Executive Summary

Introduction

Greater Vancouver's
1.6 million citizens
operate
1 million
motor vehicles
(cars, buses, trucks,
trains & vessels)
over the region's
10,000 km
of roads, trackage and ferry lanes.

———

Of all journeys in the region
some 83%
are taken by
private automobile,
9%
by public transit
and the remainder by
foot and bicycle.

Greater Vancouver depends on its transportation system for its existence. The system permits people to reach work, school, shopping, recreational, cultural and sports events, and to visit friends and family. It allows employers to access a supply of labour, and goods to be sent and received in the course of domestic and international trade.

Goals for the transport system

The primary economic goal of the transport system is to move people and goods effectively, efficiently, safely and reliably. It must adapt and expand to serve the region's changing population—which is expected to grow by 70% to nearly 3 million in 30 years—and it must do so at affordable cost.

In addition, the region's citizens expect their transport system to meet social and environmental goals, such as:

- to provide transportation **equitably** to a diverse population (30% of whom are either too old or too young to drive); and
- to help **reduce its negative impacts** on the region's livability (e.g. to limit urban sprawl and land consumption, preserve green space, limit congestion and traffic intrusion into local neighbourhoods, and cut air and noise pollution).

Problem of automobile dependence

In common with many other urban regions in the developed world, Greater Vancouver has concluded that heavy reliance on the private automobile is unhealthy. The desire for **greater choice in mode of transport**—meaning strategic expansion of public transit, and creating walking- and bicycling-oriented communities—is a recurring theme in public meetings and opinion polls.

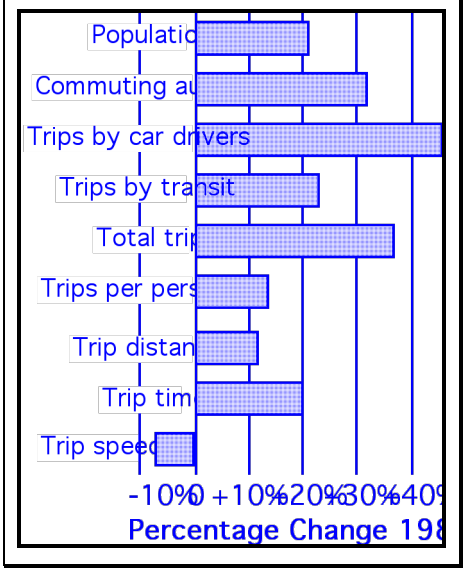
A policy of reversing the past practice of favouring the automobile has been adopted under the GVRD's "Creating Our Future" program and therefore forms part of TRANSPORT 2021's terms of reference.

Where Are Current Trends Leading?

However, the region is becoming **more, not less, dependent on cars**, and the system's **performance is deteriorating**.

The number of cars used for commuting is growing faster than the population and the average person is travelling more; the speed of travel is dropping and people are also travelling longer distances.

Changes in Key Transportation Characteristics in the morning peak period in Greater Vancouver 1985-1992



Air pollution

That means that the total amount of time spent travelling has increased substantially. The busy morning and afternoon periods lengthen to fill more of the day.

Surveys also show that homes and jobs are dispersing into the suburbs. This is producing a less core-focussed pattern of travel, with **travel between suburbs growing faster than travel to and from the core**. Such an increasingly diffuse pattern is awkward for conventional public transit to serve effectively; transit performs best along high-volume corridors, where transit vehicles can be reasonably full while offering frequent, convenient service and connections.

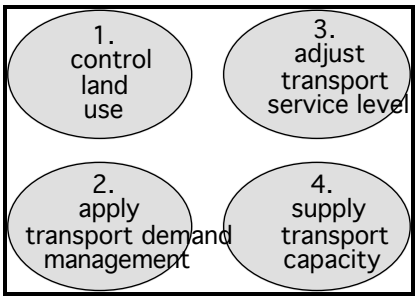
Accordingly, transit usage has not kept pace with automobile usage: public transit's percentage share of travellers has declined since 1985, while that of car drivers has risen.

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.

The total amount of local air pollutants being emitted from vehicles is dropping and will continue to do so until about 2005 due to better technologies and enforcement of standards. Later, even cleaner engines and fuels will have to be employed to keep emissions down. Emissions of the greenhouse gas carbon dioxide will rise.

