD will continue to enhance its status as an employment and shopping centre within its regional context. As such the CBD's penetration into its three trading areas will continue to grow over the next decade. Downtown Vancouver's penetration into the PTA grows from 37.2% in 1989 to 55.1% by 1999, from 16.4% to 24.2% in the STA, and from 5.8% to 8.5% in the TTA.

Premises underlying this significant growth in the CBD's stature include:

- The supply of office growth in the CBD will significantly outpace the growth of office space in suburban areas over the next decade and thus continue to attract a growing number of workers from suburban areas.
- Regional centres will continue to grow but will not reach the critical mass required to stem the outflow of shoppers to the increasingly desirable CBD retail concentrations.
- Continued rapid transit and road improvements will ensure that accessibility to the CBD will not significantly deteriorate over the next decade and thus travel times from suburban locations will remain fundamentally unchanged from 1989 levels.

The retail floorspace supportable under this option is shown in Table 4.11.

Table 4.11
Supportable Floorspace: Option 'E'

	1989	1994	1999
MEDIUM POPULATION GROWTH SCENARIO			
Total Residual Growth (1)	\$0	\$176,986,639	\$231,578,635
Supportable Floorspace			
@ \$227	0	779,677	1,020,170
@ \$241	0	734,384	960,907
@ \$256	0	691,354	904,604
HIGH POPULATION GROWTH SCENARIO			
Total Residual Growth (2)	\$0	\$196,339,329	\$251,583,706
Supportable Floorspace			
@ \$227	0	864,931	1,108,298
@ \$241	0	814,686	1,043,916
@ \$256	0	766,951	982,749

Source: 1- Table B-9
2-Table B-10

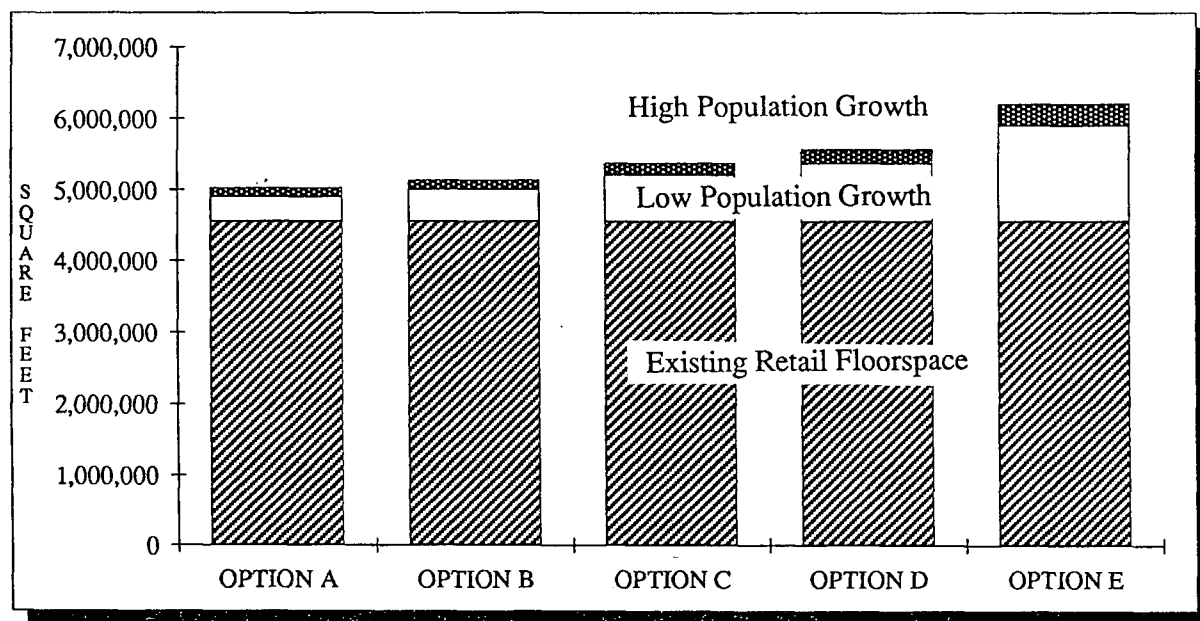
Under this option a minimum of 904,604 sq ft and a maximum of 1,108,298 DSTM floorspace will be supportable by 1999. Thus, total "retail type" floorspace supportable will be between 1,350,155 sq ft and 1,654,176 sq ft depending on the rate of regional population growth.

4.5.7 Supportable Retail Growth Summary

As demonstrated by the preceding options, the notion of supportable retail floorspace within the downtown peninsula depends not only on population and income growth within its trade areas but more importantly on the size of market share it achieves within its primary, secondary and tertiary trade areas. This is influenced by a number of interrelated factors, the most significant of which includes the rate and location of new office space in the region, the degree of improvements in the regional transportation system (which influences accessibility of regional centres relative to the CBD) and municipal land use policy throughout the region which influences developers decisions and abilities to supply new retail development.

Figure 4.4 provides a graphic summary of supportable "total retail-type floorspace" in downtown Vancouver to 1999 by illustrating the minimum and maximum floorspace requirements under each of the five options presented.

Figure 4.4
Supportable Retail Floorspace Summary



As illustrated in the preceding graph under the limited but representative range of potential future states, supportable retail type floorspace will grow by a minimum of 234,185 sq ft (a 7.1% increase) or by a maximum of 982,749 sq ft (a 26.6% increase) within the downtown peninsula by 1999 to adequately meet market demand.

