

INTEGRATED TRANSPORTATION PLANNING IN GREATER
VANCOUVER: A POLICY FRAMEWORK

by

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ABSTRACT

Greater Vancouver is a cooperative federalism in which planning relies on consensus and cooperation between municipalities, provincial ministries and Crown corporations. A result of this approach is a system in which each organisation and municipality is responsible for making decisions and funding the issues within its jurisdiction. Often this results in inefficient decisions being made; decisions, that otherwise would have considered regional issues, tend to consider only local concerns.

Experience suggests that regional governments are generally distrusted by the general public and may pose a threat to the urban power base of the provincial government. Instead, a conjoint approach - which uses the existing agencies and is activated at key points in the process - offers the optimum configuration. In Greater Vancouver, a commission made up of nine directly elected, nine municipally appointed, and nine provincially appointed councillors will provide a well balanced organisation which is responsible to the province, municipalities, and the public.

The new commission will be responsible for creating regional goals and ensuring conformity of the municipalities, ministries and Crown corporations to those goals. Adjustments in the provincial legislations will be required to transfer control and funding functions to the new commission, and to pave the way for a truly integrated transportation planning process for Greater Vancouver.

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ABBREVIATIONS

BNA	British North America
DCC	Development Cost Charge
GVRD	Greater Vancouver Regional District
LCDC	Land Conservation and Development Commission (Oregon)
LMRPB	Lower Mainland Regional Planning Board
MOTH	Ministry of Transportation and Highways
MTC	Metropolitan Transportation Commission (San Francisco)
TDM	Transportation Demand Management
VRTC	Vancouver Regional Transit Commission
VRTS	Vancouver Regional Transit System

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I: INTRODUCTION

Cities, the engines that drive the economy, are the products of human interaction. The first commercial cities appeared as a direct result of humans needing to exchange merchandise and ideas. As the complexity of human interaction increased, so too did the complexity and size of cities. In each stage of development, the size of cities was controlled to some extent by the transportation technology available; first, walking, then streetcars, and finally the automobile have all had profound impacts on the form and size of the cities (Hodge 1989). As congestion became a problem, due to a greater increase in demand than supply, the simple solution was to build more capacity.

Today the automobile is the dominant form of transportation in most of the industrialised world's cities. Increased capacity as a solution to urban problems is fast being seen as a hinderance, not a solution (Transportation Association of Canada 1993, p. 1). Increased capacity results in what Anthony Downs terms "Triple Convergence"; the new road (most new capacity in the transportation infrastructure is usually for the benefit of the automobile) will attract people from other modes, who used to travel at different times, and who used to travel by a different route (Downs 1992).

Conventional transportation analysis often disregards the potent effects of urban design changes on transportation demand and the impact of transportation investments and policy on land use patterns.... Estimates of trip generation, distribution, and choice are often based on look-up engineering formulas that have been determined from the existing automobile-dependant environment (Replodge 1991, p. 85).

The solution, according to Downs and others, is to control the demand for transportation instead of increasing the supply or capacity. Termed Transportation Demand Management (TDM), these methods are designed to make better use of existing infrastructure by forcing or

encouraging people to travel at different times, by a different route, by a different mode, or not to have to travel at all. The success of this approach requires cooperation among the modal authorities (for example transit and highways), and non-modal authorities (for example, land use jurisdictions and provincial legislators).

Efficient transportation and accessibility are necessary to the orderly day-to-day operation of any community. Throughout North America, and most of the industrialised world, congestion caused by mass reliance on the private automobile is threatening the future of cities (Transportation Association of Canada 1993, p. 1). Vancouver is no exception; in Desolation to Hope, Seelig and Artibise point out that a central authority must control the future growth of the region. The authority's mandate must include:

- a clear commitment to public transit in all forms - buses, rapid transit, fast ferries, etc.;
- the power to override neighbourhood or municipal objections to regional transportation plans, whether they be new bus routes or rapid transit lanes;
- the power to tax automobile use, with the funds collected being allocated to public transit and other alternatives to the automobile;
- the power to coordinate with airport and port authorities, as well as the major trucking firms, the movement of goods and people within the region;
- the ability to create and enforce, on a regional basis, traffic reduction by-laws which force employers to achieve a reduction in the number of employees using cars;
- a commitment to utilizing roads and transit to plan land-use, rather than reacting to it. (Seelig and Artibise 1991, p. 66)

The current institutional arrangements in Greater Vancouver make the above task an impossibility. Therefore, the problem is how does the region move towards a system which will facilitate the above recommendations?

Today, in Greater Vancouver, control and implementation of various segments of the transportation system are conducted in isolation or with only token regard to each other. To

solve the problem, this thesis will consider three important aspects of metropolitan transportation: the road network, public transportation, and land use.

The road network in Greater Vancouver comes under the control of either the Ministry of Transportation and Highways or the municipality. The transit system is controlled by the provincial government through its Crown Corporation, BC Transit. Land use is usually controlled by the municipality. Other private interests must also be considered in a policy framework for integrated transportation in Vancouver. These include taxis and the private bus companies providing service to the airport and other points.

In general, this thesis will explore the above issues in the context of Greater Vancouver. Policy making, policy implementation, policy control, funding, and the political context will be considered. An integrated approach will be developed using a combination of practical experience in other centres and theoretical guidelines laid out in the literature.

A. PURPOSE AND OBJECTIVES

Transportation congestion, reliance on the private automobile, and urban sprawl are all issues of contemporary North American cities. The purpose of this study is twofold. First, on a practical level, it is designed to provide a working framework for improving the urban transportation system within the Greater Vancouver region. Second, on a theoretical level, it is designed to offer insight into transportation policy planning techniques which are applicable in other urban centres.

B. SIGNIFICANCE

The population of the Greater Vancouver 'Pacific Fraser Region' is estimated to grow by approximately one million people over the next twenty years (Transport 2021 1993, p. 1). It is important that the movement of these new migrants, as well as the established population, be provided for without further disintegration of the ecosystem, economy, and the standard of living of the inhabitants. In a pluralistic society interventions in the lives of citizens by the provincial and federal governments are not generally welcome. Such attitudes result in local based planning which inherently places community interests ahead of the more pressing regional concerns; however, some intervention is required in order to assure the future orderly growth and development of the region. With sixteen municipalities, the Greater Vancouver Region requires a region-wide authority which is able to address the interests of the region as a whole. If Greater Vancouver is to adequately accommodate three million people by 2021, it is necessary that existing and new infrastructure be managed as efficiently as possible. Regional transportation planning will provide for increased efficiency by reducing unnecessary waste and duplication, as well as increasing the awareness of regional issues.

C. SCOPE AND LIMITATIONS

This thesis will be concerned primarily with transportation integration in Greater Vancouver. Relationships between two modal categories (roads and transit) and the one non-modal category (land use) are examined due to the pervasive nature of these factors in the everyday lives of metropolitan residents. As will be argued in the thesis, these three factors have a powerful influence over the development of a region, and they must be considered in regard to each other in an integrated fashion.

While this thesis acknowledges that there are other important modes (such as the private railways, BC Ferries, Port Authority, Airport Authority among others), they do not influence

metropolitan growth to the same degree as the other three listed above. Therefore, in order to simplify the model and to reduce unnecessary duplication, these less significant modes are omitted from the study.

D. METHODOLOGY AND ORGANISATION

The success of a new integrated framework for transportation planning in Greater Vancouver relies on a good understanding of the current situation in Greater Vancouver and a good understanding of integrated planning attempts elsewhere. Therefore, this thesis consists of library research and interviews on the existing structure, and library research on theoretical and empirical examples of integration in other centres.

Chapter II provides background to the current situation in Greater Vancouver outlining the current transportation planning framework. This provides a platform on which to build a new framework for integrated transportation planning.

Chapter III is divided into two sections. The first section involves an extensive literature review on integration in transportation modes and land use planning. The second section examines various practical examples of integrated transportation and land use planning. While none of these may be considered the ultimate in integration, they do provide insight and lessons for a similar approach in Greater Vancouver. Lessons learned from both the theoretical and practical sections are extracted and will provide the basis for a new integrated framework for Greater Vancouver.

Chapter IV is divided into two sections. The first section builds on lessons learned in Chapter III on the ideological and political existing framework in Greater Vancouver which is outlined in Chapter II. A new framework for integrated transportation planning in Greater Vancouver is

developed. The policy implications for existing government agencies and municipalities are outlined. The second section takes a rezoning case study through the steps of the new framework. It is intended that the new framework represents, not the ultimate universal ideal, but a realistic workable model that is well suited to Greater Vancouver.

II. EXISTING FRAMEWORK IN GREATER VANCOUVER

A. INTRODUCTION

Transportation planning in the Greater Vancouver Regional District (GVRD) is fragmented between the municipal and provincial governments, government agencies such as BC Transit, and the Greater Vancouver Regional District. Transportation and land use go hand in hand; planning for one cannot continue without consideration for the other.

[T]ransport analysis not only has to change its theoretical and methodological orientation, but also its scope, by extending its domain beyond transport itself into those subsystems of the social system that directly or indirectly interact with transport. Those subsystems include, in the first place, the population and household subsystem which - through its demographic and household formation processes, but also through changing lifestyles, work, consumption and leisure patterns - largely determine the demand for passenger transport. (Nijkamp and Reichman 1987, p. 4).

Nijkamp and Reichman suggest that transportation cannot be planned in isolation of other important social issues. Yet, over the past several decades, that is precisely what has happened. Municipalities have forged ahead with land development schemes, which largely shape the social form of the city, without much regard to their impacts on the transportation system.

The purpose of this chapter is to establish the existing policy framework within the Greater Vancouver Regional District with regards to transportation planning. The focus will be on the responsibility of the various levels of government in planning and maintaining transportation systems in Greater Vancouver.

The existing framework for transportation planning in Greater Vancouver may be divided into two sections. The first section is what Pikarsky and Christensen term "Modal Interests." In their discussion on national comprehensive policies, they include rail, shipping, airlines, highways

and public transport within this category (1976, p. 88). As indicated in Chapter I, this discussion, which is confined to the Greater Vancouver region, will focus on two of these modes - public transportation and highways. The second section, closely tied to transportation issues but often neglected in transportation planning, is land use.

A background review will establish the constitutional environment within which transportation planning is performed in British Columbia. Existing policy directions in public transport, highways and road, and land use will then be examined. Finally, conclusions regarding current practices will be made based on the review.

B. BACKGROUND

In the GVRD, various aspects of transportation and land use planning fall under the jurisdiction of one of three levels of government; federal, provincial and local. The GVRD, while it has no official jurisdictional powers with regards to transportation or land use, does provide critical services and is thus included in this chapter.

Efficient transportation is a vital part of Greater Vancouver's economic and social well-being. Transportation planning in the region is affected by three factors:

1. Within the region, a daily-use system moves people and goods by car and transit;
2. The region is the Pacific gateway for Canada's exports and imports by land, sea, and air;
3. The region is a key link in the provincial highway system connecting the interior with Vancouver Island.

To enhance the region's livability and encourage development into the 21st Century, Greater Vancouver urgently needs a co-ordinated plan to move people and goods throughout the region in a smooth, efficient way (GVRD 1989, p. 1).

1. CONSTITUTIONAL FRAMEWORK.

To understand the division of powers in the Canadian planning system, it is necessary to review the two acts which are largely responsible.

The division of powers in Canada, originally outlined in the British North America (BNA) Act of 1867, are set out in the Constitution Act, 1982:

The Constitution Act, 1982 is the name given to the group of acts that make up the Canadian constitution. This Act includes the Charter of Rights and Freedoms, as well as the British North America Act, 1867 [BNA Act].... The BNA Act divides legislative powers in Canada between the federal Parliament and the provincial legislatures. Under the BNA Act, 1867, the legislatures were given almost complete control of land use within the province (Ince 1984, p. 7).

Control for such things as land use became the responsibility of the provinces. The BNA Act did not establish any rights for local governments. Section 92 of the BNA Act specified that "the responsibility for establishing municipal institutions lay with the provincial governments" (Hodge 1989, p. 116).

The Baldwin Act of 1849 in Ontario provided a model for other provinces to follow in establishing local governments. As a result, local governments in Canada are creatures of the province (Hodge, 1989, p. 116-119). At the turn of the century, "local governments were conceived in the need to provide to residences and places of business such services as roads, water, and fire protection" (Hodge 1989, p. 116).

2. CONSTITUTIONAL EFFECTS ON METROPOLITAN FORM.

As the cities and municipalities of Canada grow, so too do the urban and inter-urban problems. Many services provided to the residences and businesses became inter-urban problems. As residences spread out into the unincorporated and new incorporated suburbs, issues in transportation, water supply and protective services arose. This, combined with a dramatic upturn in development and a belief in the superiority of land ownership and land owners, led to the need for some form of planning (Hodge 1989, 116-117).

Across Canada and the United States, as cities and municipalities grew, the need to extend and rationalise the services provided also grew. Many cities, such as Edmonton and Calgary, annexed the surrounding communities into their jurisdictions. In Ontario, Toronto and its surrounding municipalities were combined into a mandatory federation. The local governments retained jurisdiction over some of the services, while other more regional services were taken over by the metropolitan government (McCarthy 1986, p. 334). In British Columbia, the province "instituted a province-wide system of regional districts designed to provide hospitals and other area-wide services to both municipalities and unincorporated areas. This includes the Greater Vancouver Regional District, which rapidly developed into a regional multi-purpose government" (Wichern 1986, p. 301-302).

3. BRIEF HISTORY OF REGIONAL PLANNING IN GREATER VANCOUVER

The formal beginning of the Greater Vancouver Regional District occurred over 70 years ago arising from the need to provide water and sewerage services to the municipalities. In 1914 the Greater Vancouver Sewer and Drainage District was established. This was followed in 1926 by the Greater Vancouver Water District (Forum for Planning Action 1991 p.3). Provincial legislation established the Lower Mainland Regional Planning Board (LMRPB) in the mid 1940s. In 1966 the Official Regional Plan was adopted, giving statutory planning powers to the LMRPB over the individual municipalities (Forum for Planning Action 1991, 3). In the late 1960s the LMRPB was split into four Regional Districts. Each district provided the services that the municipalities chose to give up. Planning, however, was obligatory in all regions (Forum for Planning Action 1991, p. 3).

The Lower Mainland Regional Planning Board was dissolved into regional districts in the late 1960s, one of which was the Greater Vancouver Regional District. The Greater Vancouver Regional District was "established by provincial legislation as a higher order confederal

government to deal with issues of planning, development and service delivery which transcended municipal boundaries" (Artibise et al. 1990:5-6).

The GVRD had administrative powers in some areas, such as water supply and sewage. In the early 1980s, it was responsible for regional transit revenue collection and service recommendations to provincial agencies responsible for the planning and operation of transit services. It lost this role in 1983, when the province set up a regional transit commission composed of elected local officials, selected by the province. (Heaver and Henriksson, p. 4).

After the election of a new government in 1975, the regulatory planning powers of the GVRD were removed and planning jurisdiction returned to the municipalities (Forum for Planning Action 1991, p. 4).