How Can the Trends Be Changed?

Four Policy Levers



Government policy makers have **four major levers** available to steer the transport system towards the desired goals. They are:

1. control land use (e.g. by zoning regulations);
2. apply transport demand management (to change travellers' behaviour);
3. adjust transport service levels (e.g. by letting congestion worsen); and
4. supply transport capacity (e.g. by building more roads and transit).

This report looks at each lever in turn.

1. Control Land Use

The **land use** pattern—especially where people live and work—is important to transportation at two levels: regional and neighbourhood.

Regional or "Macro" Level

Where people live and work within the region (i.e. urban structure on a large scale) determines much of their daily travel needs.

Whether people spread out in suburbia or live closer together in tighter communities (measured in terms of number of people per hectare—or population density) is one aspect of this.

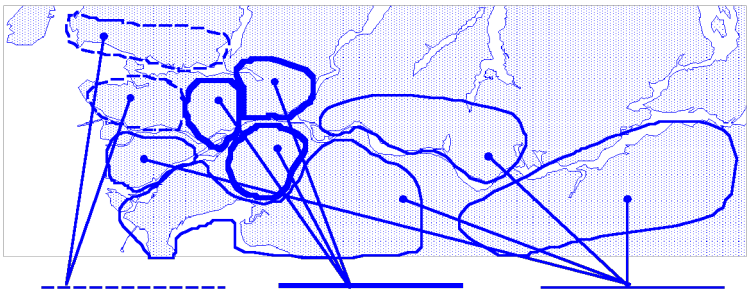
Different transport systems are suited to different population densities: less dense cities (e.g. in the south and western U.S.) tend to be automobile-oriented; denser cities (e.g. in Europe and Asia) lean towards much more transit.

At time of writing this Report, the GVRD's proposed Livable Region Strategy is under consideration by local governments. It would have local governments control land use to:

- **re-allocate the region's growth** (i.e. an extra 1.2 million people and 0.6 million jobs over 30 years) among the municipalities to form a more compact, less sprawling region than would occur if the system were left to follow current trends; and in particular
- **cluster population and jobs** near regional activity centres of various sizes, sited along transport corridors (helping to make them less automobile-dependent and more effectively serviced by transit); and simultaneously
- create a better **balance between work force and jobs** in each area, so that communities can be more complete, people can have an opportunity to live close to work, and long-haul commuting can be reduced.

*The Livable Region Strategy proposes that growth rate be **nearly the same** in some areas, **faster** in some others, and **slower** in yet others—compared with the growth rate that would occur in those areas under the "business as usual" trend.*

Proposed Growth Rates under the Livable Region Strategy



To implement the Livable Region Strategy, it is necessary that:

- **local governments in the B.C. Lower Mainland**—28 in total—coordinate changes to their Official Community Plans and zoning regulations in the future; and
- **agencies of the Provincial Government** (notably B.C. Transit and the Ministry of Transportation and Highways) and local governments coordinate transportation policies and investments in infrastructure so as to serve and help create the more compact region.

The Livable Region Strategy and the TRANSPORT 2021 project both view land use and transport planning as interactive and interdependent.

Neighbourhood or "Micro" Level

Changing the the look and feel of neighbourhoods and "streetscapes" is key to giving walking and bicycling an opportunity to take hold. Governments can create neighbourhoods where non-drivers are less disadvantaged or where a car (especially a second family car) is actually not required by:

Neighbourhoods for non-drivers

- **creating small-town or village street patterns** in suburban areas—where homes surround stores and services. Commercial buildings are closely spaced and front directly onto streets and sidewalks, not set back for parking. Routine neighbourhood trips are by foot. Priority for vehicles is downgraded.
- **intensifying residential areas** by lowering minimum lot sizes for detached housing, allowing building right up to lot line and relaxing single-purpose zoning.
- **calming traffic** by modifying the street and its regulations to slow down traffic and create better pedestrian environments and more livable neighbourhoods.

Bicycling promotion

A major obstacle to more cycling is that existing roads and bridges do not accommodate cyclists very well. Also, many destinations have no secure bicycle storage, with no change rooms, showers or lockers.

If cyclists were better accommodated, transit could also benefit: more people from further away could access transit by bike than by foot alone, giving transit stops a greater "catchment" area.