CHAPTER 5

CONCLUSIONS AND IMPLICATIONS FOR PLANNING

5.1 Downtown Peninsula Retail Capacity

Many questions such as the supportable retail capacity of Downtown Vancouver have a regional or subregional scale and are affected by market forces and policy decisions by a range of public authorities with differing priorities and geographic jurisdictions. Since the variables which affect the retail capacity, such as population distribution, land use allocation and transportation improvements, are not within the control of any one authority, the need for cooperation and consensus regarding changes in these variables is required before any regional retail system can be meaningfully conceptualized and the role that Downtown Vancouver plays addressed.

Through detailing the effects of five separate planning "policy" options relating to the status of downtown Vancouver as a retail centre within the multinucleated Greater Vancouver region a range of supportable floorspace estimates was achieved highlighting the notion that supportable retail floorspace is a concept which is affected by a variety of market and nonmarket forces and beyond the strict control of Vancouver policy makers. The range of supportable retail floorspace estimates for a limited number of potential future states is summarized in Figure 4.4.

It should be stressed that the policy options tested represent only a limited range of scenarios which could have been run on the model developed and were chosen to highlight a realistic range of retail floorspace requirements based on probable evolutionary changes in the multinucleation of the Greater Vancouver region.

It is beyond the scope of this thesis to determine which retail development option "should" be adopted to guide policy formulation for the downtown peninsula and this is left for municipal policy makers to decide.

5.2 Retail Planning Considerations for Downtown Vancouver

While conducting this thesis a number of retail planning related considerations have become apparent. While not directly related to supportable retail capacity, they are considered important in informing current retail planning policy efforts being conducted by the city. Since retail areas in the CBD cater to different demand sources depending on their role and function in the market (i.e. neighbourhood shopping streets, and specialty retail areas), it is clear that no comprehensive plan for the peninsula is entirely adequate for guiding retail growth and change.

A series of local retail planning policies relating to functionally distinct retail environments is appropriate and should continue to be pursued based on an understanding of three components:

1. The functional evolution of the specific retail area
2. An assessment of entrepreneurial behaviours and perceptions among retailers in the area
3. Analysis of consumer shopping patterns in the area through detailed consumer summary

Since approximately one half of the retail expenditure potential growth in the downtown peninsula will be generated from business visitors and tourists to the city (\$181 million by 1999), special emphasis should be placed on providing retail facilities which cater to this increasingly significant demand source.

There is a finite retail capacity for the downtown peninsula over the next decade, and while the specific amount of retail floorspace supportable may vary depending on a number of interrelated market and non-market forces, it is clear that the city should endeavour to reduce the amount of retail floorspace which is required, encouraged and permitted (implicit in the zonings, official development plans and guidelines that now govern retail location in the downtown peninsula) to ensure that retail change continues to support the growth of healthy, pedestrian-oriented retail strips and areas.

In light of the large amount of retail development currently planned for the peninsula (over 800,000 sq. ft.), core area planners should continue to be cautious in their approach to approving large scale retail development to ensure that negative consequences of retail growth (i.e. excessive and potentially devastating transference of retail dollars from existing competitive retail areas) is minimized. This will help to ensure that the city's legitimate interests in retail development are optimized.

Without a regional policy to help identify the role that downtown Vancouver should play within its regional context, a strong policy stance should be embraced at both the city-wide and central area levels which reflects market realities and complements other planning policy fields including office, housing and transportation policy to ensure that the city's overall goals for the central area are realized.

5.3 Conclusions About the Methodology Employed

The step-by-step approach has a "one-off" nature which treats every situation as unique since information is gathered and analysed primarily for the solution of one problem. Consequently, there is never an attempt to derive general conclusions which might be utilized elsewhere. Additionally it does not allow the body of theoretical knowledge about retail markets to be advanced very considerably because a large part of the analysis is subjective and conducted by an individual analyst. However, the approach is highly commendable when carried out by an experienced and imaginative analyst, and it can give meaningful short term predictions for a variety of retail policy questions.

The method is most effective when used to assess the retail potential in the near future as it is hazardous to forecast retail markets in the long term since the analyst does not have control of the determining factors and furthermore it is often said that the only constant in retail markets is change.

A significant strength of the methodology is the freedom for subjective judgement allowing the analyst to make predictions incorporating fundamental

changes in the shopping system which would be extremely difficult using a more formalized modelling technique. For example, the addition of major retailers into a market or the effect of new developments in communication technology can be incorporated into long range predictions about the way in which the shopping process will be carried out in the future, this allows expenditures available for store based shopping to be adjusted in the analysis of retail floorspace requirements. Reliance on intuition also allows consideration of factors which are important but difficult to measure. For example, the influence of advertising on customers shopping destinations or the impact of new ethnic groups into an area served by different shopping facilities can be incorporated into the model.

Use of the step-by-step technique is somewhat easier for answering questions related to an independent retailer than for a concentration of retail stores since the analyst knows more precisely the nature of the shopping behaviours of customers for the store under consideration.

Because of the expense involved in carrying out surveys, analysts working in a planning context usually have to rely on a variety of secondary survey information sources and must make informed generalizations about consumer behaviour. The question of whether the generalizations are valid depend on their nature and the problem at hand. For instance, in an urban area containing a wide variety of shopping centres, the scale and complexity of the retail system becomes extremely challenging and the analyst is forced to make generalized statements which necessarily impact the predictive accuracy of the model outputs. As Cole pointed out in his assessment of consultants' approaches in employing a step-by-step analysis, variations in results occur mostly due to the subjective judgements about the future values of such variables as sales per square foot and retail expenditure potential per person (Cole, 1966).