4. REGIONAL RESPONSIBILITY TODAY.

The Greater Vancouver Regional District has no jurisdictional powers with regards to transportation at present (Forum for Planning Action); however, it does provide important services to the region. In 1976, while the GVRD still had regional planning power, it developed a strategic plan, The Livable Region, for the entire Greater Vancouver area. Today's version of this plan, entitled Livable Region Strategy: Proposals, is a guiding document to the future form of the region. However, it now relies heavily on the cooperation of the member municipalities for its success.

Transport 2021 is a partnership between the Province and the GVRD. It is a long range planning process designed to solve the current and future transportation issues in the region through integrated planning. "For the first time in the region's history, land use and transportation planning are being combined" (GVRD 1992, p. 2).

C. MODAL INTEREST POLICIES.

1. PUBLIC TRANSPORTATION.

Public transportation services began in the Lower Mainland in 1897, when R.M. Horne-Payne of the British Empire Trust Company of London acquired the British Columbia Electric Railway franchise. Right from the start, public transportation service was regional in nature. "At first the company operated under separate agreements for each street in Vancouver, but in 1901 the company and the city successfully renegotiated a comprehensive franchise and revenue-sharing agreement similar to, but less onerous than, those prevailing in Toronto and Montreal" (Armstrong and Nelles 1986, p. 191-192). With services being provided to Vancouver and New Westminster, the British Columbia Electric Railway franchise provided an integrated public transportation system which the individual cities could not or would not do. In 1961 the power company, which also had responsibility for transit, was nationalised and became the BC Hydro and Power Authority (Heaver and Henriksson p. 4). In 1976, the province created the Urban Transit Authority (GVRD 1991, p. 6). Thus, public transportation became a responsibility of the provincial government.

Public transportation throughout British Columbia is operated by BC Transit. Today the Greater Vancouver transit system is "a partnership between BC Transit, a provincial crown corporation, and the Vancouver Regional Transit Commission [VRTC], the local body representing the 15 municipalities, three electoral areas and three villages comprising the VRTS [Vancouver Regional Transit System]" (Leicester 1991, 1). Transit services are provided from Lions Bay in the North to the U.S border in the south, and from Tsawwassen in the west to Aldergrove in the east. In 1990, 650 diesel buses, 244 electric buses, 114 Skytrain cars, and 2 catamaran passenger ferries provided service to over 123 million revenue passengers (BC Transit 1991, p. 39-40).

a. Policy Making

The Vancouver Regional Transit Commission:

consists of locally elected representatives of the 18 municipalities and three electoral areas within the Vancouver Regional Transit System. The mayor of Vancouver is a member in accordance with the BC Transit Act. All other members are chosen, based on geographic areas, by the minister responsible for transit, then appointed through an order of the lieutenant-governor in council.

In consultation with municipalities and the public, the Commission prepares plans, sets fares, and determines service and performance standards for the lower mainland. The Commission also makes recommendations to the [BC Transit] authority, respecting the annual operating and capital budgets for the Vancouver Regional Transit System. (BC Transit 1991, p. 8).

b. Policy Implementation

Policy implementation is the direct responsibility of the BC Transit authority. It receives recommendations from the VRTC regarding service levels, performance, and budgets. In accordance with the BC Transit Act, the authority also produces an annual service plan which outlines the policy directions of the VRTS for the following year. In addition, public meetings are held on an annual basis and consultations with individual municipalities are ongoing regarding service improvements and changes (Heaver and Henriksson, p. 7).

c. Policy Control

Even though the municipalities - through the VRTC - have a voice on the issues confronting transit in the Lower Mainland, the sole control over transit operation throughout the Province of British Columbia lies with the Provincial Government (Heaver and Henriksson, p. 7). Interestingly enough, the Greater Vancouver Regional District, which is in the best position to provide regional services to member municipalities, has no say in the operation and control of the transit system.

d. Funding

Directly related to policy control is the issue of funding. The majority of the funding for the VRTS comes from Victoria. "The funding formula introduced with the regulations of 1978 was based on sharing an annual operating deficit between the province and the region, where the costs included lease fees as a percentage of book value (Heaver and Henriksson, p. 9). Funding is divided into two sections; 1) Operating costs and non-Skytrain capital cost; and 2) Skytrain capital costs.

Operating costs are covered 68.8 percent by the VRTC, and 31.2 percent by the provincial government. Of the 68.8 percent VRTC share, 55 per cent is recovered through fare box revenues, and the remainder through fuel tax, hydro levy, and non-residential property taxes. Skytrain capital cost are covered 100 percent by the provincial government.

e. Political Context

A major concern with any public service is the political aspect. This arises from the relationship between policy control and funding. In the Greater Vancouver region, the fragmentation of the municipalities and the fact that much of the funding comes directly from the provincial government is one reason that the control of the transit system remains a provincial responsibility. The fact that the VRTC has the authority and/or ability to raise only some of the revenues only complicates the policy control matter. Who really is in control of the transit system? The municipalities have quite a lot of say on transit matters through the VRTC. Indeed, BC Transit requires the municipalities agreement to operate its vehicles along residential roads. However, the ultimate decision on transit issues, especially with regards to capital expenses, lies solely with the provincial government.

2. HIGHWAYS AND ROADS.

The use of highways and roads have long been perceived as an undeniable right. Many communities and businesses see the operation and maintenance of a good road system as necessary to the economic growth of the economy. This mentality is further encouraged by the present trend of funding maintenance and expansion of the road system out of government general revenue. Therefore, any attempts to recover the real cost of road maintenance and operation from the user is usually met with resistance.

a. Road Classifications

Vancouver, through its charter, has been granted complete autonomy over the operation and maintenance of its road system. Therefore, the provincial government has no control or jurisdiction over any road in Vancouver with the exception of provincially owned bridges (Szalay-Swan).

Today, road operation and maintenance is a complex mix of municipal and provincial authorities. The provincial government maintains jurisdictional and financial control over all aspects of operation and policy decisions on the routes classified as primary arterial outside of Vancouver. These are routes which primarily carry inter-municipal and inter-regional traffic. In Greater Vancouver these routes include the Trans-Canada Highway, Highway 99, Canada Way, and Kingsway among others. (Szalay-Swan: Ministry of Transportation and Highways 1987, sec. 6.02)

Secondary Arterials, such as the Dewdney Trunk Road in Pitt Meadows and Maple Ridge, are shared responsibilities between the province and the municipalities. In general, responsibility is split 50 percent province and 50 percent municipality (Szalay-Swan). The actual responsibility depends on individual agreements between the municipalities and the province.

b. Policy Making

The ultimate control over policy making lies with the provincial government (the Vancouver Charter and the Municipal Act are provincial laws). The Ministry of Transportation and Highways sets the policy guidelines which municipalities must meet in order to receive funding. For example, a municipality must conform to the Ministry's Major Road Network Plan in order to receive funding for the project. The Ministry, however, has no authority to prevent the project going ahead if the municipality wishes to fund the entire project (Szalay-Swan).

c. Policy Implementation

Implementation of the policies in highways and roads is conducted by either the municipality or the provincial government on behalf of the municipality. Decisions regarding primary arterial routes are made 100 percent by the Ministry of Transportation and Highways. Decisions regarding secondary arterial routes are made jointly by the municipality and the Ministry. All other roads are the sole decision of the municipality (Szalay-Swan).

d. Policy Control

Policy control of the road system in this region is extremely complex. The Ministry of Transportation and Highways has full jurisdictional control over all primary arterial routes outside the City of Vancouver. The Ministry shares control over the secondary arterials with the municipality. For the most part, each municipality has jurisdictional authority over all the roads within its boundaries with the exception of Primary and Secondary arterial roads (Szalay-Swan: Ministry of Transportation and Highways 1987, sec. 6.02).

Through the use of the Major Road Network Plan the Ministry of Transportation and Highways is able to exercise some control over the development of primary municipal roads. The Ministry recommends the eligibility of funding for road projects based on the Major Road Network Plan, and therefore exercises *de facto* policy control (Szalay-Swan).

e. Funding

Road funding is dependant on the classification of the roadway as defined by the Ministry of Transportation and Highways.

In British Columbia under the Highways Act, the province pays all capital and maintenance costs for primary arterial roads, shares capital costs for secondary roads 50-50 and maintenance costs for these roads 40 percent provincial, 60 percent municipal. The charter of the city of Vancouver, however, is unique in the province as the city is responsible for the planning, funding and operation of all roads. (Heaver and Henriksson, p. 3).

The municipality may apply for funding from Municipal Affairs for certain roads under the Major Road Network Plan. The Ministry of Transportation and Highways determines whether a road project is conforming to the Major Road Network Plan and recommends eligibility for funding to Municipal Affairs (Szalay-Swan).

f. Political Context

The Province recognises a need to retain jurisdiction over all roads which are necessary to inter-municipal traffic. This prevents a municipality blocking a road development because it is not in the best interest of the community, when it is in the best interest of the region. An often cited example is the Cassier Connector in Vancouver. As the city of Vancouver has full jurisdiction over this vital link, the province was powerless to improve the intersection for the benefit of the region until the City of Vancouver decided it was time to act.

3. CONCLUDING COMMENTS

Sam Brand, manager of the Public Policy Branch, Ministry of Transportation and Highways suggests that the Ministry has no set policy direction with regards to road building and maintenance. This is a conscious political decision based on the logic that the direction will change every four years with the newly elected governing body (Sam Brand 1993). The policy most resembling an actual policy direction is the 1988 report Freedom to Move.

In 1988, the Ministry of Transportation and Highways published Freedom to Move, a document designed to guide the province through the next several years of growth:

Every region starts with a current assessment of their area: a transportation overview study already prepared by the Ministry. This overview identifies pressure points and predominant issues for each region to consider. Objective criteria for action are provided, along with a recommended process for developing both short term and long term plans.

Once regional transportation plans are developed, the Minister of Transportation and Highways will review the plans with the Ministers of State and a Strategic Planning Committee.

Ultimately, the Ministry will reconcile the eight regional plans and priorities with the plans, priorities and funding realities of the Province as a whole. The result will be an integrated Provincial Transportation Plan. (Ministry of Transportation and Highways 1988, p. 7)

Funding for each project would be provided through the budgets of each department. Therefore, from an integrated planning perspective, the plan falls short of being successful.

Existing integration between public transportation, highways and roads also falls short. The geographic and political fragmented nature of the Greater Vancouver region requires that the transit system be operated by a body other than the local municipalities. Many commuting trips in the region are made beyond municipal boundaries. Today, in the GVRD, all aspects of policy making, implementation, control and funding are made by BC Transit with representative input from member municipalities. BC Transit is an independent Crown agency with its sole mandate to provide efficient public transportation to the residents of the region; however, it must provide this service while minimizing its deficit. BC Transit runs the buses, local councils operate local roads, the Ministry of Transportation and Highways operate and maintain primary highways. Each department has operating agreements with each other, but there is no overall integrated process for each to follow.

D. OTHER INTEREST POLICIES.

1. LAND USE.

The provincial government is the principal authority controlling land use in the province. Under the Canadian Constitution the Legislature has almost unlimited powers to regulate the use of land in British Columbia. Through legislation, the Legislature has delegated these powers to various bodies, such as the provincial Cabinet (referred to in legal terminology as the Lieutenant-Governor in Council), Ministers of the Crown, municipalities and regional districts and administrative tribunals such as the Agricultural Land Commission. (Ince 1984, p. 23).

In British Columbia, land use responsibility has been delegated to the local governments with the exception of regional issues such as the Agricultural Land Reserve and Crown lands (Ince 1984).

The enabling legislation governing land use planning is the Municipal Act (except Vancouver which is enabled by the Vancouver Charter). These "planning Acts, as noted, not only specify who may plan but also prescribe how they may plan" (Hodge 1989, p. 262). The Municipal Act and the Vancouver Charter lay out the responsibilities and procedures which the municipalities must follow (Province of British Columbia 1962, p. 3237-3244).

The single most powerful tool that the municipalities have at their disposal is the control of land use (Nowlan 1978, p. 76). All municipalities have responsibility and authority to control land uses within their boundaries.

a. Policy Making.

Land use policy making is the responsibility of the local governments; however, there are some exceptions. Local governments have no control over higher levels of government or their agencies. Thus, land owned by either the federal or provincial governments or their agencies are exempt from local planning by-laws (Ince 1984). As a result, land use policy making on provincially or federally owned lands is the jurisdiction of the respective governments,

regardless of local policy. In the Greater Vancouver area, this includes, but is not limited to, the University of British Columbia, Port Lands, Railway Land, Airport land, and any other land that the province, the federal government or any of their agencies have purchased or own (Province of British Columbia 1962).

b. Policy Implementation.

Implementation of land use policies is closely mated with that of policy making. As each municipality has control over land uses, they are able to make land use decisions without regard to other municipalities.

Implementation of the policy is at the discretion of the local municipality. In general, a plan which best meets the needs of the municipality is designed and implemented. The concerns of the citizens are heard during the planning process; this involves either interactive planning sessions with the community or public meetings to inform the public and request feedback (Province of British Columbia 1962).

c. Policy Control.

The ultimate control over land use in the Province of British Columbia is the responsibility of the provincial government. "The BNA Act, 1867 gives the provincial legislatures the power to regulate 'property and civil rights in the province' (s. 92 (13)) and 'generally all matters of a merely local or private nature in the province' (Ince 1984, p. 7-8).

Therefore, according to the Canadian Constitution, 1982 the provincial government has control over almost all lands within the province (Ince 1984, p. 7). "The provincial legislature has delegated to local governments much of its authority to control land use" (Ince 1984, p. 8). The control of land use on a day to day basis is the responsibility of the local governments by virtue of the provincial governments.

d. Funding.

Unlike the public facilities such as transit and highways, the financial benefits of land use zoning are usually gained by private individuals or corporations. Therefore, the actual cost of implementing land use control is generally the responsibility of the private developer. The municipalities may require the developer to cover all costs associated with re-zoning or land development.

e. Political Context.

Politically, land use control has always been seen as a local concern. One of the only substantial sources of revenue which cities can raise is through property taxes, unlike the federal and provincial governments who may also raise taxes on any item or service that they please. As a result, it appears to be logical that municipalities should have control over the form of their only tax revenue.

2. PRIVATE INTERESTS.

This thesis focuses on the roles of the various levels of government in transportation planning in Greater Vancouver; therefore private interests will only be mentioned in passing. There are many private operations that operate within the above framework. Each of these must deal with the respective government or agency to obtain permission for operation. Private operations with regards to transportation issues fall mainly within the land use category (parking is an example). However, there are also private bus, taxi and other companies which provide valuable services to the general public. These services are usually licensed to operate by either the municipal or provincial governments. An integrated transportation framework will have to take their role in transportation into consideration only so far as to their control and regulation by the various levels of government.