Those modern western cities which have successfully adapted their road systems to accommodate cycling have shown that bicycle travel can become an important component of the transportation system and may reduce the number of motor vehicles on the roads.

2. Apply Transportation Demand Management

Transportation demand management is the second lever available to policy makers. It comprises a variety of techniques to change the behaviour of travellers in order to make better use of the existing

transport system. It encourages off-peak travel and discourages single-occupant vehicles, incorporating measures such as tolls, gas taxes and parking management.

Though not the complete solution, it can postpone capital investment and reshape travel demand to boost transit and carpool use.

Research shows that people respond more to penalties than incentives. TRANSPORT 2021 is proposing a package of mutually supportive measures which would:

Incentives or "Carrots"

1. promote telecommuting;
2. encourage medium-sized and large employers to help cut vehicle trips to their worksites;
3. install high-occupancy vehicle lanes;
4. give buses traffic priority on the street;

Disincentives or "Sticks"

5. increase and broaden parking charges (e.g. 50% increase of average all-day parking charges in the downtown core, and increases in all-day parking at other major town centres to equal 3/4 of today's downtown levels);
6. raise fuel prices, through higher fuel taxes (e.g. a 50% increase in the real price of gasoline); plus
7. introduce bridge tolls (e.g. $2 peak hour toll on all bridges leading into Burrard Peninsula) as a first step to a more general road pricing scheme.

Estimated impact

Such a package could **decrease rush hour vehicle trips by 10% and increase transit ridership some 25%** compared with current trends for the year 2021, other things being equal. A more aggressive package (e.g. higher tolls) might achieve an even greater impact. The actual effect of transportation demand management will depend much on how well it is introduced, publicized and coordinated.

Link to user pay

In Greater Vancouver, as in most cities, passenger transportation is provided to users at less than cost: for instance the private automobile and public transit are both subsidized—directly through the public purse and also indirectly through the hidden costs they impose on the environment and non-users.

Transport is underpriced

One estimate is that travellers on all transport modes combined pay only 2/3 to 3/4 of the full economic costs. An essential element of transportation demand management is to get travellers to pay their way and in particular to inform them—as near as possible to the actual time and place of their trip— of the true cost of that trip.

In the long run the prices paid by users should correspond to their actual costs, otherwise over-use results. The goal of economic efficiency therefore supports a policy of generally increasing the price of all transport modes.

Link to financing

By 2021, transportation demand management and toll-financing will probably be commonplace in the developed world; it will be seen as necessary to combat urban traffic congestion and pollution and to support transport investment. Electronic technology is now available for streamlined collection of tolls.

3. Adjust Transport Service Level

Service level means speed, convenience, frequency of service, comfort and other qualities of a journey, other than price. **Selectively accepting congestion** to change travel patterns is another policy lever.

Problem of insufficient congestion to make carpool lanes work

Currently, on most transportation routes in the region, the level of service to mixed traffic is too high to make separate carpool lanes attractive through time savings. This suggests that for carpool lanes to be utilized, congestion would have to be allowed to accumulate in the mixed traffic lanes alongside. To attract people to use carpool lanes, there must be a tangible benefit to them (most likely in terms of travel time saved).

Congestion is usually considered an evil; however, allowing congestion to deteriorate for the single-occupant vehicles is a practical method of promoting transit and carpools. More congestion for single-occupant vehicles would magnify the impact of transportation demand management.

Caution: cost of congestion

There is a delicate balance between the cost of congestion and its merits as a lever to encourage transit and carpool use.

Since urban goods transport has no practical alternative to trucks, a policy of selectively increasing congestion should also protect trucks from being caught in queues, e.g. by separating truck flows from mixed traffic—although practical opportunities for doing so may be limited.