In determining how much new retail floorspace to authorize within municipal development plans once a retail hierarchy system is conceptualized planning

authorities need to acknowledge the retail market realities of both supply and demand. For example, on the supply side the rate of return required by developers for development of a retail project typically ranges between 10% and 20% and this affects the level of rents the developer will want to negotiate with retailers. Conversely, the rent that a retailer is willing to pay depends on the level of turnover a retailer expects to obtain at a particular location. A planning authority deciding on how much new retail floorspace to authorize should try to obtain a rough equilibrium between the residual supportable potential for new stores after deducting from the potential a portion for growth in sales among existing retailers. However, for planning authorities to achieve such an equilibrium which satisfies both retailers and developers it is clear they would need to know the gross sales that different retailers are prepared to pay for rent. Unfortunately this information is difficult to obtain since individual businesses are reluctant to divulge data which they fear may be used against them by competitors and developers and thus they must rely on published aggregate retail industry sales performance data.

In terms of the criteria selected to evaluate the analysis conducted, a number of conclusions can be drawn:

- a) Objectives of the Approach - the objective of the analysis conducted was to explore the range of supportable retail capacity in the downtown Vancouver peninsula under different planning options and to that end the model developed was effective.
- b) Restrictive Assumptions Made - because of the need to construct a relatively simple model a number of restrictive assumptions were made throughout the analysis. These assumptions were consistent with those frequently made by professional retail analysts and whenever possible were based on past and present trends. Since no assumption was made which can not be defended as reasonable, it is felt that the assumptions made ensure that model outputs are meaningful.

- c) Data Required - every attempt was made to obtain the most up to date data and information during the course of the analysis. While no primary research was conducted given budget and time constraints, the data used is considered reasonable and given the “macro” nature of the analysis was not overly detrimental to the outputs generated.
- d) Nature of Results - the nature of the models results reflect the hypothesis posed by generating predictive forecasts for a limited range of planning policy options.
- e) Sensitivity - since the forecasting of retail floorspace is sensitive to a wide range of variables, not the least of which are population and income growth rates and transportation improvements, the model adopted a market share approach to act as the proxy for changes in the regional market area. This approach “bundles” a number of variables and thus is a useful approach, particularly when only a limited number of scenarios are being forecast, reflecting a broad range of future states in regional structure and function.
- f) Treatment of Changes in the System Through Time - since the number of changes which could occur throughout the region over the next decade is infinite, a finite number of changes were modelled to provide a representative range of possible future states, and to this end the model was effective in representing policy options for the regional urban system throughout time.

5.4 General Planning Considerations

In order to frame conclusions concerning the planning process, a useful conceptualisation is Britton Harris’ planning stages, which he calls the five D’s:

- Desires (goals);
- Design, deduction (prediction);
- Decision (choice);
- Deeds (implementation).

The step-by-step approach can help with the first four of these stages through the use of information and theory. For predictive models such as the step-by-step approach to market analysis to be useful they must be supplied with meaningful policy options

Most significantly, the step-by-step approach is particularly useful for deduction where it is used to predict the consequences of adopting different policy options. The step-by-step approach is also a useful planning tool in evaluating whether or not a specific shopping centre should be developed through analysis of its likely impact on existing shopping facilities.

While planning authorities do have some control over factors such as population distribution and transportation there are numerous planning bodies with divergent responsibilities and interests which creates an environment which makes long range forecasting exceedingly difficult for a large urban region. Provincial, regional and local municipal governments all have different interests in retail development and control different variables concerning the retail hierarchy system making longer range planning of a regional retail system a significant challenge.

When the analyst utilizes a computer spreadsheet, as was the case in this thesis, a wide range of future scenarios can be examined, therefore enhancing the usefulness of this technique in the initial stages of longer range planning when a large number of alternative strategies may require examination.

At a more detailed planning stage once policy options are more clearly defined the model can then be employed in creating more well focused sensitivity scenarios on the variables and reduce the range of supportable floorspace forecasts in support of a well focused and reasoned planning strategy.

In attempting to forecast shopping capacity over the next decade it has to be appreciated that for predictable reasons there will be substantial changes in the patterns of retail development due to the many factors which influence the supply

of retail floorspace. It must also be clearly recognized that changes in the environment in which shopping exists are not simply the result of free market pressure but are significantly influenced by local and regional development plans.

Determining what the retail pattern of the region should be over the next decade is beyond the scope of this thesis; however in addressing this question there is a need to be explicit on the criteria used which may include economic efficiency, consumer convenience and a host of other urban planning criteria.

The problem facing planning authorities today regarding the provision of retail floorspace is the usual one of conflicting objectives and the need to achieve the best balance.

Retail models in general will always be limited as planning tools since they show only a limited number of consequences arising from any particular action. Furthermore, they deal almost exclusively with the economic aspect of shopping and lack social criteria relating to shopping activity. Consequently, they are best used as part of some wider sort of analysis for an evaluation of costs and benefits of shopping development which also takes into account issues such as municipal finance, transportation planning, urban form and environmental considerations.

5.5 Directions for Further Research

Throughout the course of this thesis it has become apparent that retail models have their place in the planning process for our urban areas. One of the primary aims of this thesis was to emphasise the need for further discussion and research on retail development within the G.V.R.D. among policy makers. It is clear that for any truly meaningful research to be conducted on the region's retail market that a good retail floorspace database is required.

Once a disaggregated inventory of retail floorspace is compiled by major retail categories, a gravity based impact model could be developed to aid regional and municipal authorities in rationalizing and evaluating a wide range of policy related

questions regarding retail systems within their jurisdictions. An evaluation of retail models used in other cities could also be conducted to determine which system may be most effective to implement in the G.V.R.D.

It has also been observed that for any meaningful floorspace capacity estimate to be derived for downtown Vancouver, or for any other commercial centre within the region, retail development policy which acknowledges a hierarchy of retail development throughout the region must be addressed through policy statements at both the regional and municipal levels. Such policy statements would have to address such fundamental questions as:

- What are the impacts of different forms and concentrations of retail development on traffic, jobs, competition and servicing?
- What is the optimal retail hierarchy throughout the G.V.R.D. to most adequately serve residents' needs?
- Should Downtown Vancouver remain the dominant retail centre, or should there be a second, equally dominant concentration located at Metrotown or Whalley-Guildford?