3. CONCLUDING COMMENTS.

Land use planning and the interest of private operators are two important non-modal (roads and transit) influences on the urban form. Private interests are generally controlled by government regulations or licences. In this respect integration may be achieved through changes to government regulations. Land use is one of the least integrated aspects of public policy in Greater Vancouver. Public transportation, and roads and highways are for the most part under the control of the provincial government, either directly, as in the case of primary highways, or indirectly as in the case of the Major Roads Network Plan. Land use is different. It is under the control of the many municipalities, provincial Crown agencies, tribunals and other authorities which make up the Greater Vancouver region. Each municipality has its own way of dealing with issues. It is true that Creating Our Future and the subsequent Livable Region Strategy: Proposals provide a direction for the municipalities to follow, and that the GVRD provides an important service in this regard; however, the entire process relies heavily on consensus planning.

E. CONCLUSION.

Transportation planning in the Lower Mainland today can be best described as cooperative. There is no guiding agency or enforceable plan with which member municipalities, Crown corporations, private individuals, and other agencies can follow. "For this reason, the development of a transportation plan for Greater Vancouver must rely on an open, consultative process which allows for input from all interested parties" (GVRD 1989, p. 5). It is the argument of this thesis that this is not enough. Consensus planning results in the lowest denominator, the level at which a majority of the members and interest groups agree. It means that only those projects which are politically favourable (vote winners) are implemented. Examples of projects such as these are the Cassier Connector in East Vancouver, the Alex Fraser Bridge connecting Richmond with Delta, the new super ferry operating between Tsawwassen

and Swartz Bay, and the extension of Skytrain from Scott Road to Surrey Centre. Each of these projects have two things in common; they are highly visible and thus politically acceptable, and they can be undertaken with no co-ordination or integration with other organisations or agencies.

Each of these projects are important links in the Greater Vancouver regional transportation network. However, each one may have repercussions on other modes of transportation and land uses:

The relationship between land use and transportation planning go well beyond the simple fact that transportation facilities use land. Transportation impacts development on surrounding lands while actual land uses often dictate the location and modal choice for transportation facilities. As Owolabi (1986) states, land use depends on the character of the transportation network which in turn depends on the land use pattern. (Faubert 1990, p. 7).

Each mode of transportation - as well as land use - are mutually connected. A change in one will effect the others. For example, the opening of the Alex Fraser Bridge encouraged people to drive, thus removing them from the transit system. "The better roads you have, the more traffic you have...if you build bigger, you create traffic, you don't reduce traffic" (Alan Artibise, quoted in Globe and Mail). Therefore the operating costs of transit increase, single occupant vehicle traffic increases, pollution increases, and congestion increases.

Computer simulations of the trend over the next 30 years point to a further 80% growth of peak period travel (by all modes), with the number of car trips growing by a projected 86%. Public transit will continue to lose ground. If congestion is to be held at bay, large scale road construction will be necessary. (Transport 2021 1993a, p. ii).

Transport 2021 goes on to say that a do nothing strategy will lead to a sprawling low density urban area which relies heavily on the private automobile (1993a, p. 7). Therefore the travel patterns of the region's inhabitants become less focused, further exacerbating the viability of the transit system while encouraging the use of the automobile.

The trends are already established and have considerable momentum.... Changing direction will require significant changes in real estate development and investment patterns, in the behaviour of people and households, and in the priorities for public infrastructure. (Transport 2021 1993a, p. 11).

Integrated transportation planning in the Lower Mainland requires that each of the above major issues be dealt with in a comprehensive manner. Within public transportation, planning is integrated. Each mode, Skytrain, Seabus, or bus are considered with regards to each other. Within each municipality land use is controlled, for the most part, by one department or agency. Private operators are bound by the rules and regulations of the regulating body. Highways and roads are a little more fragmented. Some highways and bridges are owned and operated by the provincial government. Other roads and bridges are operated and owned by the local municipality, while some are federally owned.

Figure 1 is a graphic representation of the current framework in the GVRD. Notice that each mode has a distinct channel or path with little or no interaction with the other modes. More important is the funding situation illustrated by the bank notes. Each mode is funded independently of the other modes.

In the longer term, a comprehensive transportation plan *must* [emphasis added] consider alternative scenarios and strategies for regional growth. It should review the movement of both people and goods, both automobile and public transit modes. It should be formulated in co-operation and consultation with all interested groups and organizations, and should ultimately identify a solution combining the most effective and practical transportation choices. (GVRD 1989, p. 3)

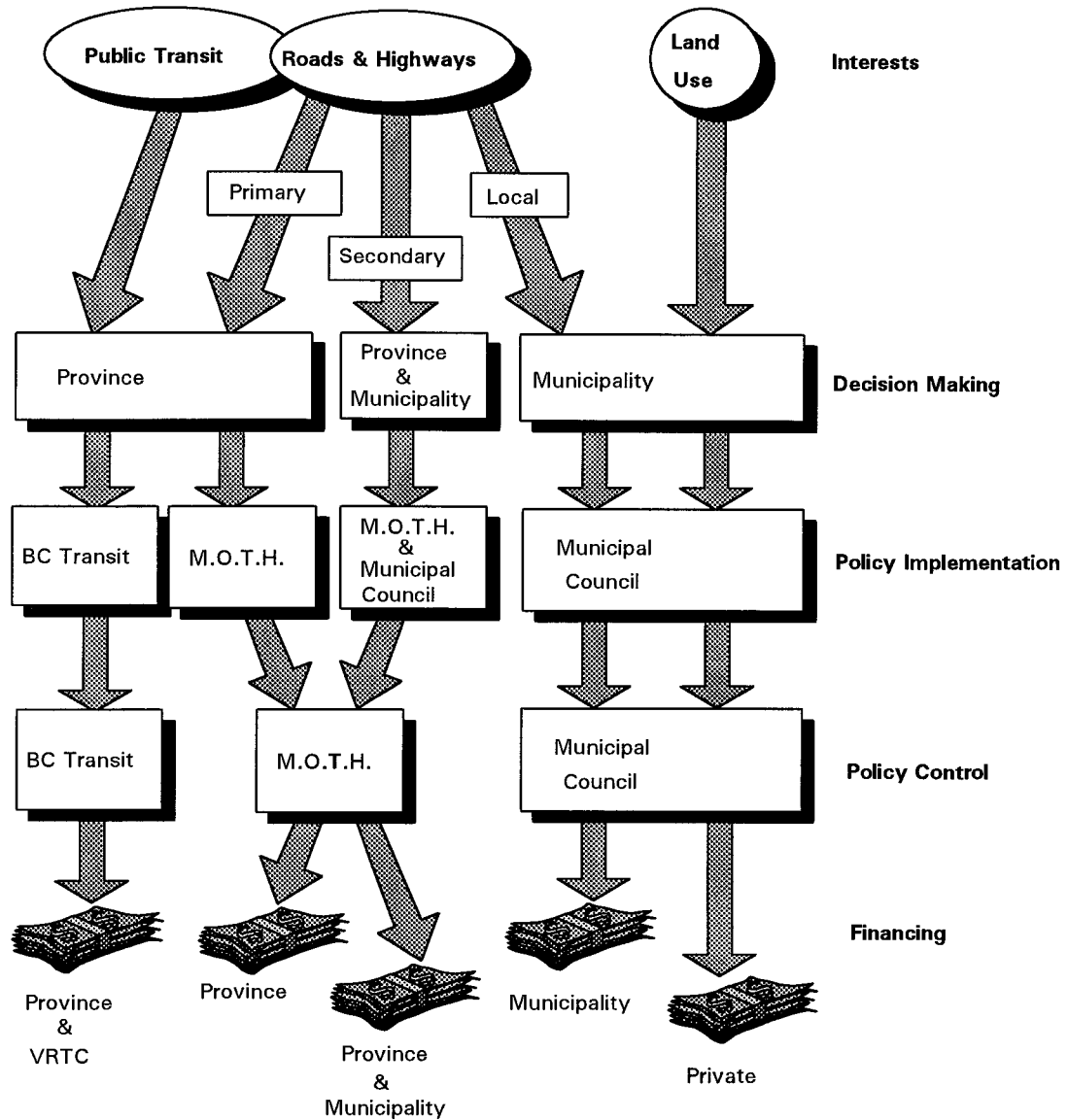
Furthermore, Pikarsky and Christensen suggest that transportation planning should consider more than just the modal interests, and that funding for all modes should be integrated. Instead of each corporation having its own budget, there should be one source of revenue from which all modes and other interests are funded (1976). For this approach to be effective the short term projects must not proceed without some form of integration with other modes and land use

plans. To do so would only undermine the goals and objectives of reaching a long term transportation planning framework.

What does this mean for integrated transportation planning? For integrated transportation planning to work, one authority must control key aspects of each mode of transportation and land use. For example, to institute region wide Transportation Demand Management (TDM) measures, a single body would have to have the authority to say who should do what, how and where. TDM measures could be considered the ultimate in integration; they require cooperative and complementary policies among all modes of transportation and land use.

In order to gain a better understanding of how a central body would work and what aspects must be controlled, the next chapter will examine other practical and theoretical examples of integration among the above issues.

FIGURE 1: EXISITING TRANSPORTATION PLANNING FRAMEWORK IN GREATER VANCOUVER



Source: Following Pikarsky and Christensen 1976, p. 88

III. POLICY INTEGRATION IN OTHER CITIES

A. INTRODUCTION.

Like the human body's veins, arteries and capillaries, a city's transportation system is the lifeblood of municipal health. Transportation is a necessity for commuting to work or school, reaching shops and entertainment, delivering goods, hauling refuse and even travelling purely for recreation. The city with the well-designed and well-maintained transportation system will be more prosperous, less polluted and congested, and able to boast of a better quality of life than its poorly designed sister municipality. (Harnik 1982, p. 6).

Harnik's organic metaphor of the transportation system underscores the importance of an efficient system. Minimisation of the amount of unnecessary overlap and repetition is best achieved through integration. Unfortunately, theoretical and practical examples of integration between modes of transportation (i.e. Highways and Transit) are rare. The relationship between land use and transit, and to a lesser degree land use and highways, have been extensively researched. In most cases, examples of modal integration are concerned with integration within a particular transit system; for example, the integration of a rapid transit line and the bus system. This thesis is concerned with integration between modes (ie, highways and transit), as well as between those modes and land use.

The purpose of this chapter is to review some transportation and land use policies. Policy making, policy implementation, policy control, policy funding, and political context will be examined first through a theoretical literature review and second through practical examples. The implications and lessons learned for the successful implementation of an integrated system in Greater Vancouver will be outlined.

B. THEORETICAL LITERATURE REVIEW

Transportation issues are far reaching. Not only do they influence the everyday lives of urban residents, but also the long term livability and competitiveness of the city. Clearly a well designed transportation system, with all elements considered in regard to each other, is of utmost importance.

A mutual understanding between different sectors of planning is, however, of great importance at every planning level. In accordance with the kind of transport provision undertaken, not only local authorities and various private and voluntary organisations, but also regional and national authorities have to be involved. At the national level, for instance, it is important to balance different investments in highways, railways, tunnels and air traffic against each other, so that parallel systems, for which the number of travellers will never be sufficient, are avoided. The same criteria can of course be applied for each level of planning. (Norrbon 1987, p. 129).

Norrbon outlines some economic reasons for integrated planning. In this respect integrated planning will provide the most efficient urban form and encourage the most efficient use of the transportation system. Hibbs sees the emergence of the automobile as a catalyst for encouraging a shift from an efficient convergent system to an inefficient divergent system:

And while there is no doubt a deeper paradigm shift going on that reflects all economic thinking, it is as well to recognise the importance of technology in the urban transport situation. At the risk of over-simplification, it may be seen that the introduction of the electric tramway at the start of the 20th century transformed the divergent economy of the horse-drawn age into the convergent economy of big investment, only to be thrown into a divergent mode by the appearance of mass ownership of private cars. (1990, p. 1)

Therefore, the mass use of the automobile perpetuates an environment in which the use of land and human interaction becomes more and more spread out.

An essential element in the evolution of dispersed land use patterns has been the emergence of the automobile (including functionally similar vehicles such as vans, pickup trucks, and four-wheel drive recreational vehicles) as the dominant mode of personal transportation and the provision of highway infrastructure to accommodate automobile travel (Hanson 1992, p. 60).

The continued emphasis on new technologies which value the individual private interests over the public social interests decreases the densities of land use, thus increasing the inefficiency of the urban system.

It is this attitude which has created the current urban traffic conditions of today. Lynch and Hack point out that:

Wherever people are moving, there are social and aesthetic effects to be considered. These effects occur wherever people go, and not only when they happen to be on foot. In reaction to the horrors of American traffic, we think of persons as being unrelated to cars, which are mechanical monsters to be kept in tunnels and garages. But cars have drivers. (1984, p. 202)

Planners must consider humans and their everyday needs in planning for the future of communities. It is essential that every aspect of the urban system, from land use to the private automobile, be considered. Further, the inter-relations between each mode must also be considered. For example "the circulation system should be tested in every dimension. The plan is checked by mentally making routine trips and noting their nature. How does one get from the car to the house? How do children walk to school or adults to the bus?" (Lynch and Heck 1984, p. 206). Finally, Lynch and Hack tell us that the system is in a constant flux; it must be adaptable to future technologies and changes in human interaction (1984, p. 206). Therefore the goals of transportation planning must account for this flux.

Pikarsky and Christensen outline nine goals of transportation planning:

1. undertake sensible tradeoffs when faced with scarce resources;
2. find ways to live in harmony with the environment;
3. better meet our needs with less resources;
4. modify institutional arrangements to improve efficiency and productivity;

5. resist simplistic solutions for complex problems;
 6. obtain a better understanding of the consequences of our actions;
 7. respond to the basic needs of individuals;
 8. encourage increased participation in policy development by scientists and engineers;
 9. find useful and workable techniques for getting things done.
- (Pikarsky and Christensen 1976, p. 17-18).

The goal of integrated transportation planning is to mould an environment which encourages social interaction and land use densification - a convergent system in Hibbs terminology. Integrated transportation planning must also meet the needs of humans, and be far reaching enough to embrace the sound principles of planning as outlined by Pikarsky and Christensen.

1. POLICY MAKING

Policy making in the public realm is unique. "Private managers do not make policy in the same manner as public managers. Public management is dominated by federal [provincial in Canada] legislative policies" (Pikarsky and Christensen 1976, p. 12). Therefore, any public policy made by government agencies or corporations will be based on a different agenda to that made by private organisations. This agenda, which is usually based on the social and economic needs of the community, is dependant on the particular government organisation. For example, BC Transit will be concerned entirely with public transportation, while the Ministry of Transportation and Highways will be concerned with regional transportation issues. Land use planning is generally the concern of the local governments.

In his discussion on policy making, Glassborow distinguishes between two types of physical (land use) planning; "planning land use developments other than for transport, e.g. housing estates, schools, factories and office centres, and planning the transport infrastructure and its use,

e.g. road developments, construction of bus stations and car parks, traffic management and one way street systems" (1983, p. 109).