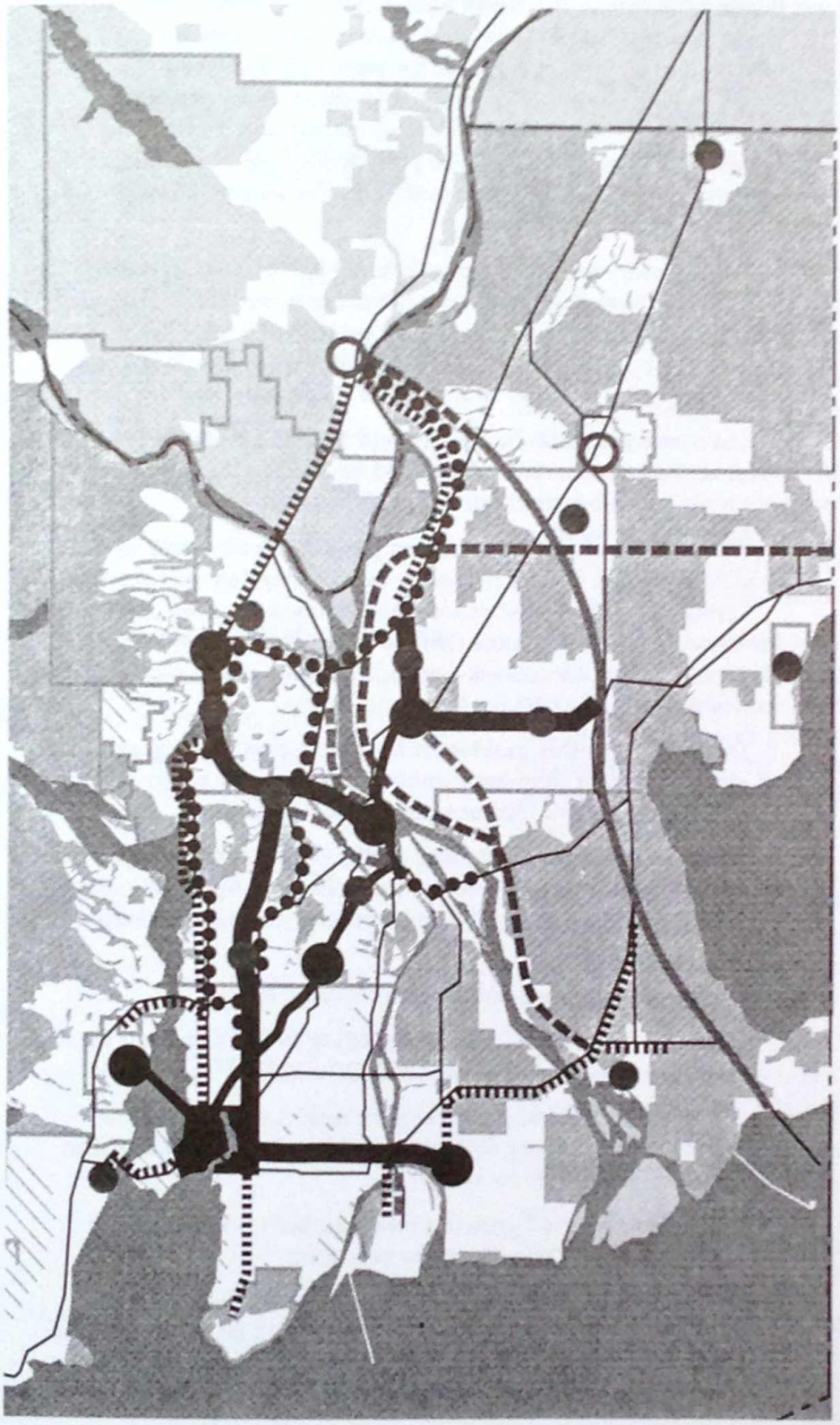
4. Supply Transport Capacity

Historical Spending

In the 10 years ending 1992,
local and provincial governments
together spent a total of
$3.3 billion
(in $1992)
on transportation capital works in
the B.C. Lower Mainland.

The fourth and final policy lever is to build more transport capacity. Clearly, availability of funds is a key constraint. Given the declared goals and objectives for the transportation system, TRANSPORT 2021 has taken the following approach:

- support the GVRD's Livable Region Strategy by increasing relative accessibility in areas where the land use plan calls for greater densities, and reducing it elsewhere;
- estimate the demands for transportation capacity which remain after the application of the first three policy levers;
- restrain the single-occupant vehicle by supplying more physical capacity for this mode very selectively; and
- emphasize transit and high-occupancy vehicles.