Other research that would complement this thesis is an analysis of retail systems in other North American cities which share similar characteristics with Greater Vancouver, to determine how the retail hierarchy systems in other cities compare to the system which has evolved here. Lessons learned in other urban areas could be incorporated into the long range planning policy for the Greater Vancouver region for the benefit of Vancouver consumers into the 21st century.

BIBLIOGRAPHY

- Agergard, Olson, P.A., and Allpass, J. "The Interaction Between Retailing and Urban Structure: A Theory of Spiral Movement," Environment and Planning, Vol. 2, 1970.
- Artibise, Alan F.J., Town Centres and the Livable Region: A Strategy for the 1990s. Prepared for Greater Vancouver Regional District, April 9, 1990.
- Berry, B.J.L., Market Centres and Retail Location, New York 1967.
- City of Vancouver, Planning Department, Central Area Plan: Goals and Land Use Policy Proposal. May, 1991.
- City of Vancouver, Planning Department, Core Area Office Worker Survey, July 1984.
- City of Vancouver, Planning Department, Reports to Council City Role in Retail Development. June, 1985.
- Cole, H.R., "Shopping Assessments at Haydock and Elsewhere: A Review", Urban Studies, June 1966.
- Conference Board of Canada, Provincial Outlook, Economic Forecast, Winter 1990 Volume 5 #1.
- Cordey-Hayes, M., Retail Location Models, Centre for Environmental Studies, October 1968.
- Cordey-Hayes, M., Retail Location Models, Working Paper 16, Centre for Environmental Studies, October 1968.
- Daniels, Peter W., Services and Metropolitan Development: International Perspectives. Routledge, London.
- Dawson, John A., Retail Geography. John Wiley and Sons, New York, 1980.
- Gad, G., "Office Location Dynamics in Toronto: Suburbanization and Central District Specialization." Urban Geography 6, 1985.
- Goldberg, Michael A. and Mercer, John, The Myth of the North American City: Continentalism Challenged. University of British Columbia Press, 1986.

BIBLIOGRAPHY Continued

- Golightly, Buzz, Speech Given to the Canadian Institute Conference on Commercial and Retail Leasing. Four Seasons Hotel. Vancouver. September 16, 1988.
- Greater Vancouver Regional District, Town Centres and the Liveable Region: A Strategy for the 1990s, April 9, 1990.
- Harris, Britton, A Model of Location Equilibrium for Retail Trade, Institute of Urban Studies, University of Pennsylvania, 1964.
- Hutton, Thomas A. and Davis, Craig H., "The Role of Office Location in Regional Town Centre Planning and Metropolitan Multinucleation: The Case of Vancouver." In The Canadian Journal of Regional Science. Vol VIII, 1 (Spring) 1985.
- Jones, Ken, Specialty Retailing in the Inner City: A Geographic Perspective. York University, Geographer Monographs No. 15, 1984.
- Leitner, H., "Urban Politics and Downtown Development: The Case of Six American Cities," unpublished paper, Department of Geography, University of Minnesota.
- Ley, David F., "Social Upgrading in Six Canadian Inner Cities." Canadian Geographer 32, 1988.
- Ley, David F., and Hutton, Thomas A., "Office Decentralization and Public Policy in Greater Vancouver," in B. Barr and N. Waters (eds.) Regional Diversification and Structural Change. Vancouver: Tantalus, 1984.
- Ley, David F., and Hutton, Thomas A. "The Service Sector and Metropolitan Development in Canada." In Daniels, Peter W. Services and Metropolitan Development: International Perspectives. Routledge, London.
- McCabe, Robert W., Planning Applications of Retail Models, Ministry of Treasury Economics and Intergovernmental Affairs, Ontario, 1974.
- Miller, Bernard, National Economic Development Office. Urban Models in Shopping Studies, London 1970.
- Ministry of Tourism, Recreation and Culture. A Travel Survey of Visitors to British Columbia, March 1988.
- Monday Report on Retailers. 1990 Canadian Directory of Shopping Centres. MacLean Hunter Ltd., Toronto, Ontario, 1989.

Province of British Columbia, Ministry of Tourism. Accommodations 1990, Key Pacific Publishers, Victoria, B.C., 1990.

Province of British Columbia, Ministry of Regional Development. Report on the Greater Vancouver Transportation Task Force, July, 1989.

Simmons, J.W., The Changing Pattern of Retail Location. Chicago: University of Chicago, Department of Geography, Research Paper No. 92, 1964.

Woods, Gordon, City of Regina Retail Market Study, September, 1981.