Reichman and Salomon argue that traditionally "transport policy-making has been motivated primarily by market and performance approaches" (1987, p. 161). While they accept this as valid, they believe that transport policy making must go further and include a needs assessment which complements the traditional approach. "This new approach recognises a need to access which varies by household, [and] life-cycle among others" (Reichman and Salomon 1987, p. 162).

In general, public policy making has been hindered either by a public misunderstanding of the issues or by more regional concerns. All too often, in Vancouver and elsewhere, government processes in developing plans have been largely difficult for the general public to interpret or participate in. As Dahms indicates, there is a need to restate problems so that individuals have a better understanding:

I believe we can improve the decision-making process for urban transportation if we take a fresh look at conventional statements of need, and try to formulate statements that put the issues in a way that permits citizens to grapple with the key policy questions, rather than simply confronting them with a statement of need that admits of no alternatives and paints a picture of the horrors that are to be expected if the community does not act promptly to meet the needs stated (Dahms 1971, p. 9).

2. POLICY IMPLEMENTATION

Policy implementation strategies are critical to the success of an integrated transportation plan. Brant, Low, and Shea point out that "coordinated implementation involves not only space but time as well. To fulfil a balanced plan, there must be means of implementing it in an organised fashion" (1971, p. 20-21). They argue that implementation strategies must be considered at a

very early stage in the planning process. Not only the logistics of implementation, but also the question of who will be responsible and how implementation will occur must be addressed.

Brant, Low, and Shea go on to say that "perhaps special development corporations should be created and given extraordinary powers to act as an agent for city, state and federal governments in implementing programs for specific areas or for specific projects" (1971, p. 20-21). Implementation must consider more than just the immediate concerns of transportation issues. It must also consider land use and the environment, among others.

A 1988 Twin Cities (Minneapolis-St. Paul) Staff report states that:

The use of land adjacent to the highway needs to be planned with highway capacity in mind. Travel management techniques that reduce or spread out the highway demand created by the new development need to be put into effect. Interests need to be meshed so local development can occur and regional transportation mobility can be preserved. (Metropolitan Council of the Twin Cities Area 1998, p. 13).

Development decisions can be integrated with those of transportation. The first way is to restrict the size and location of the developments. The second way is to implement travel demand controls to and from the new developments. The third way is to pass on the actual costs of new road and transit infrastructures to the development (Metropolitan Council of the Twin Cities Area 1988, p. 15). Therefore, while development decisions must be coordinated, implementation of those policies may be successfully done at the local government or community level.

3. POLICY CONTROL

What is required is some form of metropolitan control over the functional services. Give me control over sewer, water, and roads, and I would be happy to leave you the endless joust over neighbourhood zoning. We all know that growth follows the availability of infrastructure. (Babcock 1991, p. 82)

There is a need for a central control over the policies of various agencies in regard to transportation. Policy control implies the rationing of resources to better facilitate the operation of the transportation system. In this respect, policy control is a form of traffic management. By controlling the future form of all modes of transportation, the actual use of each mode can best be managed:

Traffic management proposals form an important element in most strategic transport policies. Measures fall into three broad groups: those which increase the capacity of the network, those which reallocate road space between competing demands, and those which aim to achieve environmental improvements. (May 1990, p. 25).

Determining which of the above measures, or the proportions of the above measures, that are to be implemented within a metropolitan region cannot successfully be done by individual agencies. As indicated earlier, if each agency is responsible for its own budget, it will be consistently looking out for its own interests. To get beyond this, a central agency is required. This will permit a more objective assessment of the types of measures to be taken, from increasing the network capacity to achieving environmental improvements.

Fischel provides a good argument for all regulations to do with growth controls to be done on a region wide, if not province wide, basis. Fischel's claim "is that such local ordinances cause developers to go to other communities. The most likely alternative sites are in exurban and rural communities, where the political climate, at least initially, is more favourable to development" (1989, p. 55).

4. FUNDING

Levin and Abend distinguish between cooperative and integrated financing:

Under a cooperative arrangement, the individual agencies arrange for and finance their own portion of a broader unified study. Under integrated procedure, both agencies agree on the scope of the work to be done and place their funds in a joint

account, so that neither agency theoretically has direct control over the outcome of any portion of the study (Levin and Abend 1971, p. 250).

Reichman and Salomon suggest when the market is not a feasible alternative that there are three areas of consideration for funding: 1) Earmarked versus blocked grants. Is the funding specifically for a project or is it provided to a municipality to use it in the most efficient manner it chooses; 2) Central government funding versus local or regional funding; and 3) Inner city share versus the suburban share (1987, p. 163-164). They go on to point out that "we generally have a large variety of administrative mechanisms which address themselves to the delivery of transport services in the context of public policy. What is missing is a recognition that the provision of transport services should be considered in terms of a comprehensive need-assessment framework" (Reichman and Salomon 1987, p. 164).

5. POLITICAL CONTEXT

For a regional integrated transportation plan to work it requires the backing of all the people involved. This includes the governing agencies, the taxpayers, and the business community who stand to gain or lose in any restructuring of the infrastructure. Peter Self indicates that for major changes to occur they require political backing and co-ordination. However, "in what circumstances do these things occur? They do not necessarily occur through the existence of a regional or metropolitan authority or body of some kind, even if it is directly elected" (Self 1987, p. 12-13).

Self argues that for integrated planning to occur it requires a strong centralised authority:

Metro governments, as usually conceived, may not prove to be very effective strategic planning authorities, although circumstances will vary.... Moreover, a metro government will not be able to plan effectively if it includes other powerful local governments....

Finally, metro governments cannot do without the support of the central or provincial government; and such governments will often be jealous of a large

metro government which is seen as a rival to their own powers. (Self 1987, p. 27).

Therefore, the success of integrated transportation planning will depend to a great deal on the relationships established between the various levels of governments.

Backing up Self's arguments against regional planning by metropolitan governments is Levin and Abend's argument for regional planning to be performed by state (or provincial in Canada's case) governments:

[M]etropolitan planning and development can be best approached as a branch of state government. With all its glaring weaknesses, state government offers the most realistic level for responsive metropolitan decisions.... First, in practical terms, the state governments are not likely to consent to the creation of 250 or so strong metropolitan governments because this would imply a transfer of power that would emasculate them. Second, many metropolitan problems are extraregional and require state or even interstate action for their solution... (Levin and Abend 1971, p. 259).

They raise a good point. Not only are regional governments seen as a threat to provincial and local governments, but the geographical extent of the metropolitan region may change over time. Therefore, it will become necessary to enlarge the region incrementally to keep up with the growth of a region, or co-operation is required between adjacent regions. The latter has become the case in Toronto, where the commuter shed has far surpassed the geographical extent of the Metropolitan Toronto administration area. Levin and Abend go on to say that:

Based on this experience, it is reasonable to suggest that metropolitan area planning and development should be, in fact, a branch of state government and, accordingly, should be administered through the state rather than through regional agencies that must look to the federal agencies for financing and to the state agencies for decisions. (Levin and Abend 1971, p. 259).

Self, Levin and Abend all put forward powerful arguments. In each case the effectiveness of a regional government has been questioned based on its relationship with the other levels of government. They argue that for planning to be effective and efficient it must be carried out by

the level of government that has the ultimate authority. Transfer of power to the regional governments will, most likely, be opposed by higher order governments because these new regional governments will be viewed as becoming too powerful and thus undermining the integrity of the provincial power base.

The political sensitivity of any project must not be understated. Voorhees indicates that the political question all too often gets overlooked. "In the desire to mobilize action, too much attention has been concentrated on one or two options with little awareness of the receptiveness of the political decision-making process to them or to their real potential for improving the urban environment" (Voorhees 1980, p. 21).

In examining growth management programs in various states, Bollens suggests that there are three intergovernmental structures. The first is termed Preemptive/Regulatory. The state retains full control over local planning authority and the right to repeal authority which the states deems to be more than local importance (1992, p. 457). Vermont, Florida, Hawaii, New Jersey, Maryland, and California each have examples of this form of control. The second form of inter-governmental structure is termed Conjoint/Planning. The state imposes regional goals and standards, but the implementation is at the local level. The consistency of the local plan with regional goals is achieved through the use of penalties and mandates (Bollens 1992, p. 457). "Conjoint is used here as in Welborn (1988) to indicate an inter-governmental relationship that rests mid-point between preemption and voluntary cooperation" (Bollens 1992, p. 458). Oregon, Florida, New Jersey, California, Hawaii, Rhode Island, Maine, and Washington State each have examples of this form of control. The third form of inter-governmental structure is termed Cooperative/Planning. The state imposes local goals and standards but the implementation is voluntary at the local level. The consistency of the local plan with regional goals is achieved through the use of incentives. These strategies attempt to stimulate rather than mandate local action and thus they closely resemble the 'cooperative federalism' of Elazar (1962) and Grodzins

(1966) (Bollens 1992, p. 458). New Jersey, Vermont, Georgia, Cape Cod, Maryland, and the Greater Vancouver Regional District each have examples of this form of control.

Bollens concludes that because of the complexities of inter-governmental cooperation, state planning will not be easy.

Collaborative state-local planning approaches appear to hold greater promise for achieving growth-accommodation goals, compared to circumstances in which such goals are pursued through reactive state regulations that often preempt and antagonise local governments and citizens (Bollens 1992, p. 463).

Gale defines the urban growth models based on the form of state- regional-local control. In this respect, there are four types of growth management models:

- 1) State Dominant (Oregon, Florida, Maine, and Rhode Island);
- 2) Regional-Local Cooperation (Vermont and Georgia);
- 3) State-Local Negotiated (New Jersey); and
- 4) Fusion (Washington State)

(1992, p. 435).

Gale suggests that "from the first (1973) to the most recently enacted program (1990 to 1991), the trend appears to be away from the state dominant model and toward the other three paradigms" (1992, p. 437).

6. LESSONS FOR GREATER VANCOUVER

Policy making in Greater Vancouver suffers from many of the same problems as outlined in the literature review; public misunderstanding of issues, fragmented political structure, and the lack of a single authority with the power to act. Therefore, for reform in policy making to occur in Greater Vancouver many of these issues must be overcome. The issues should be restated, following Dahms recommendation, so that the general public have a clear idea of what the problem is and what the solutions may be.

Babcock's plea to give him control of the infrastructure rings true for Greater Vancouver. It is the provision of infrastructure that allows municipalities to sprawl and encourages the use of the private automobile. Both of these result in what Hibbs describes as a divergent economy. In order to switch this around, control over infrastructure is key to controlling the growing traffic problem. Central control over these elements will enable the Greater Vancouver economy to switch from divergent to convergent which will facilitate efficient use of the transportation network.

In times of increasing taxes and expenses it is necessary to find alternative forms of funding. It is also important that an integrated system receive a reliable inflow of funding. Levin and Abend's integrated funding approach combined with Reichman and Solomon's earmarked funding appear to be the most effective. The approach offers the taxpayer and politicians at each government level assurance in knowing where their money is being spent. Under the integrated approach, a central agency or a coalition of agencies would decide the appropriate projects to be funded based on regional and local goals. Existing and new taxes would similarly be earmarked for a particular project or program.

Self suggests that a regional government may not be the best approach to solving the regional transportation problems. Therefore, a local-provincial partnership may provide the ultimate solution for Greater Vancouver. Levin and Abend suggest that the planning done by a branch of state (provincial) government to be the most effective. The success of the Vancouver Regional Transit Commission in providing regional transit services in Greater Vancouver suggests that this approach has possibilities. Considering the constant flux in human interaction and ideals, the government structure used must be adaptive and responsive to the local needs as well as the regional needs. Therefore, Bollens conjoint approach and Gale's state-local negotiated or fusion models appear suitable. Each of these will enable some local control and some regional control.

In addition, both approaches make concessions to the individual taxpayer's local concerns and big government's regional concerns.

C. PRACTICAL EXPERIENCE IN OTHER CITIES

This section will examine some actual examples of integrated planning. The examples selected are included, not necessarily because they are the ultimate solution, but because they offer lessons that may be learned. In addition, the availability of the data has played a factor in the inclusion or exclusion of specific examples.

The Canadian Constitution, 1982, has largely excluded the federal government from any form of intervention in transportation issues. This is not the case in the United States. In that country, the federal government is able to enact laws requiring municipalities to meet certain objectives and requirements. "In the US, every city must complete a comprehensive plan in order to receive federal funding. The plan must consider air pollution, energy conservation, rights of minorities and women, access by disabled and elderly, and assure public participation" (Harnik 1982, p. 7).

1. POLICY MAKING

Policy making in Houston and Oregon are examined. Houston is interesting as it takes a pro-business approach to policy making, while Oregon is one of the first state sponsored models.

a. Houston

"Houston, a sprawling city of 1.6 million residents in 587 square miles [1500 square kilometres], has long exemplified the working of the free-market development process, unhampered by public regulation..." (Porter 1993, p. 27). Confronted with huge transportation problems Houston has implemented an integrated approach to policy making. The Regional Mobility Plan

requires cooperation between modal interests and business interests. In order to address the problems of the region, "the state department of transportation allowed the small supergroup to set the agenda and priorities and to facilitate this complex process" (Dunphy 1993, p. 34). Therefore, in the case of Houston, policy making is under the control of the business community which is supervised by the state transportation department.

The Houston model tends to rely heavily on expensive supply based solutions to its transportation problems. However, given the past pro-business anti-planning ideological framework in Houston, this is a step in the right direction. While the model could not be used as it is in Vancouver, elements of the approach may be adapted. In his review of the Houston model, Dunphy tells us:

- 1) do not limit the options to existing funding;
- 2) agencies must work together;
- 3) private participation is needed;
- 4) there is no single solution;
- 5) have a measurable objective; and
- 6) keep it simple

(1993, p. 34).

b. Oregon

In Oregon, the LCDC [Land Conservation and Development Commission] sets state planning goals, promulgates rules to pursue them, and determines whether local plans are consistent with those rules. Local governments prepare plans and revise them until they meet LCDC approval. Planning is thus an integrated process. (Knaap and Nelson 1992, p. 215)

Local governments must coordinate their plans with the other local governments. Disputes are resolved through the use of a regional planning board (Knaap and Nelson 1992, p. 215). "At the

state level, a variety of agencies affect (sic) land use. State agencies construct highways, airports, and parks; they also protect fish and wildlife, environmental quality, and public health (Knaap and Nelson 1992, p. 215). State agencies are required to meet the requirements of Oregon's planning goals and must therefore submit coordination programs to the LCDC (Knaap and Nelson 1992, p. 215).

2. POLICY IMPLEMENTATION

Policy implementation in Oregon and Washington State will be examined in this section.

a. Oregon

Implementation in Oregon is the responsibility of the local governments. However, "At the heart of Senate Bill 100 [the Oregon Land Use Act] is the requirement that all cities, counties, regional agencies with planning authority, and other state and local agencies that affect land use prepare coordinated, comprehensive land use plans consistent with state goals" (Knaap and Nelson 1992, p. 22).

b. Washington State

Like Oregon, Washington State requires that the local communities, counties, and state agencies prepare plans which meet state goals. However, in Washington State, only those communities which are experiencing rapid growth, or have a population over 50,000 people are required to participate. The other communities may participate if they so desire (Gale 1992, p. 435).