Livable Region Strategy Concept

- Existing SkyTrain/SeaBus
- *Proposed:*
- Intermediate Capacity Transit System (SkyTrain/Light Rail/Busway)
- Bus Lane/Priority
- High Occupancy Vehicle Facility
- Regional Roads Connections and Goods Movement
- New or Upgraded Inter-Regional Highway Connection
- Metropolitan Core
- Regional Town Centres
- Municipal Town Centres
- Valley Town Centres
- Green Zone areas

Transit service in dense urban areas

The relatively high target population densities within the Burrard Peninsula, the North East Sector (Coquitlam, Port Coquitlam and Port Moody) and North Surrey create an opportunity for transit. The concept for the year 2021, therefore, is a transit system which has better coverage over these areas, permitting travellers to connect between several origins and destinations without having to travel via the downtown hub. Accordingly, the concept for the year 2021 shows an intensive pattern of transit services in these areas.

High-occupancy Vehicles

The approach points to a network of High-occupancy Vehicle (HOV) lanes, offering travel time advantages for HOVs, together with queue-jumping facilities to give priority at bridge heads. Each specific application of HOV facilities will require a further, complete assessment in order to determine its practicality.

Bridges and tunnels

The choke points of the bridges and tunnels across the Fraser River and across Burrard Inlet would be used to "draw the line" and limit access by the single-occupant vehicle.

Within areas of rapid population growth, considerable new local road construction will be necessary to accommodate mixed traffic.

The long-haul vs. commuter traffic conflict

Certain roads intended as long-haul links with other parts of the Province—such as the Trans Canada Highway between the Port Mann Bridge and Chilliwack—are encouraging urban sprawl and are losing their function for long-haul traffic.

Deterring solo-commuting from valley towns

The solution to this problem is to reverse past practice and limit all single-occupant long-haul commuting from the valley towns, e.g. through deterrent tolls or traffic lights at on-ramps.

What Will The Plan Achieve?

Extensive computer modelling by the project indicates what the recommended plan will achieve. The following figures should be read as showing the magnitude and general direction of change, rather than precise data.

Impact on passenger transport

Under the recommended plan, in the year 2021,

- the total number of people travelling in the rush hour by all modes would be 80% higher than in 1991;
- the number of people driving in rush hour would grow more slowly, being 60% higher than in 1991 but lower than the trend for 2021 by some 13%;
- the 30-year trend growth in the number of rush hour car drivers would be reduced by one third;
- the number travelling as car passengers in the rush hour would double by 2021; the number would be 3% higher than trend (but notable because there are 13% fewer cars for them to ride in, compared with trend);
- the number of transit riders in the rush hour would be 160% higher than 1991 and 59% higher than trend in 2021;

Reverses transit decline and car occupancy decline

- the share of the total rush hour travel served by transit, currently 13%, would rise to 18% reversing the projected decline; and
- the plan would also reverse a projected decline in the number of people carried per car in the morning rush hour.

Reduces car dependence; better access to rapid transit

The region would become less dependent on the automobile. The car would continue to be the largest single mode of transport, but the percentage of car drivers would fall.

Access to transit service would be improved, with four times the length of rapid transit services in place; population living within 1 km of a rapid transit line would increase from 8% to 30%.

Local air pollutants down

Emissions of local air pollutants—carbon monoxide and smog-forming contaminants (oxides of nitrogen and volatile organic compounds) of which vehicles are the primary source—are projected to decline to 1/3 of current amounts, due mainly to better engine technology and enforcement, and partly to a reduction in automobile dependence. This is a major contribution towards reaching and maintaining the GVRD's Creating Our Future goal of a 50% cut in these emissions.

Global air pollutant up

Fossil-fuelled engines emit carbon dioxide (CO_2), generally accepted to cause global warming. The provincial and national target is to stabilize CO_2 emissions from all sources (home heating, transportation, power generation, waste incineration, etc. combined) at 1990 levels by the year 2000. Transportation is not the primary source of CO_2, emitting less than a sixth of province-wide or a quarter of Canada-wide CO_2.

Vehicles in the Lower Mainland will themselves not achieve the target for all sources combined; their CO_2 emissions will likely rise 10% in the 1990s and climb thereafter: a 15% to 20% increase by 2021 is projected under this plan, compared with 25% to 30% under trend conditions.

Speed down, congestion worse

However, congestion would worsen on the roads. While average speeds would decline (by 3%), the congestion seen today would be more widespread, affecting more roads.

Impact on goods transport

Inevitably, trucks would be caught in this congestion; the extra congestion costs for trucks in the Lower Mainland would be $185 million per year or some $70 per capita per year—a cost which truckers can be expected to pass on to their customers where they can. These costs are significant, but they are not intolerable.