APPENDIX A

Statistics Canada Retail Category Definitions

1. **Combination stores.** Combination stores (groceries with 20% or more fresh meat).
2. **Grocery, confectionery and sundries stores.** Grocery, confectionery and sundries stores; grocery stores (with 20% or less fresh meat).
3. **All other food stores.** Bakery products stores; confectionery and nut stores; dairy products stores; egg and poultry stores; fruit and vegetable stores; meat markets; fish markets; delicatessen stores; other food stores.
4. **Department stores.** Department stores including concessions located in department store outlets which are an integral part of the overall operation. (Note: This kind of business excludes non-department store outlets operated by department store firms, as well as department store mail-order and catalogue sales offices.)
5. **General merchandise stores.** General merchandise stores (less than one-third food); and department store mail order and catalogue sales offices.
6. **General stores.** General stores (more than one-third food).
7. **Variety stores.** Variety stores.
8. **Motor vehicle dealers.** Motor vehicle dealers (new and used or new only).
9. **Used car dealers.** Used car dealers (used cars and trucks or used cars only).
10. **Service stations.** Service stations.
11. **Garages.** Garages.
12. **Automotive parts and accessories stores.** Tire, battery and accessories stores; home and auto supply stores.
13. **Men's clothing stores.** Men's and boys' clothing stores; men's and boys' furnishings stores; men's and boys' hat stores; custom tailors (made to measure shops).
14. **Women's clothing stores.** Women's and misses' ready-to-wear stores; women's and misses' lingerie and hosiery stores; accessories and other apparel stores.
15. **Family clothing stores.** Family clothing and furnishing stores.
16. **Specialty shoe stores.** Men's and boys' shoe stores; women's and misses' shoe stores; children's and infants' shoe stores.
17. **Family shoe stores.** Family shoe stores.
18. **Hardware stores.** Hardware stores.
19. **Household furniture stores.** Furniture stores.
20. **Household appliance stores.** Household appliance stores; electrical supply stores.
21. **Furniture, television, radio and appliance stores.** Furniture, television, radio and appliance stores.
22. **Pharmacies, patent medicine and cosmetics stores.** Drugstores including proprietary stores.
23. **Book and stationery stores.** Book and stationery stores.
24. **Florists.** Florists.
25. **Jewellery stores.** Jewellery stores.
26. **Sporting goods and accessories stores.** Sporting goods stores; boats, outboard motors and boating accessories; bicycle and bicycle repair shops; motorcycle dealers.
27. **Personal accessories stores.** Tobacco stores and stands; news dealers, gift novelty and souvenir shops; camera and photographic supply stores; luggage and leather goods stores; toy and hobby shops.
28. **All other stores:**
 - Other automotive businesses.** Paint and body shops; other specialty repair shops; car washes; other automotive businesses, n.e.c.
 - Other apparel and accessories stores.** Millinery stores; furriers and fur stores; children's and infants' wear stores; secondhand clothing stores; piece goods stores; wool shops; other apparel and accessories stores, n.e.c.
 - Other home furnishings stores.** Paint, glass and wallpaper stores; television sales and service shops; television, radio and hi-fi stores; china, glassware and kitchenware stores; floor coverings, curtains, upholstery and interior decoration stores; linen stores; picture and picture framing stores; antique stores; secondhand furniture stores; piano and organ stores; record bars; other home furnishings stores, n.e.c.
 - Radio, television and electrical appliance repair shops.** Television and radio repair shops; household appliance repair shops.
 - Jewellery repair shops.** Jewellery repair shops.
 - Alcoholic beverage stores.** Government liquor stores; retail beer stores; retail wine stores.
 - Miscellaneous stores.** Music stores; opticians; health appliance stores; monument and tombstone dealers; pet shops; religious goods dealers; artists' supply stores; art galleries; coin and stamp dealers; mobile home dealers; pawn shops; ice dealers; all other retail stores, n.e.c.

APPENDIX B
Detailed Market Share Tables

TABLE B-1
OPTION 'A'
MEDIUM POPULATION GROWTH SCENARIO

	1989	1994	1999
Primary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$902,316,760	\$926,723,848	\$956,794,663
Downtown Share (%)	37.19%	37.19%	37.19%
Downtown Share (\$)	\$335,571,603	\$344,648,599	\$355,831,935
Visitor Based DSTM Exp. Potential (1)	\$73,783,578	\$100,217,005	\$136,072,299
Downtown Share (%)	75%	75%	75%
Downtown Share (\$)	\$55,337,684	\$75,162,754	\$102,054,224
Residual DSTM Sales Growth		\$28,902,066	\$38,074,807
Secondary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$1,085,624,549	\$1,148,211,194	\$1,216,480,299
Downtown Share (%)	16.35%	16.35%	16.35%
Downtown Share (\$)	\$177,499,614	\$187,732,530	\$198,894,529
Visitor Based DSTM Exp. Potential (1)	\$19,675,621	\$26,724,535	\$36,285,946
Downtown Share (%)	20%	20%	20%
Downtown Share (\$)	\$3,935,124	\$5,344,907	\$7,257,189
Residual DSTM Sales Growth	\$0	\$11,642,699	\$13,074,281
Tertiary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$950,288,238	\$1,080,409,899	\$1,230,892,183
Downtown Share (%)	5.77%	5.77%	5.77%
Downtown Share (\$)	\$54,831,631	\$62,339,651	\$71,022,479
Visitor Based DSTM Exp. Potential (1)	\$4,918,905	\$6,681,134	\$9,071,487
Downtown Share (%)	5%	5%	5%
Downtown Share (\$)	\$245,945	\$334,057	\$453,574
Residual DSTM Sales Growth	\$0	\$7,596,131	\$8,802,345
Total Residual Potential Growth	\$0	\$48,140,897	\$59,951,433
Total \$ Available For New Floorspace			
		\$48,140,897	\$59,951,433