Therefore, while the implementation of plans in both states is at the local level, the Washington model provides for regional differentiation in needs (Gale 1992, p. 436).

3. POLICY CONTROL

Policy control experiences in Houston and Oregon will be examined in this section.

a. Houston

In the case of Houston, policy control is in the hands of a small group of business people under the direction of the state department of transportation (Dunphy 1993, p. 34). However, Dunphy notes that "battles over transit have taken their toll on the alliance between highway and transit supporters" (1993, p. 33) indicating that the approach is far from flawless.

b. Oregon

Land use control in Oregon is established through the use of Urban Growth Boundaries (UGBs).

The Oregon Land Use program is often described as innovative and pioneering - perhaps for two reasons. First, Oregon was one of the first states to retract from local governments, in whole or in part, the authority to plan and regulate land use, thus establishing a state role in land use control. Second ... Oregon's program embraced many unique approaches to contemporary land use issues, including urban growth management, public services, affordable housing, economic development, and resource conservation. (Knaap and Nelson 1992, 187).

Knaap and Nelson go on to say that the establishment of Urban Growth Boundaries in Oregon require the cooperation of the state, county, and local governments. Therefore "the evidence from Oregon suggests that UGBs facilitate intergovernmental coordination" (Knaap and Nelson 1992, p. 66-67).

In Oregon, the control of the planning process is "accomplished primarily by LCDC and primarily at three points in the planning process: during plan acknowledgement, during periodic plan reviews, and during certification of state agency coordination plans" (Knaap and Nelson 1992, p. 217).

4. FUNDING

This section examines experiences with funding in Houston, San Francisco, and the Twin Cities.

a. Houston

Funding for the Houston Regional Mobility Plan came from several new sources. Examples include increased state funding in the form of a State Motor Fuel Tax, vehicle registration taxes, and the more equitable allocation of state taxes. These taxes raise approximately \$500 million annually. Another source of funding is the transit sales tax. This source raises over \$180 million annually. However, it is not being applied directly to transit and there has been some criticism of its applicability. Bond programs, toll roads and direct private sector participation have all contributed significantly to the funding and building of the road infrastructure (Dunphy 1993, p. 32).

b. San Francisco

In San Francisco Bay Area there are various forms of funding other than government imposed taxes. Funding can be raised through private corporations, user fees as well as the traditional grants from the other levels of governments:

Financial support [is] mainly by employers and property owners through membership fees based on size of firm (employees or square feet). Many receive in-kind contributions such as staff, office facilities, and administrative services from members (Dunphy and Lin 1990, p. 45).

Regional coordination and funding for transportation planning in the Bay area (San Francisco) comes from the Metropolitan Transportation Commission (MTC). This is a federally designated metropolitan planning organization. MTC approves transportation projects and receives state and federal funding and allocates funds from other sources for transit operations (Dunphy and Lin 1990, p. 119).

c. Twin Cities

In the Twin Cities of Minnesota (Minneapolis-St. Paul) funding for infrastructure costs, including transportation, is controlled by the Metro Council. "The operating subsidiaries of the Metro Council depends on fees, grants from the legislature, and bond issues, all of which must be approved by Metro" (Babcock 1991, p. 83).

The Metropolitan Council of the Twin Cities Area recommends that funding should consider that:

Highway and Transit funding needs should be addressed jointly.

Funds should be generated by users and others who benefit directly, with provisions made to meet the basic transit needs of those unable to pay.

Funding sources should be adequate to maintain current service levels and should grow as real costs grow.

Funds should also be stable and predictable, and probably derived from both public and private sources.

(Metropolitan Council of the Twin Cities Area 1988, p. 16).

5. POLITICAL CONTEXT

This section will examine the political context of integrated planning approaches in Oregon and Orange County, California.

a. Oregon

Planners in Oregon realise that the political acceptability of a particular project will depend on the nature of that program and the socio-economic status of the residents. Knaap and Nelson argue that the Oregon model serves to "provide insights into the focus and policy direction of state-level planning programs. Since support for state planning comes primarily from urban, service based workers in metropolitan areas, by implication, politically viable state planning programs must contain elements that elicit the support of those constituencies" (1992, p. 204). In this respect, successful transportation planning must consider, not only those goals directly related to reducing congestion, but also other related goals. Thus, Knaap and Nelson go on to say that "successful state planning initiatives are likely to contain objectives that include urban

growth management, environmental preservation, and urban economic development, although conflicting goals may require lip service at the adoption stage" (1992, p. 204).

b. Orange County

A University of California-Irvine survey of Orange County illustrates the reasons for lack of support by the residents for a regional government. In reviewing the survey, Baldassare points out that the lack of support is not because there is no concern for traffic or growth. Certainly these two factors ranked the highest on the survey. Also the lack of support cannot be blamed on the 'provincial' view of community issues. The annual survey revealed a high degree of awareness on these issues (1991, p. 117).

The factors in the Orange County annual survey that best explain the public's lack of enthusiasm for regional solutions involves attitudes toward government. By a two to one margin, local residents believe that the current system of city and county government sharing responsibility was effective. Whatever frustrations they may have with traffic and growth problems, residents do not associate these community problems with a need to change the local political structure. (Baldassare 1991, p. 117)

Based on his analysis of the survey's data, Baldassare concludes that, for the suburban residents, "regional powers must be proved to be more effective than the now-favoured city and county government approaches to problem-solving. Suburban residents would thus need to be shown concrete examples of how traffic and growth would improve with a regional authority" (1991, p. 118).

6. LESSONS FOR GREATER VANCOUVER

The Houston and Oregon experiences suggest that there needs to be a mechanism for local involvement and dispute resolution. Houston's approach to give control over policy making to a group of local business interests ensures that the plan will be economically viable. Dunphy's six conclusions or lessons provide a framework from which to mould an integrated plan for Greater

Vancouver. Oregon, on the other hand, has a state imposed model. In this case, the public is involved mainly through their local planning agencies. In Vancouver, the policy making and implementation processes must have provisions to involve the public in a meaningful manner.

Policy control in Oregon is managed by the use of Urban Growth Boundaries. By maintaining control over the policies at three key locations - during plan acknowledgement, during periodic plan reviews, and during certification - Oregon is able to ensure that the regional goals are met while the integrity of local planning is maintained. A similar model for Greater Vancouver could incorporate this check-point control system.

The Houston, San Francisco, and Twin Cities experiences suggest that alternate forms of funding, usually from the private sector, are an ideal and acceptable means of funding infrastructure improvements. However, it is important that the funding be channelled to the most appropriate infrastructure to ensure the efficient growth of the community and its transportation network. Therefore, funding must be carefully controlled by a central agency which will allocate funds as it sees fit.

The Oregon referenda and the Orange County study suggest that the public's assessment of the problem is not always how planners and politicians envision it. It is therefore important to have a good understanding of what the public wants and is willing to support. Political support will closely follow popular support. As the public is generally more distrustful of larger governments than smaller governments, it is important to retain the integrity of local governments and use them to their best advantage. Therefore, an integrated transportation framework must include a significant role for local governments.

D. CONCLUSION

This chapter has been concerned with reviewing ways and means of improving the efficiency of metropolitan and regional transportation systems. Self defines efficiency "to be the argument that by having a planned development the necessary investment and infrastructure can be co-ordinated more effectively, economies of scale can be realized...." (Self 1987, p. 4-5).

The current situation in Greater Vancouver is a consensus planning model, or what Bollens terms "cooperative federalism," with no central authority at the helm. An integrated process would provide direction at the higher provincial level, while allowing flexibility at the local level. Moving from the existing Greater Vancouver consensus model to this new approach need not be difficult nor politically unacceptable. Elkin, McLaren and Hillmen suggest that the solution is to proceed with change in an incremental fashion (1991, p. 72).

Kirlin reminds us that regional problems are not new, and that attempts at regional governance have been tried before. These 'orthodox' approaches have generally attempted to reduce the number of local governments, create one metropolitan government, reorganise service responsibility based on 'rational design', concentrate powers among bureaucrats and elected officials, and rely on higher governments to solve regional trans-municipal boundary problems (Kirlin 1991, p. 122). Recognising the public's resistance to regional governments, lack of funding and an increase in the understanding of the weaknesses of large governments, Kirlin suggests that the old approach is no longer valid (1991, p. 123). Recognising this, Kirlin outlines ten emerging ideas which will provide a framework for reorganising metropolitan governments:

1. region specific institutions are needed to respond to regional issues;
2. the fragmentation of the metropolitan area must be overcome;
3. the region must have political accountability;

4. regional, as well as neighbourhood governance, must be strengthened;
5. recognise that plans and bylaws are static, and thus are limited tools;
6. make better use of legislative decision rules and of prices in governance;
7. make better use of the private and the public sectors;
8. ensure equitability of access to policy making to all people;
9. recognise that a vision is critical; and
10. remember that effective government requires a sustained effort by everybody involved

(Kirlin 1991, p. 124-131).

The Oregon approach, the basis for many other U.S. state integration models including Washington State, provides some insight on how this model works:

[M]ultiple statewide planning goals, a state and local planning structure, and local implementation represents the fundamental elements of Oregon's statewide planning program. Multiple statewide planning goals establish the scope of state land use planning. An intergovernmental planning structure helps coordinate the plans of disparate state and local agencies. Local implementation serves to maintain local control over land use decision making. But because the state participates less in plan implementation than in plan formulation, state interests are less effectively expressed in land use than in land use plans. (Knaap and Nelson 1992, p. 218-219)

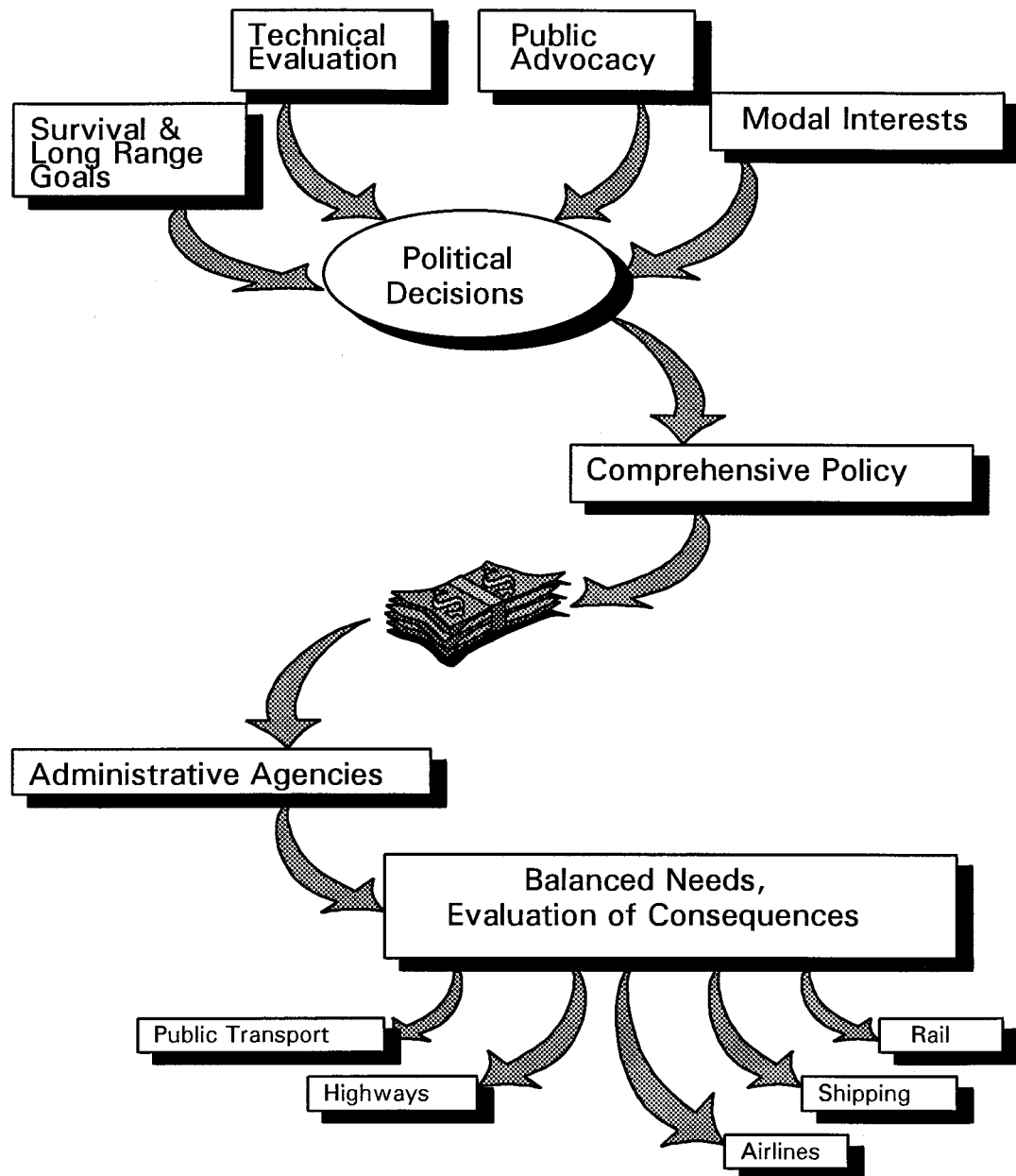
The conjoint approach used in Oregon has been widely adapted in many other U.S. States, and it is adaptable to the Greater Vancouver Region.

Each of the practical and theoretical examples in this chapter have attempted to address the problem of political fragmentation typical of urban centres throughout North America. They are admissions that the old local based planning approach is no longer efficient in times of increasing population pressures and increasing fiscal restraints. Pikarsky and Christensen argue

that planning in the U.S.A. is moving from the "Modal Interests" individual approach, to an integrated policy involving more than just the modal interests (1976, p. 86-90). Figure 2 illustrates this integrated emerging policy, which centralises the policy making, policy control, and financial processes for all involved parties.

Most of the literature reviewed in this chapter is involved primarily with land use planning in the U.S.A. as well as provisions for controlling or accommodating urban growth. Nevertheless, the principles may be applied to a framework designed primarily to integrate the modal and land use interests of a community in Canada providing that the major logistical and legislative differences are noted and dealt with. As argued in Chapter II, Greater Vancouver is currently operating within the "Modal Interests" individual approach. This chapter has served to provide theoretical and practical frameworks from which to develop an integrated approach to planning based on the Pikarsky and Christensen model. Chapter four will outline a new framework for Greater Vancouver transportation planning. Lessons learned in this chapter will be incorporated and adapted to the unique ideological and political situation which exists in Greater Vancouver.