Only with a completely separate circulation system, which would be difficult to justify economically, would the goods movement system be unaffected by general traffic congestion.

Capital cost and affordability

An important test of the transport plan is its affordability.

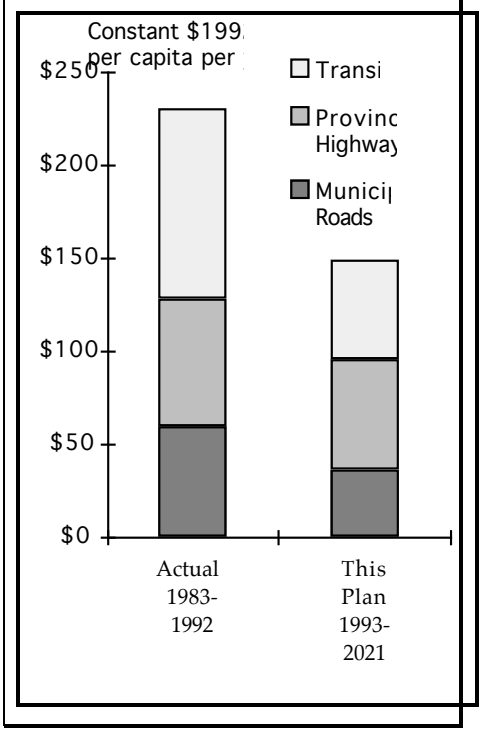
With budgets under pressure, governments in other provinces of Canada and in other countries are turning to private sources of capital, using dedicated tolls or other user charges to pay interest and debt charges. The Government of B. C. has announced a Transportation Financing Authority intended to operate along these lines.

Preparing a financial plan goes beyond the terms of reference for TRANSPORT 2021; but the plan is considered affordable.

The estimated capital cost of this plan through to the year 2021 is $10 billion in 1992 dollars:-

Projected Public Sector Capital Expenditures on Transportation in Greater Vancouver for the period 1993 to 2021, in 1992 dollars	
Transit	$3.6 (36%)
Provincial Roads	$3.9 (39%)
Municipal Roads	$2.5 (25%)
Total	$10.0 (100%)

Road and Transit Capital Expenditures in Greater Vancouver



A useful measure of the size of transport investment is the per capita annual capital expenditure for the region, in real terms (see chart on left), actual historical vs. this plan.

To pay for the total $10 billion in future transport investment identified above, the plan would require about two thirds of the historical amount— $149 per capita per year compared with $231 over the past decade—to be sustained through the period 1993-2021.

This suggests that the magnitude of investment is not unreasonable.

Further, even if past sources of funds were not available at all, it is projected that the capital expenditure could be financed through new revenues generated from the transportation demand management measures—tolls, gas taxes and parking taxes.

Using traffic volumes projected in the year 2021, but at current dollar prices, one estimate of the cash revenue flowing to government is as follows:-

$1 billion/year revenue from demand management in 30 years

Projected Revenue Generated in the B.C. Lower Mainland in the Year 2021 from Transportation Demand Management under the TRANSPORT 2021 Long-range Plan	
	Millions of 1992 dollars per year
Bridge Tolls	$540
Gas Taxes	$483
Parking Taxes	$65
Total	$1.1 billion

Supposing that (a) transportation demand management revenues are phased in uniformly from zero in 1992 to $1.1 billion in 2021, and (b) capital expenditures are made in equal annual amounts per year, to total $10 billion by the year 2021, then the accumulating debt service charges are about equal to the projected revenues in any given year (conservatively amortized over a relatively short 30-year life and at relatively high 10% real annual interest).

This is the second test of affordability of the plan; all of the capital cost of the proposed transportation system could indeed be financed by the revenue from demand management.

Conclusion

In conclusion, the recommended long-range transport plan broadly meets the test of its own objectives.

To obtain these results it is crucial that all policy levers operate successfully.

Unexpected and unforeseeable developments over the next 30 years could mean that some of the underlying assumptions will not hold true. Accordingly, the project has also considered how best to make the plan robust and flexible.

Keeping Options Open

A particular source of uncertainty is the region's success in attaining the required targets in the management of (a) urban growth and (b) transportation demand. The transport plan will require amendment if its assumptions in these areas are not borne out.