Source: 1- Table 3.23

TABLE B-2
OPTION 'A'
HIGH POPULATION GROWTH SCENARIO

Primary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$902,316,760	\$951,645,189	\$997,179,125
Downtown Share (%)	37.19%	37.19%	37.19%
Downtown Share (\$)	\$335,571,603	\$353,916,846	\$370,850,917
Visitor Based DSTM Exp. Potential (1)	\$73,783,578	\$100,217,005	\$136,072,299
Downtown Share (%)	75%	75%	75%
Downtown Share (\$)	\$55,337,684	\$75,162,754	\$102,054,224
Residual DSTM Sales Growth	\$0	\$38,170,313	\$43,825,541
Secondary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$1,085,624,549	\$1,171,482,497	\$1,259,714,473
Downtown Share (%)	16.35%	16.35%	16.35%
Downtown Share (\$)	\$177,499,614	\$191,537,388	\$205,963,316
Visitor Based DSTM Exp. Potential (1)	\$19,675,621	\$26,724,535	\$36,285,946
Downtown Share (%)	20%	20%	20%
Downtown Share (\$)	\$3,935,124	\$5,344,907	\$7,257,189
Residual DSTM Sales Growth	\$0	\$15,447,557	\$16,338,210
Tertiary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$950,288,238	\$1,129,514,181	\$1,308,918,470
Downtown Share (%)	5.77%	5.77%	5.77%
Downtown Share (\$)	\$54,831,631	\$65,172,968	\$75,524,596
Visitor Based DSTM Exp. Potential (1)	\$4,918,905	\$6,681,134	\$9,071,487
Downtown Share (%)	5%	5%	5%
Downtown Share (\$)	\$245,945	\$334,057	\$453,574
Residual DSTM Sales Growth	\$0	\$10,429,448	\$10,471,145
Total Residual Potential Growth	\$0	\$64,047,319	\$70,634,897
Total \$ Available For New DSTM Floorspace	\$0	\$64,047,319	\$70,634,897

Source: 1- Table 3.23

TABLE B-3
OPTION 'B'
MEDIUM POPULATION GROWTH SCENARIO

	1989	1994	1999
Primary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$902,316,760	\$926,723,848	\$956,794,663
Downtown Share (%)	37.19%	41.06%	45.33%
Downtown Share (\$)	\$335,571,603	\$380,512,812	\$433,715,021
Visitor Based DSTM Exp. Potential (1)	\$73,783,578	\$100,217,005	\$136,072,299
Downtown Share (%)	75%	75%	75%
Downtown Share (\$)	\$55,337,684	\$75,162,754	\$102,054,224
Residual DSTM Sales Growth		\$64,766,279	\$80,093,679
Secondary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$1,085,624,549	\$1,148,211,194	\$1,216,480,299
Downtown Share (%)	16.35%	14.78%	13.36%
Downtown Share (\$)	\$177,499,614	\$169,705,614	\$162,521,768
Visitor Based DSTM Exp. Potential (1)	\$19,675,621	\$26,724,535	\$36,285,946
Downtown Share (%)	20%	20%	20%
Downtown Share (\$)	\$3,935,124	\$5,344,907	\$7,257,189
Residual DSTM Sales Growth	\$0	(\$6,384,216)	(\$5,271,564)
Tertiary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$950,288,238	\$1,080,409,899	\$1,230,892,183
Downtown Share (%)	5.77%	5.21%	4.71%
Downtown Share (\$)	\$54,831,631	\$56,289,356	\$57,975,022
Visitor Based DSTM Exp. Potential (1)	\$4,918,905	\$6,681,134	\$9,071,487
Downtown Share (%)	5%	5%	5%
Downtown Share (\$)	\$245,945	\$334,057	\$453,574
Residual DSTM Sales Growth	\$0	\$1,545,836	\$1,805,184
Total Residual Potential Growth	\$0	\$59,927,899	\$76,627,299
Total \$ Available For New Floorspace		\$59,927,899	\$76,627,299

Source: 1- Table 3.23

TABLE B-4
OPTION 'B'
HIGH POPULATION GROWTH SCENARIO

Primary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$902,316,760	\$951,645,189	\$997,179,125
Downtown Share (%)	37.19%	41.06%	45.33%
Downtown Share (\$)	\$335,571,603	\$390,745,515	\$452,021,297
Visitor Based DSTM Exp. Potential (1)	\$73,783,578	\$100,217,005	\$136,072,299
Downtown Share (%)	75%	75%	75%
Downtown Share (\$)	\$55,337,684	\$75,162,754	\$102,054,224
Residual DSTM Sales Growth	\$0	\$74,998,982	\$88,167,253
Secondary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$1,085,624,549	\$1,171,482,497	\$1,259,714,473
Downtown Share (%)	16.35%	14.78%	13.36%
Downtown Share (\$)	\$177,499,614	\$173,145,113	\$168,297,854
Visitor Based DSTM Exp. Potential (1)	\$19,675,621	\$26,724,535	\$36,285,946
Downtown Share (%)	20%	20%	20%
Downtown Share (\$)	\$3,935,124	\$5,344,907	\$7,257,189
Residual DSTM Sales Growth	\$0	(\$2,944,718)	(\$2,934,977)
Tertiary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$950,288,238	\$1,129,514,181	\$1,308,918,470
Downtown Share (%)	5.77%	5.21%	4.71%
Downtown Share (\$)	\$54,831,631	\$58,847,689	\$61,650,060
Visitor Based DSTM Exp. Potential (1)	\$4,918,905	\$6,681,134	\$9,071,487
Downtown Share (%)	5%	5%	5%
Downtown Share (\$)	\$245,945	\$334,057	\$453,574
Residual DSTM Sales Growth	\$0	\$4,104,169	\$2,921,889
Total Residual Potential Growth	\$0	\$76,158,433	\$88,154,165
Total \$ Available For New DSTM Floorspace	\$0	\$76,158,433	\$88,154,165