FIGURE 2: EMERGING TRANSPORTATION PLANNING FRAMEWORK



Source: Pikarsky and Christensen 1976, p. 89

IV: A POLICY INTEGRATION FRAMEWORK FOR GREATER VANCOUVER

A. INTRODUCTION

This chapter is concerned with developing a policy framework for integrated transportation planning in Greater Vancouver. Whereas Chapter II explored the existing conditions in Greater Vancouver, this chapter will explore what each agency must do if integrated planning is to be achieved. The first part of this chapter will be devoted to the theoretical organisation of the new framework, part two will be a case study designed to show how the new framework would work in practice.

B. THE NEW FRAMEWORK

Chapter II illustrated the importance of local autonomy over planning powers in British Columbia. For example, the planning authority of the Lower Mainland Regional Planning Board (LMRPB) was deemed too powerful by the provincial government. It was subsequently divided up into four smaller regional districts. The planning mandate of these districts was removed in 1983 in favour of local government (Forum for Planning Action 1991, p. 3). Therefore, as indicated by Kirlin (1991), any attempt at centralising planning authority in a new regional bureaucracy will most likely fail. These types of authorities will be viewed as another level of government by the general public and a threat by the provincial government to its own authority (Levin and Abend, 1971).

A review of the literature and practical experiences in other cities indicates that funding and policy control are the key areas for central control. While involvement is essential in policy decision making and policy implementation, these functions may be successfully carried out at the local level. The process of planning combines many steps in the development of plans, each

of which builds on previous steps, and a plan may be influenced at any juncture. The steps identified in this thesis are policy making, policy implementation, policy control and funding.

It will be argued in this chapter that Greater Vancouver needs a regional integrated transportation planning system that is equally represented by the provincial government and the local governments. The centre of this thesis is not a new level of government or increased powers for a regional district, but a new conjoint provincial-local organisation which controls and finances the various aspects of transportation and land use planning in Greater Vancouver.

The proposals contained in this chapter are designed to operate within the existing political structure. While it may seem much more efficient to reorganise local governments and redistribute the allocation of powers among them, for the purposes of this thesis this is not considered an option. First, the reorganisation of local governments may be extremely time consuming and is generally not popular with politicians. Second, it assumes that there is the political will to make major changes in the political structure. Third, as outlined in the literature review, this reorganisation is usually at the detriment of the provincial government.

The proposals put forth are designed to require a minimum of political intervention. It must be pointed out that integration cannot occur without some changes in provincial legislation; all land use controls and planning fall under the jurisdiction of provincial legislation.

The key to the successful operation of the new framework is the establishment of The Vancouver Regional Transportation Commission. This commission is designed to deal with the future planning of the region's transportation network, provide flexibility, make the best use of the existing political structure, provide a major role for local governments and provincial agencies, and be implementable with minimum changes to provincial legislation.

1. THE VANCOUVER REGIONAL TRANSPORTATION COMMISSION

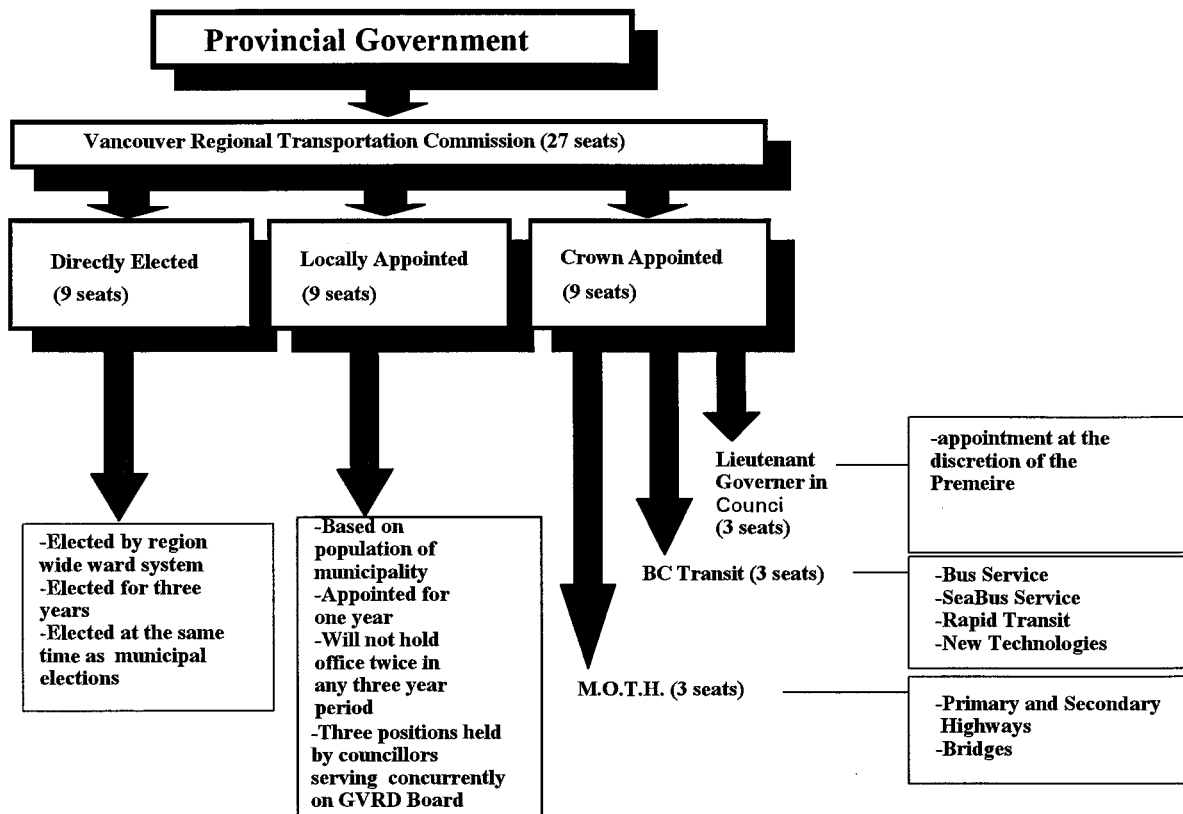
The Vancouver Regional Transportation Commission (hereafter referred to as the new commission) is based on the existing Vancouver Regional Transit Commission and the Greater Vancouver Regional District (GVRD). The new commission would have an expanded role in transportation planning including such issues as land use and highway concerns. As with the existing regional commission each municipality would be given a chance to sit on the new commission for a set term. In addition, the GVRD, BC Transit, and the Ministry of Transportation and Highways must also sit on the new commission. This will ensure that both regional and local concerns are addressed.

The new commission is favoured over an expanded role for the GVRD simply to overcome concerns of the GVRD becoming a fourth level of government. While technically a provincial organisation, the GVRD is made up entirely of councillors from local municipalities and unorganised territories. The councillors from the local municipalities are elected by the people to municipal office and then appointed by the municipal council to the GVRD Board. The councillors from the unorganised territories are elected by the people to the GVRD Board. Therefore, while the bureaucrats are provincial employees, the deciding body is locally oriented. Each councillor will, most likely, be looking out for the interests of their own community. The GVRD could be an effective organisation in the operation of a regional integrated transportation framework only if the structure of the organisation is changed. As indicated earlier, this development will be seen as a threat by the local and provincial governments. A major premise of this thesis is to develop a framework which will fit into the existing political structure of Greater Vancouver. Therefore, the GVRD will maintain its role in long range planning in an advisory capacity.

a. Organisation

The new commission should be made up of voting representatives which are one third appointed by the municipalities, one third appointed by the Crown (BC Transit, Ministry of Highways, and the Lieutenant Governor in Council), and one third directly elected (Figure 3). This arrangement recognises that appointed officials will be looking out for the interests of their respective municipalities, while directly elected officials will be looking out for the interests of the individual. In order to maintain the balance, any decision requiring a vote will require a two thirds majority. It is recommended that there be nine positions in each of the three categories for a total of twenty seven representatives on the VRTC. This arbitrary number

FIGURE 3: ORGANISATION OF THE VANCOUVER REGIONAL TRANSPORTATION COMMISSION



was chosen as it is easily divisible by three, and the total number of twenty-seven councillors is not too large a group for face to face discussions. It is important to keep the total number of representatives to a minimum in order to retain a sense of purpose.

The directly elected officials will each be elected by and represent one of nine wards, and will hold office for three years. To ensure fair and effective representation, the entire region should be divided into nine wards which cut across the different socio-economic enclaves of Greater Vancouver. For example, the nine wards could be configured as nine narrow strips extending from Point Grey to Maple Ridge and Langley. This form of division ensures that each councillor is responsible to urban and rural residents. The elections will be held in conjunction with the province wide municipal elections.

The nine municipally appointed representatives will hold office for one year, and will not be appointed more than once in any three year period. In recognition of the unique role of the GVRD in the region, three of these appointed positions must be held by municipal councillors concurrently appointed to the GVRD Board. The frequency of representation, and the total number of representatives at any one time will be based on the population of the municipality. Therefore, Vancouver will always have one or two representatives on the VRTC, while Port Moody may only have one every three years.

The nine appointed representatives from the Crown (three appointed by BC Transit, three appointed by the Ministry of Transportation and Highways, and three appointed by the Lieutenant Governor in Council) will hold office for a period of three years.

The three way split between directly elected officials, locally appointed officials, and Crown appointed officials represents the need to provide a balanced deciding body which provides fair representation to all concerned. In this conjoint approach, the general public and the two levels of government (local and provincial) each receive a fair degree of representation. The Provincial

government is allocated a one third representation through the nine positions occupied by the Crown corporations and the Lieutenant Governor in Council. The local governments receive one third representation through the nine locally appointed positions. While the general public receive one third direct representation, in effect they are represented one hundred percent, either directly, locally or provincially.

b. Fees

While the new commission is designed not to be an undue burden on the taxpayer, there is nevertheless the issue of operating expenses. It is proposed that the fees be organised much the same way as the structure of the new commission. Therefore, one third of the cost will be borne directly by the Province, one third by fees collected from the municipalities, and one third by fees collected directly from the electorate. The latter may be in the form of a gasoline or parking levy. It is important to ensure that the funding for the operation of the new commission is clearly earmarked, so as not to be confused with funding for road and transit projects. In this way, the new commission will remain accountable to the general public, the municipalities, and the Provincial Government.

c. Goals

The goal of the new commission is to regulate the urban environment to ensure the future efficiency of the metropolitan transportation system. The first step should be to establish the regional goals to which each municipality and government agency must conform. As indicated by Dahms (1971), the problem must be stated in a manner that is understandable to the general public; the success of planning depends on its acceptability and adaptability. In addition, Kirilin (1991) reminds us to ensure accessibility to all. An excellent starting point is the already completed Livable Region Strategy: Proposals document by the GVRD. By adopting (or adopting a revised) Livable Region Strategy: Proposals (or any other regional goals) the new commission will be elevating it from a recommendation to an adopted policy. This policy will

become the basis for decision making within the new commission. Whereas today the document is merely a guide, in the future it will become law.

Another important goal of the new commission is its expandability. As the Greater Vancouver Region grows it will become necessary to incorporate the surrounding municipalities and their regional districts. An excellent example of this expandability is the 1991 annexation of Pitt Meadows and Maple Ridge by the Vancouver Regional Transit Commission. Pitt Meadows and Maple Ridge remain (in 1993) outside the Greater Vancouver Regional District, however, the transit services are provided by the Vancouver Regional Transit System. The new commission will similarly expand as required into municipalities in other regional districts. The legislation empowering the Vancouver Regional Transportation Commission must be flexible enough to allow for this expansion.

The Vancouver Regional Transportation Commission must not threaten the integrity of the provincial or the local governments. Higher levels of governments (provincial in this case) may resent and oppose powerful metropolitan governments (Self 1987). Any new organisation of the political structure which favours the regional government over the provincial would be seen as political suicide by the provincial politicians (Self 1987; Levin and Abend 1971). In addition, the general public tends to be more distrustful of larger governments than local governments, and that local governments are in the best position to solve local problems (Knaap and Nelson 1992; Baldassare 1991). Therefore, the creation of the new commission is designed to give the local governments as much control as possible without compromising regional and provincial concerns. It must have a small paid staff whose role is to provide direction and a liaison to government agencies, private individuals, and municipalities. The actual technical work should be carried out by the staff of the various municipalities and agencies (such as the GVRD). In this regard, the model attempts to make the most out of existing resources (Pikarsky and

Christensen 1976). The model is thus conjoint; it is a combination of regional goals and local implementation (Bollens 1992).

2. GREATER VANCOUVER REGIONAL DISTRICT

As argued earlier, the GVRD was not considered a suitable agency for the purposes of integrated transportation planning. The GVRD being made up of indirectly elected officials would be seen as a threat to the general public, the Provincial Government, and the local municipalities. The general public would see it as another level of government which does not have to answer to them. The Provincial Government would feel threatened and be unwilling to turn over provincial functions such as transit and highways to a powerful regional organisation; this is especially true if the Provincial Government is expected to continue to provide funds to the agency. The municipalities would also feel that their power base, especially with regards to land use planning, is being undermined.

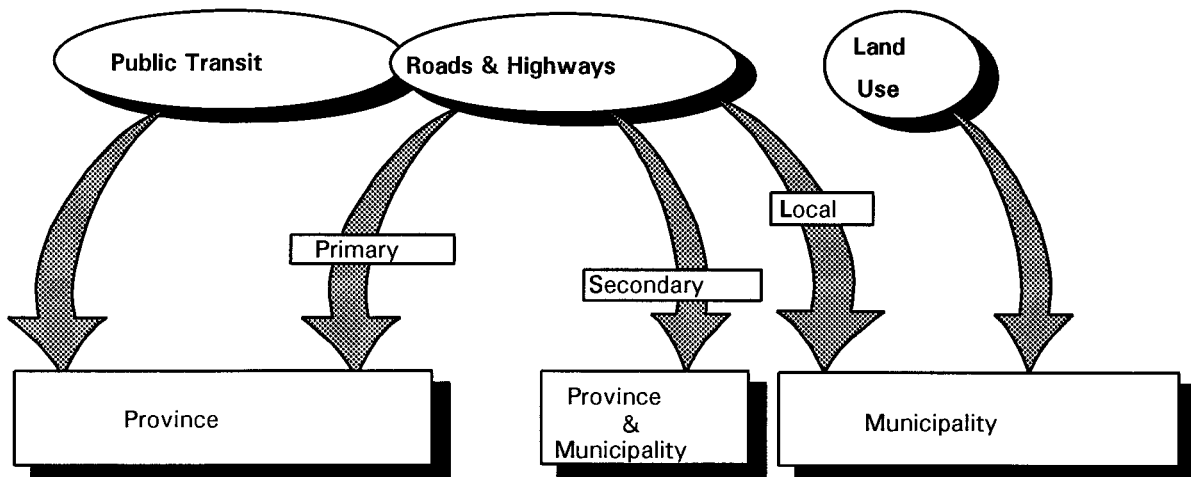
The GVRD will work closely with the new commission providing many technical and advisory roles which the commission is unable to do. From an operational point of view, the new commission may be seen as an add on to the GVRD; the GVRD will continue to develop long range and medium range plans which it will present to the new commission for approval and adoption. In many respects, the new framework will strengthen the role of the GVRD in regional planning through its association with the new commission.