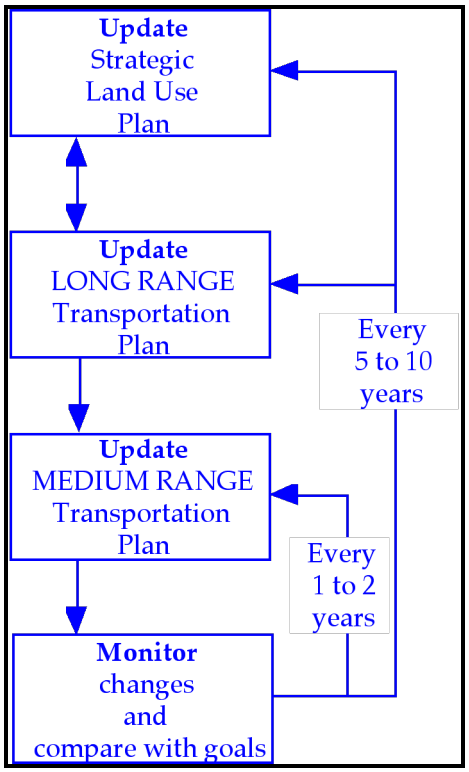
Default is more roads

In both cases, the system would tend to follow "business as usual", i.e. towards more suburban and ex-urban development, less transit use, more automobile dependence and the need for more roads.

First, options to use transport corridors not in the long-range plan must be kept open. While this Report does not recommend that

facilities be built in such corridors, they may be needed in light of the above uncertainties, either within the 30-year horizon or beyond it.

Therefore, the Steering Committee believes that agencies such as the Ministry of Transportation and Highways should continue to preserve options for routes and corridors, as they see fit within the limits of their regulatory powers. This is a fully legitimate activity of agencies charged with responsibilities to provide for the long-term needs of the region and the Province. It does not conflict with the Committee's long-range transport plan.



Second, the plan must be a "living document", regularly updated. A stable planning cycle would:

- cover all modes of transportation, goods and passengers;
- integrate land use planning with transportation planning, with the transport planning being based on local, regional, provincial and national transport goals and objectives;
- be methodical and have continuity, being able to monitor the transport system and maintain records of data, past strategic thinking and decisions; and
- be associated with a sustained, predictable funding basis to support the required capital projects.

This means establishing a regional transport planning cycle and identifying a responsible body, able to recognize and respond to structural changes and surprise events.

A steady, consistent focus, and coordinated implementation of the policies, which are the responsibility of many groups, will be vital if the Province and local governments are to achieve the goals and objectives they have set out for Greater Vancouver's transportation system.

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Appended: Consolidated List of Recommended Policies

The following pages present a consolidated list of all the recommended policies of TRANSPORT 2021, drawn from the Long Range Transportation Plan.

Consolidated List of Recommended Policies

Most policies require joint or parallel actions by the Province and local governments together. The term "**governments**" as used below means the Government of British Columbia and local governments.

1. Land Use Policies

1.1 The GVRD should pursue the completion of its Livable Region Strategy as a reference point for all public and private sector agencies which have an influence over urban development.

1.2 The Strategy should allocate growth and concentrate development in multi-use activity centres and high-density development corridors.

1.3 The Strategy should define areas of higher density which will be targeted for intensive transit service by the transport plan.

1.4 The Strategy should identify towns outside the urban area which are (a) intended to become more complete and self-sufficient and therefore (b) through transportation and other policies, to be discouraged from becoming suburban "bedroom communities" with easy commuting into the metropolitan core.

Local friendliness to walking, cycling and transit

1.5 Near and within all activity centres, the Strategy should propose a range of housing, within a pedestrian- and bicycle- friendly urban design, both by construction of new centres and by re-development of existing ones.

1.6 Municipalities should provide a transit-friendly local street pattern allowing transit routes to pass within walking range of a large proportion of dwellings, job sites, schools, shops and other activity centres.

1.7 Municipalities should develop bylaws and guidelines to help attain long range transport goals at both regional and local levels, including retrofitting neighbourhoods which currently have street patterns which are difficult to serve by transit.

Coordination of Official Community Plans

1.8 Governments should provide a framework whereby municipal land use plans are effectively coordinated in a sustained fashion over several decades, using the GVRD's Livable Region Strategy as reference point; neighbouring regions and their member municipalities should be included in this process.