Sources: 1- Table 3.23

TABLE B-5
OPTION 'C'
MEDIUM POPULATION GROWTH SCENARIO

	1989	1994	1999
Primary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$902,316,760	\$926,723,848	\$956,794,663
Downtown Share (%)	37.19%	45.25%	55.05%
Downtown Share (\$)	\$335,571,603	\$419,342,541	\$526,715,462
Visitor Based DSTM Exp. Potential (1)	\$73,783,578	\$100,217,005	\$136,072,299
Downtown Share (%)	75%	75%	75%
Downtown Share (\$)	\$55,337,684	\$75,162,754	\$102,054,224
Residual DSTM Sales Growth		\$103,596,008	\$134,264,391
Secondary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$1,085,624,549	\$1,148,211,194	\$1,216,480,299
Downtown Share (%)	16.35%	13.33%	10.86%
Downtown Share (\$)	\$177,499,614	\$153,056,552	\$132,109,760
Visitor Based DSTM Exp. Potential (1)	\$19,675,621	\$26,724,535	\$36,285,946
Downtown Share (%)	20%	20%	20%
Downtown Share (\$)	\$3,935,124	\$5,344,907	\$7,257,189
Residual DSTM Sales Growth	\$0	(\$23,033,279)	(\$19,034,509)
Tertiary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$950,288,238	\$1,080,409,899	\$1,230,892,183
Downtown Share (%)	5.77%	4.70%	3.84%
Downtown Share (\$)	\$54,831,631	\$50,779,265	\$47,266,260
Visitor Based DSTM Exp. Potential (1)	\$4,918,905	\$6,681,134	\$9,071,487
Downtown Share (%)	5%	5%	5%
Downtown Share (\$)	\$245,945	\$334,057	\$453,574
Residual DSTM Sales Growth	\$0	(\$3,964,255)	(\$3,393,488)
Total Residual Potential Growth	\$0	\$76,598,475	\$111,836,394
Total \$ Available For New Floorspace		\$76,598,475	\$111,836,394

Source: 1- Table 3.23

TABLE B-6
OPTION 'C'
HIGH POPULATION GROWTH SCENARIO

Primary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$902,316,760	\$951,645,189	\$997,179,125
Downtown Share (%)	37.19%	45.25%	55.05%
Downtown Share (\$)	\$335,571,603	\$430,619,448	\$548,947,108
Visitor Based DSTM Exp. Potential (1)	\$73,783,578	\$100,217,005	\$136,072,299
Downtown Share (%)	75%	75%	75%
Downtown Share (\$)	\$55,337,684	\$75,162,754	\$102,054,224
Residual DSTM Sales Growth	\$0	\$114,872,915	\$145,219,131
Secondary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$1,085,624,549	\$1,171,482,497	\$1,259,714,473
Downtown Share (%)	16.35%	13.33%	10.86%
Downtown Share (\$)	\$177,499,614	\$156,158,617	\$136,804,992
Visitor Based DSTM Exp. Potential (1)	\$19,675,621	\$26,724,535	\$36,285,946
Downtown Share (%)	20%	20%	20%
Downtown Share (\$)	\$3,935,124	\$5,344,907	\$7,257,189
Residual DSTM Sales Growth	\$0	(\$19,931,214)	(\$17,441,343)
Tertiary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$950,288,238	\$1,129,514,181	\$1,308,918,470
Downtown Share (%)	5.77%	4.70%	3.84%
Downtown Share (\$)	\$54,831,631	\$53,087,167	\$50,262,469
Visitor Based DSTM Exp. Potential (1)	\$4,918,905	\$6,681,134	\$9,071,487
Downtown Share (%)	5%	5%	5%
Downtown Share (\$)	\$245,945	\$334,057	\$453,574
Residual DSTM Sales Growth	\$0	(\$1,656,353)	(\$2,705,180)
Total Residual Potential Growth	\$0	\$93,285,348	\$125,072,608
Total \$ Available For New DSTM Floorspace			
	\$0	\$93,285,348	\$125,072,608

Sources: 1- Table 3.23

TABLE B-7
OPTION 'D'
MEDIUM POPULATION GROWTH SCENARIO

	1989	1994	1999
Primary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$902,316,760	\$926,723,848	\$956,794,663
Downtown Share (%)	37.19%	41.06%	45.33%
Downtown Share (\$)	\$335,571,603	\$380,512,812	\$433,715,021
Visitor Based DSTM Exp. Potential (1)	\$73,783,578	\$100,217,005	\$136,072,299
Downtown Share (%)	75%	75%	75%
Downtown Share (\$)	\$55,337,684	\$75,162,754	\$102,054,224
Residual DSTM Sales Growth		\$64,766,279	\$80,093,679
Secondary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$1,085,624,549	\$1,148,211,194	\$1,216,480,299
Downtown Share (%)	16.35%	18.05%	19.93%
Downtown Share (\$)	\$177,499,614	\$207,252,121	\$242,444,524
Visitor Based DSTM Exp. Potential (1)	\$19,675,621	\$26,724,535	\$36,285,946
Downtown Share (%)	20%	20%	20%
Downtown Share (\$)	\$3,935,124	\$5,344,907	\$7,257,189
Residual DSTM Sales Growth	\$0	\$31,162,290	\$37,104,685
Tertiary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$950,288,238	\$1,080,409,899	\$1,230,892,183
Downtown Share (%)	5.77%	6.37%	7.33%
Downtown Share (\$)	\$54,831,631	\$68,822,111	\$90,224,397
Visitor Based DSTM Exp. Potential (1)	\$4,918,905	\$6,681,134	\$9,071,487
Downtown Share (%)	5%	5%	5%
Downtown Share (\$)	\$245,945	\$334,057	\$453,574
Residual DSTM Sales Growth	\$0	\$14,078,591	\$21,521,804
Total Residual Potential Growth	\$0	\$110,007,159	\$138,720,169
Total \$ Available For New Floorspace		\$110,007,159	\$138,720,169