3. POLICY MAKING

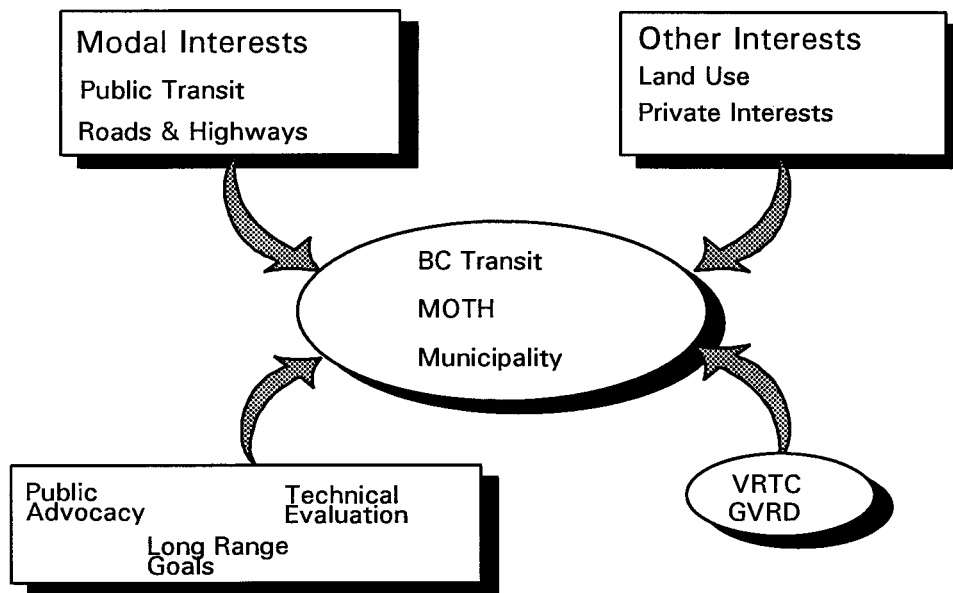
Much of the policy making would remain under the control of the individual jurisdictions. However, this is where the similarity with the existing framework ends. Figure 4 illustrates the changes between the old consensus and the new integrated policy making models.

FIGURE 4: POLICY MAKING IN GREATER VANCOUVER

4A: Existing Policy Making Framework



4B: Integrated Policy Making Framework



Source: Following Pikarsky and Christensen 1976, p. 88-89

Whereas the old system provided no formal framework for cooperation between the modes, the new one does. Each of the jurisdictions within the circle on figure 4 has an interest in the policy making of the others. This interest is served indirectly by the input of the Vancouver Regional Transportation Commission and the GVRD (and other regional districts as expansion warrants). The role of the VRTC and the GVRD is purely advisory; in this way, the integrity of local needs and nuances is retained while the greater good of the region is addressed.

Transit policy making would be functionally similar to what is available today. However, the expanded roles of the new commission ensure that other modes are also considered. The Ministry of Transportation and Highways would retain policy making functions with regards to primary and secondary roads. However, they must now be subject to a review by the new commission. Similarly, municipalities will retain responsibility for policy making regarding local roads subject to a review by the Regional Transportation Commission. Land use policy making will be essentially local with regional concerns addressed by the Vancouver Regional Transportation Commission. In this regard the new commission will be involved in the creation of a set of criteria to which municipalities are expected to conform. The new commission will concern itself with the needs of the region. Thus flexibility will be inherent in the system which will allow for variation between the needs of municipalities.

4. POLICY IMPLEMENTATION

Similar to policy making, there would not be much difference in the policy implementation stage. Following recommendations made during the literature review, the actual implementation of the projects is left to the appropriate jurisdiction (Brant, Low, and Shea 1971). It is assumed that the controls imposed at earlier stages will suffice in ensuring the project is acceptable.

Brant, Low and Shea argue that implementation is best left to "special development corporations" (1971). The Greater Vancouver region already has an established network of development corporations and agencies; BC Transit is the agency responsible for all aspects of

transit, the Ministry of Transportation and Highways is responsible for roads and highways, and the local municipality (by law a corporation) is responsible for local roads and land use planning. Therefore, this thesis proposes that an integrated transportation plan must make use of these existing agencies and corporations. This not only makes the best use of resources, but it also retains an element of local control and familiarity over the development of the communities. Policy implementation at the local level provides a retained feeling of autonomy in local developments and needs. Considering the powerful force of local governments in the Lower Mainland, this concern cannot be overstated.

BC Transit will still be responsible for the implementation of transit routes within the region, under the guidance of the Vancouver Regional Transportation Commission. Functionally, for the Ministry of Transportation and Highways, there will be no change in the process of policy implementation. The implementation of primary road projects will be by the Ministry of Transportation and Highways, secondary highways will be by the Ministry in cooperation with the municipalities, and local roads will remain the responsibility of the municipality. Like transit and highways there is no real change in the process of policy implementation for land use. It will remain with the local body responsible.

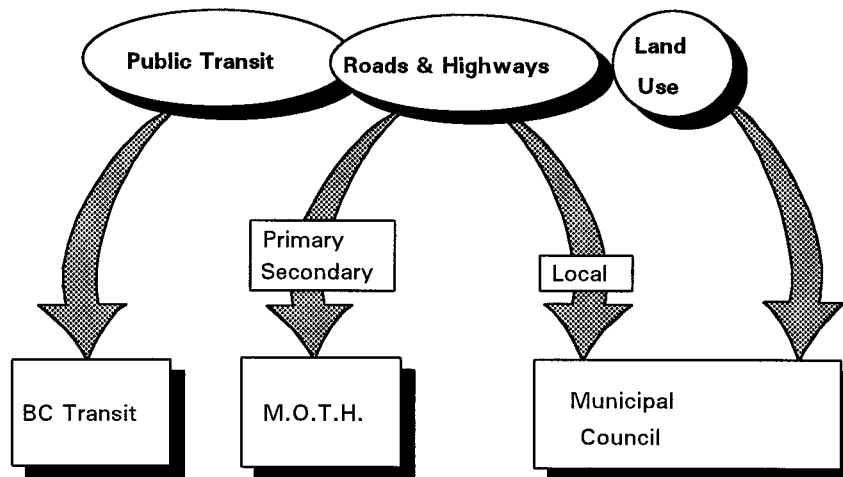
5. POLICY CONTROL

Policy control is one of the two areas in which the new framework differs greatly from the old. Figure 5 summarises the major differences between the two approaches. The establishment of the Vancouver Regional Transportation Commission as the sole agent responsible for policy control is crucial to planning integration. The new commission's role is limited to policy control at key points in the planning process, balancing regional needs with local needs. Therefore, the centralisation of policy control in the VRTC is designed as a 'checkpoint' on local and government agencies' developments. As suggested by Knaap and Nelson, control must be exercised at three key junctures: "during plan acknowledgement, during periodic plan reviews,

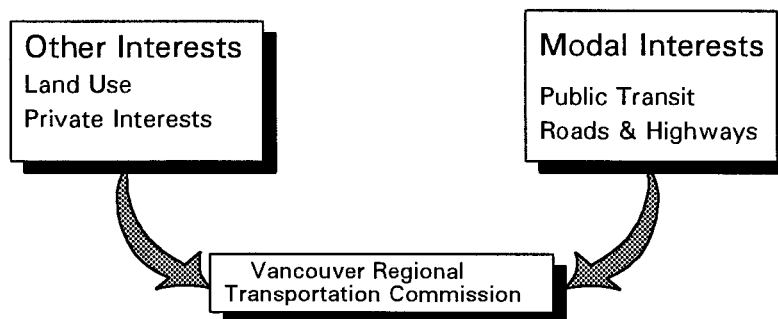
and during certification of state [provincial] agency coordination plans" (1992). The new commission must have the power to refuse a project at any one of these key junctures based on the project's conformity to the adopted plan. Public transport policy must be under the control of the new commission. It must institute periodic reviews of plans and evaluate them in conjunction with highways and land use projects. Roads and highways policy control must also be relinquished to the new commission. Periodic reviews of local plans to ensure that they

FIGURE 5: POLICY CONTROL IN GREATER VANCOUVER

5A: Existing Policy Control Framework



5B: New Policy Control Framework



Source: Following Pikarsky and Christensen 1976, p. 88-89

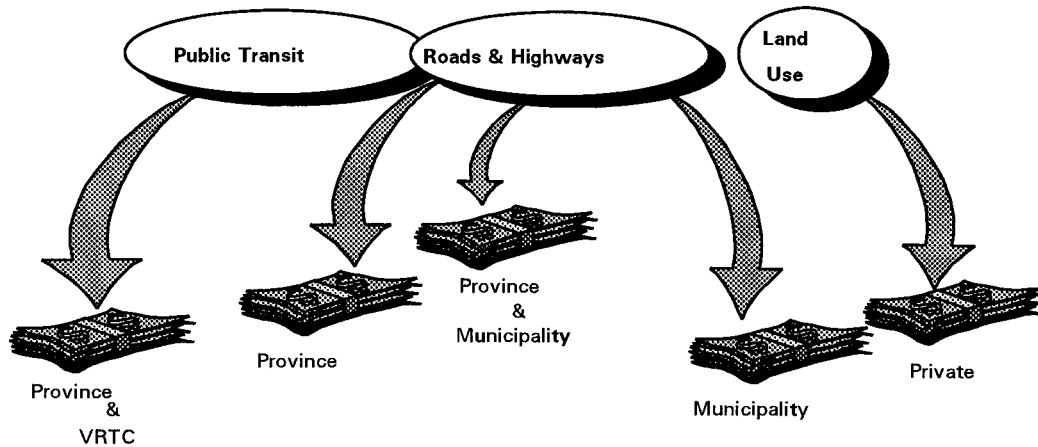
conform to regional goals is essential to the integrity of regional transportation planning. The new commission must have legislative veto power over any land use development that it deems 'radically' nonconforming. The municipality must have a recourse over decisions by the new commission that it believes are unfair.

6. FUNDING

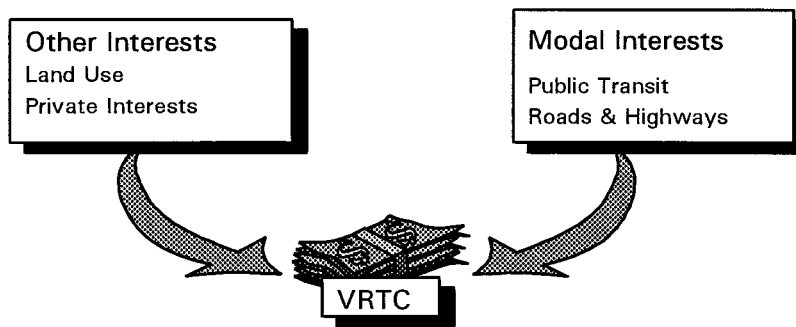
Funding is the second area identified as critical to the control of urban development. Figure 6 illustrates the major differences between the old the new frameworks. The rationalisation behind centralising funding under one authority is twofold. First, by centralising previously fragmented funding distribution, individual agencies do not exercise direct control over the planning process (Levin and Abend 1971). Therefore, scarce taxpayers' monies are allocated more efficiently. Second, by one agency being responsible for the financial health of all aspects of transportation planning and operation, it increases the awareness of negative and positive consequences of various projects; a new freeway bridge, will (most likely) reduce the ridership of a transit line or the failure of a city to install transit priority devices will result in increased costs for the transit company. For example, following the opening of the \$400 million Alex Fraser Bridge, automobile traffic to Vancouver from south of the Fraser River increased by 39 percent while the actual increase in population was only 31 percent (Munro 1993, A1-A2). Under the old system the cost and revenue sides are divorced; the Ministry of Transportation and Highways builds a freeway or bridge, but BC Transit loses the revenue and suffers increased costs. Under the new system, the Vancouver Regional Transportation Commission will bear both the cost and the revenues. Therefore, the negative costs to transit of building a new freeway bridge will be felt by the authority making the decisions.

FIGURE 6: POLICY FUNDING IN GREATER VANCOUVER

6A: Existing Funding Framework



6B: New Funding Framework



Source: Following Pikarsky and Christensen 1976, p. 88-89

The new commission will take over the funding responsibility of the old VRTC. However, unlike the old method of raising money for transit and then placing it in the government's general revenue fund, the new agency must have its own accounts from which to draw funding. Removing this funding from general revenue will ensure that the money is not transferred to some other use.

Provincial funding which formerly went direct to the Ministry of Transportation and Highways must now be channelled to the new commission. Local funding will be required, along the lines

of the old VRTC (for transit). For example, the BC Hydro Transit levy would now be the BC Hydro Transportation Levy. This levy would be channelled into the new commission's account and allocated to particular transportation projects.

Unlike the modal policies, land use is generally funded by the private developer. Therefore, the Vancouver Regional Transportation Commission will not have much control over this aspect. However, through a change in provincial legislation, the new commission must have the authority to provide or withhold grants and other funding for infrastructure developments. It would be ideal to channel some of the income generated by local governments in the land development process to the new commission. This funding should be used to develop new transportation infrastructure or programs to deal with the expected traffic generated by the development. This form of Development Cost Charge (DCC) may encourage the developer and municipality to reduce the impacts of the development.

7. POLITICAL CONTEXT

The new framework is designed to fit into the current political and ideological make up of Greater Vancouver. It attempts to address the problems caused by the current local based decision making and control system of planning by centralising the decisions made at key points in the process. However, none of these changes are possible without adjustments to provincial legislation. Thus, even though this framework strives to fit into the existing political system, change cannot occur without the political will to do so.

To put the changes in public transit planning into operation requires the provincial government to enact changes to the BC Transit Act and other legislation. The legislation must abolish the old Vancouver Regional Transit Commission and enable the new Vancouver Regional Transportation Commission responsible for transit. Changes are required to the Highway Act, Municipal Act, and Vancouver Charter to enable the new Commission responsible for control

and funding of roads and highways. Changes to the Municipal Act and the Vancouver Charter are required to enable the new commission to fund and control land use planning. These changes must recognise the new commission as having financial and policy control functions over public transit, roads and highways, and land use.

8. PRIVATE INTERESTS

The interests of private companies must be provided for within the new framework. For example, the control of licensing taxicabs and airport shuttle buses should be relinquished to the Vancouver Regional Transportation Commission. In doing so, the new commission will be in a position to efficiently allocate the licences (and maybe provide funding) to the various companies.

9. POLICY IMPLICATIONS

a. Public Transportation

The everyday process of planning and operating the public transit system in Greater Vancouver will now consider more than just the financial bottom line of the transit system. Labour relations will continue to play a major role in the operating procedures employed by BC Transit. While the centralisation of funding and policy control will do a lot to encourage the more efficient operation of the system, the labour unions will continue to oppose any plan which would jeopardise their members' standard of living. In addition, the political situation will also continue to place the financial responsibility of the transit system ahead of the social responsibility. Therefore, at best, the integration of transit planning with that of the Ministry of Transportation and Highways, and land use ensures the more efficient allocation of resources. It may also open up other possibilities. For example, road pricing, toll roads, and living close to work are all options that may be pursued in an integrated fashion for the entire region (Transport 2021, 1993).

b. Highways and Roads

The greatest change at the Ministry of Transportation and Highways is the loss of responsibility over policy control and policy funding of its projects. Whereas previously, the Ministry considered the need for a new road project without (technically) the serious consideration of other non-Ministry solutions, under the new arrangement these non-Ministry considerations are built into the process. For example, the Ministry may wish to build a bridge and charge a toll to pay off the costs involved. Under the new framework the bridge still may be built, but the toll would be levied, not to pay off the cost of the bridge, but to discourage Single Occupancy Vehicles (SOV). This form of road pricing would encourage the use of other more efficient modes of transportation, such as car pooling, public transit, among others.

The Ministry will continue to operate in much the same way as it did before; however, the Ministry will now be subject to input by the Vancouver Regional Transportation Commission, GVRD, and other municipalities and government agencies in the early stages of development. They will then be subjected to complete ongoing reviews by the VRTC at key stages in the development. Therefore, the Ministry of Transportation and Highways retains much of its previous jurisdiction, but relinquishes policy control and funding to the regional body.

c. Land Use

Land use planning, long considered a right of local governments in British Columbia, will continue to be practised at the local level. The actual designation of land for developments, the zoning designations used, and the ultimate use of that land will continue to be a responsibility of the local governments. However, the developments will be subject to a review by the new commission at key points during the process. The new commission will evaluate the plans based on the established regional goals. As the new commission represents the views of the municipalities and the provincial agencies, the actual variation between the local plan and the regional goals should theoretically be quite minor.

Control over land developments will be exercised by the Vancouver Regional Transportation Commission through the use of its authority over funding. The VRTC will tie in the availability of funds for such things as infrastructure development to the compliance of a municipality's plan to the regional goals. Therefore, compliance results in a high level of funds being returned to the community for infrastructure to service the development, while non compliance results in little or no funds being returned. As each community is expected to contribute funds to the VRTC, the withholding of those funds to the community will be viewed as a penalty.

It is this last point that may not be popular. People may see the transfer of funds from municipalities to the new commission as a form of tax. This need not be; the funds provided represent what the community would have spent on infrastructure for developments. In many cases much of this funding is received in the form of grants from the provincial government; therefore, most of the funds 'contributed' by the municipality will be grants redirected to the new commission. The VRTC acts as a bank for the member municipalities; the monies will be released for a development based on the merit of that development in the regional context.

10. CONCLUDING COMMENTS

Figure 7 illustrates the new framework for transportation planning in Greater Vancouver. The model recognises that transportation planning is more than building roads or transit systems in isolation of each other, or in isolation to land use planning. It recognises that the urban structure is inter-related; a change in one area will cause change, both negative or positive, in other areas. In Figure 7, the box entitled 'Modal Interests' represents the traditional approach to transportation planning. The other two boxes represent the need to include other important elements in an integrated fashion such as land use, long range goals, public advocacy, and technical considerations.

Policy making, as illustrated in Figure 7, is proposed to remain the jurisdiction of individual agencies and organisations, but with a proviso; the new commission and the GVRD will have an advisory role in the policy making process. The VRTC, made up of local and government representatives, represents the needs of the entire region while the GVRD represents the areas under its jurisdiction or for which it does planning.

It has been the argument of this thesis that integrated planning requires one agency to control certain aspects of the planning process. It has also been argued that local and regional concerns must be balanced; a centralised provincial agency, while considered the most efficient, may be met with resistance by local governments and the general public. At the same time, a regional government may be viewed as a threat by the provincial government, and an unnecessary waste of money by the taxpayers. Therefore, the new commission, being made up of provincial and regional members, strikes that much needed balance.

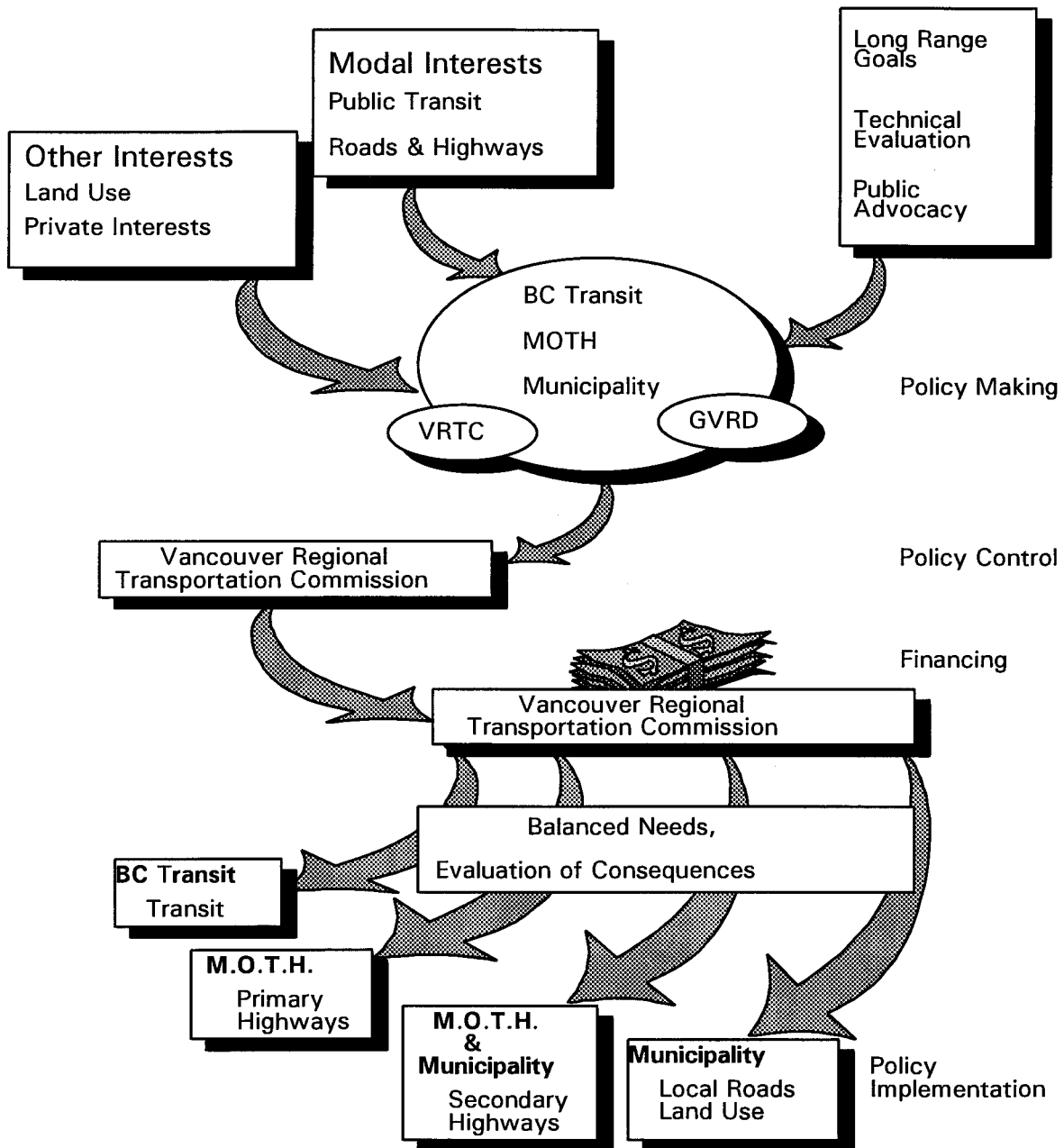
The Vancouver Regional Transportation Commission must be given complete control over key elements of the planning process as well as complete control over all aspects of funding. As a body composed of a mix of local and provincial elected officials, representatives, and technical advisors, the new commission does not need to be viewed as another level of government. It is a melding of provincial and municipal governments designed to plan for the orderly future growth of the Greater Vancouver region. Policy implementation will remain a responsibility of the body which has jurisdiction. Funding for implementation will be administered, based on a set of criteria, by the new commission.

C. CASE STUDY: ADOPTING AN OFFICIAL COMMUNITY PLAN

In the early stages of the new commission, municipalities and Crown corporations will be required to bring their community and corporate plans in line with the regional goals. In

addition, BC Transit and the Ministry of Transportation and Highways will be required to develop long range plans which are consistent with the regional goals. Later amendments to these plans will also have to conform. Therefore, the primary functions of the new commission will be to create and ensure compliance with regional goals.

FIGURE 7: INTEGRATED TRANSPORTATION PLANNING FRAMEWORK FOR GREATER VANCOUVER.



Source: Following Pikarsky and Christensen 1976, p. 89

As indicated throughout this thesis, the issue of integrated transportation planning involves many facets of urban life. It is impossible to develop a case study which is able to deal with all possible scenarios in integrated transportation planning. For example, the development process of a new bridge or Skytrain line would be different than a rezoning application within a municipality. While roads and transit, for the most part, fall into the jurisdiction of a Crown corporation, land use planning generally does not. Land use planning is generally a function of the municipal governments. As indicated earlier, the land use organisation of urban areas greatly influences the transportation structure. Therefore, the biggest challenge to the successful integration of transportation planning in Greater Vancouver is the acceptance of certain key aspects of land use planning being relinquished to the new commission.

Municipalities currently have the option of adopting an Official Community Plan (OCP). An incentive to do so is that they become eligible for funding from the Province. The new framework will require that, in Greater Vancouver, the OCP must be endorsed by the new commission to become eligible for this funding. In this regard, the OCP is the most basic level at which planning may be controlled. Therefore, this case study will examine the steps required to adopt an Official Community Plan.

1. POLICY MAKING

The structure and content of the OCP will remain the responsibility of the municipality; however, the OCP must now address the regional goals as outlined by the new commission. In the stages of creation or amendment, the OCP must be forwarded to BC Transit, Ministry of Transportation and Highways, the Greater Vancouver Regional District, and the Vancouver Regional Transportation Commission. Each organisation will have the opportunity to express concerns and suggest modifications to the document. The OCP must be forwarded to the new commission, between the second and third readings by the municipal council, for endorsement. If the OCP conforms with the regional goals, then it may be adopted and endorsed by the new

commission. The municipality will then hear the third and final reading. At this stage they may decide to adopt or reject the OCP.

2. POLICY CONTROL

If the OCP does not comply to the regional goals, then the new commission will not be permitted to endorse the OCP. If the new commission refuses to endorse the amendment, and the municipality insists on adopting the OCP, the new commission has two recourses -financial penalties or provincial intervention. If the OCP only marginally violates the regional goals, then the new commission may only wish to refuse to endorse the OCP; however, if the OCP is a gross violation of the regional goals, and the municipality insists on adopting it, then the new commission may vote to request that the legislature declare the OCP as void.

3. FUNDING

Once the OCP has been endorsed by the new commission, then the municipality is eligible for various forms of funding. The funding is allocated based on a balance of needs, and an evaluation of the consequences. In the case of an OCP, it may be funding for infrastructure improvements such as water, sewage, roads, or any other relevant service. If the OCP was not endorsed, but the municipality decides to adopt it without modifications, then the new commission will impose financial penalties on the municipality. These may be in the form of increased transfer funds from the municipality, or the withholding or reducing of transfer payments to the municipality.

4. POLICY IMPLEMENTATION

Once the OCP has been endorsed by the new commission, the implementation of individual projects is the sole responsibility of the municipality - providing that the developments conform to the OCP. If the project requires a rezoning not supported by the OCP, then the OCP will have to be amended. As indicated above, OCP amendments require the approval of the new commission.

5. CONCLUDING COMMENTS

This case study has served to illustrate the basic operation and purpose of the new commission. The two key components in the new framework are policy control and funding. These two aspects are closely linked; funding is used as a tool to enforce the regional goals. The municipality retains the right to produce an OCP which meets the needs and desires of the local population, but the OCP must now consider more than just local concerns. It must be noted here, that under the Municipal Act, a municipality retains the right not to adopt an OCP. This will not change under the new framework. It is anticipated that the financial incentives tied to adopting an OCP will encourage most (if not all) municipalities to do so.

As this case study has illustrated, the new commission is only involved at the creation or amendment stage of an OCP. Therefore, the way in which a municipality responds to the regional goals is a local responsibility. By exercising control at key points in the process, the new framework provides the necessary central control while retaining much of the decision making at the local level.

D. CONCLUSION

This chapter has been concerned with developing a framework for integrated transportation planning in Greater Vancouver. The framework necessarily requires some changes to the ideological and political structure of the region. Therefore, the establishment of a new commission made up of representatives of local and provincial agencies provides a balance between truly local fragmented planning and truly provincially controlled top down planning. The Greater Vancouver region has strong local government structures and government super-agencies in place. By coordinating the control and funding of these governments and agencies at various key points in the process, while maintaining their control over policy making and implementation, a framework that operates at a greater level of efficiency may be established.

V: SUMMARY AND CONCLUSIONS

The purpose of this thesis was to develop an integrated framework for transportation planning in Greater Vancouver. It was intended to be a framework which could be implemented with minimum changes to existing legislation and which would utilise the existing institutional structure to its maximum advantage.

A. SUMMARY

Chapter II uses library data and interviews to outline the existing framework for transportation planning in Greater Vancouver. There is no legislation requiring coordination or integration between jurisdictions or Crown corporations in the planning process. It was concluded that a central body responsible for key aspects of planning is needed to guide the future growth of the region.

Chapter III uses library data to examine theoretical and empirical examples of integrated planning. Lessons for Greater Vancouver are extracted from the data and provide a basis for developing a new framework. It was concluded that a central body must have jurisdiction over policy control and policy funding in order to be effective.

Chapter IV uses the information and conclusions from chapters II and III in order to develop a new integrated framework for Greater Vancouver. To be successful, the framework must require a minimum of change in existing legislation, must utilise existing institutions, and must provide a balance between top-down and bottom-up planning. It was concluded that a new regional commission made up of municipal and Crown representatives, with jurisdiction over policy control and policy funding, would be the most effective.

B. CONCLUSIONS

The conclusion of this thesis is that integration is possible without radical change in the current structure of the planning system. Integration will require some commitment by local and provincial governments in order to bring about the necessary changes in legislation. The use of a commission will blend the municipal and provincial government structures, providing a framework which is responsible to the local community and is responsible to the needs of the region.

Integration is a step in the right direction to solving the problems of urban sprawl and traffic congestion. It will allow projects to proceed based on their contribution to improving the overall mobility of the region, rather than their political acceptability and popularity. More importantly it will foster a shift in attitudes among professionals on the issue of transportation and community. Over time, hopefully, this will filter down into the collective consciousness of the general population:

[T]raffic problems are extraordinarily complex and defy quick fixes. In the final analysis, traffic congestion is neither a technical problem nor a problem of inadequate facilities, but an inescapable consequence of the manner in which we choose to live and the way we have organized our metropolitan areas. Only when we decide - or are forced - to change the way we live will an accessible and livable region be possible (Seelig and Artibise 1992, p. 70).

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