Source: 1- Table 3.23

TABLE B-8
OPTION 'D'
HIGH POPULATION GROWTH SCENARIO

Primary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$902,316,760	\$951,645,189	\$997,179,125
Downtown Share (%)	37.19%	41.06%	45.33%
Downtown Share (\$)	\$335,571,603	\$390,745,515	\$452,021,297
Visitor Based DSTM Exp. Potential (1)	\$73,783,578	\$100,217,005	\$136,072,299
Downtown Share (%)	75%	75%	75%
Downtown Share (\$)	\$55,337,684	\$75,162,754	\$102,054,224
Residual DSTM Sales Growth	\$0	\$74,998,982	\$88,167,253
Secondary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$1,085,624,549	\$1,171,482,497	\$1,259,714,473
Downtown Share (%)	16.35%	18.05%	19.93%
Downtown Share (\$)	\$177,499,614	\$211,452,591	\$251,061,094
Visitor Based DSTM Exp. Potential (1)	\$19,675,621	\$26,724,535	\$36,285,946
Downtown Share (%)	20%	20%	20%
Downtown Share (\$)	\$3,935,124	\$5,344,907	\$7,257,189
Residual DSTM Sales Growth	\$0	\$35,362,760	\$41,520,786
Tertiary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$950,288,238	\$1,129,514,181	\$1,308,918,470
Downtown Share (%)	5.77%	6.37%	7.33%
Downtown Share (\$)	\$54,831,631	\$71,950,053	\$95,943,724
Visitor Based DSTM Exp. Potential (1)	\$4,918,905	\$6,681,134	\$9,071,487
Downtown Share (%)	5%	5%	5%
Downtown Share (\$)	\$245,945	\$334,057	\$453,574
Residual DSTM Sales Growth	\$0	\$17,206,533	\$24,113,188
Total Residual Potential Growth	\$0	\$127,568,275	\$153,801,227
Total \$ Available For New DSTM Floorspac	\$0	\$127,568,275	\$153,801,227

Sources: 1- Table 3.23

TABLE B-9
OPTION 'E'
MEDIUM POPULATION GROWTH SCENARIO

	1989	1994	1999
Primary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$902,316,760	\$926,723,848	\$956,794,663
Downtown Share (%)	37.19%	45.25%	55.05%
Downtown Share (\$)	\$335,571,603	\$419,342,541	\$526,715,462
Visitor Based DSTM Exp. Potential (1)	\$73,783,578	\$100,217,005	\$136,072,299
Downtown Share (%)	75%	75%	75%
Downtown Share (\$)	\$55,337,684	\$75,162,754	\$102,054,224
Residual DSTM Sales Growth		\$103,596,008	\$134,264,391
Secondary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$1,085,624,549	\$1,148,211,194	\$1,216,480,299
Downtown Share (%)	16.35%	19.89%	24.20%
Downtown Share (\$)	\$177,499,614	\$228,379,206	\$294,388,232
Visitor Based DSTM Exp. Potential (1)	\$19,675,621	\$26,724,535	\$36,285,946
Downtown Share (%)	20%	20%	20%
Downtown Share (\$)	\$3,935,124	\$5,344,907	\$7,257,189
Residual DSTM Sales Growth	\$0	\$52,289,376	\$67,921,308
Tertiary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$950,288,238	\$1,080,409,899	\$1,230,892,183
Downtown Share (%)	5.77%	7.02%	8.54%
Downtown Share (\$)	\$54,831,631	\$75,844,775	\$105,118,192
Visitor Based DSTM Exp. Potential (1)	\$4,918,905	\$6,681,134	\$9,071,487
Downtown Share (%)	5%	5%	5%
Downtown Share (\$)	\$245,945	\$334,057	\$453,574
Residual DSTM Sales Growth	\$0	\$21,101,255	\$29,392,935
Total Residual Potential Growth	\$0	\$176,986,639	\$231,578,635
Total \$ Available For New Floorspace		\$176,986,639	\$231,578,635

Source: 1- Table 3.23

TABLE B-10
OPTION 'E'
HIGH POPULATION GROWTH SCENARIO

Primary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$902,316,760	\$951,645,189	\$997,179,125
Downtown Share (%)	37.19%	45.25%	55.05%
Downtown Share (\$)	\$335,571,603	\$430,619,448	\$548,947,108
Visitor Based DSTM Exp. Potential (1)	\$73,783,578	\$100,217,005	\$136,072,299
Downtown Share (%)	75%	75%	75%
Downtown Share (\$)	\$55,337,684	\$75,162,754	\$102,054,224
Residual DSTM Sales Growth	\$0	\$114,872,915	\$145,219,131
Secondary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$1,085,624,549	\$1,171,482,497	\$1,259,714,473
Downtown Share (%)	16.35%	19.89%	24.20%
Downtown Share (\$)	\$177,499,614	\$233,007,869	\$304,850,902
Visitor Based DSTM Exp. Potential (1)	\$19,675,621	\$26,724,535	\$36,285,946
Downtown Share (%)	20%	20%	20%
Downtown Share (\$)	\$3,935,124	\$5,344,907	\$7,257,189
Residual DSTM Sales Growth	\$0	\$56,918,038	\$73,755,316
Tertiary Trade Area			
Resident Based DSTM Exp. Potential (1)	\$950,288,238	\$1,129,514,181	\$1,308,918,470
Downtown Share (%)	5.77%	7.02%	8.54%
Downtown Share (\$)	\$54,831,631	\$79,291,896	\$111,781,637
Visitor Based DSTM Exp. Potential (1)	\$4,918,905	\$6,681,134	\$9,071,487
Downtown Share (%)	5%	5%	5%
Downtown Share (\$)	\$245,945	\$334,057	\$453,574
Residual DSTM Sales Growth	\$0	\$24,548,376	\$32,609,259
Total Residual Potential Growth	\$0	\$196,339,329	\$251,583,706
Total \$ Available For New DSTM Floorspac	\$0	\$196,339,329	\$251,583,706

Sources: 1- Table 3.23