2. Demand Management Policies

2.1 Governments should regard Transportation Demand Management (TDM) strategies as an integral part of transport planning in the B.C. Lower Mainland.

2.2 Governments should use TDM as the primary public policy instrument to restrain growth in travel by the single occupant automobile.

2.3 Governments should wherever possible exempt urban goods movement, which has no practical choice other than truck, from the policy of auto restraint.

2.4 Neighbouring local governments which feed traffic into Greater Vancouver should be asked to respect and support the TDM policy by encouraging transit and carpool traffic, and discouraging single occupant commuter traffic into/out of Greater Vancouver.

2.5 Governments should generally use "carrot" measures (persuasion and incentives) to achieve objectives before using "sticks" (penalties and disincentives); however, since "carrot" measures alone are not likely to effect significant change, "stick" measures will be required.

Telecommuting

2.6 Governments should encourage businesses to adopt telecommuting by devising a framework of fiscal incentives, justified on the basis of saved or postponed infrastructure investments that would otherwise be required.

Employer trip reduction

2.7 A regional agency, to be identified, should foster employer trip reduction programs, which look to medium and/or large scale employers to take action to reduce the number of commuter vehicles serving their worksites. The agency should provide support by information and public awareness campaigns, a regional ride-share match-up programme, and other advisory services which encourage employers to participate.

2.8 Governments should leave voluntary the employers' participation in trip reduction programs, i.e. not require it by law, to avoid regulatory imposition on employers and associated public sector administrative costs (with the exception of policy 2.16, below).

HOV/Bus priorities

2.9 Governments should recognize provision of HOV lanes and bus priority measures as necessary and mutually reinforcing with TDM, to provide more time-competitive alternatives over the single-occupant vehicle.

Road pricing, tolling and gas tax

2.10 The Province should introduce road pricing measures or tolls structured to reduce congestion, provide clearer price signals to users for the costs they incur and impose on others, and to raise revenue for transportation improvements.

2.11 The Province should apply road pricing/tolls with the long run purpose of shaping travel demand in addition to obtaining revenues. The Province should not remove tolls unless it is clear that the external costs of the automobile have otherwise been accounted for and are recognized by the user.

2.12 The Province should dedicate toll revenues to system-wide transportation improvements, including transit/HOV improvements, retrofitting infrastructure to withstand earthquakes, rehabilitation of deteriorating facilities and construction of new facilities.

2.13 Governments should institute methods of converting fixed costs of auto ownership/operation to variable costs, where practical (e.g. pay-as-you-drive insurance).

2.14 The Province should increase gas prices, though these are a "blunt" instrument with more merit as a revenue-generating measure than as a demand management measure.

Parking management

2.15 Governments should use parking management as a TDM instrument. The provision of parking should be coordinated throughout the urban area, e.g. through a regional focal point recommended under "coordination" below. A comprehensive parking strategy is required covering short and long term, park-and ride, public and private, supply and price considerations.

2.16 Governments should phase out subsidized parking for commuters e.g. by means of municipal bylaws requiring employers who wish to provide free or subsidized parking to employees also to offer those employees the option of the equivalent value in cash and/or travel subsidy.

Coordination

2.17 Governments should identify a regional focal point for coordinating TDM. This focal point, which could be a coordinating committee of principal agencies, should function with a mandate to monitor impacts, detect conflicts and coordinate TDM in the region among the agencies responsible for implementing the measures.

3. Service Level Policies

Single-occupant vehicles

3.1 Until road pricing or an extensive tolling system is instituted, governments may have to accept worse congestion for single-occupant vehicles in the peak period as a necessary evil to encourage other travel options, notably transit and carpooling.

Trucks

3.2 Governments should permit truck traffic to escape the auto congestion/auto restraint policy wherever feasible by separating truck flows from auto flows, consistent with cost effectiveness.

3.3 Governments should develop minimum service level standards for major truck links to trigger action for improvement if service drops below the accepted level.

Long-haul and inter-regional traffic

3.4 Governments should maintain a high level of service for traffic moving between the Lower Mainland, the U.S. and other parts of B.C. This will require a lower level of service for long-haul commuters by car into the urban area by restricting their access to interregional facilities.

4. Transport Supply Policies

Transit

4.1 Transit providers should add high quality, fast, frequent services linking facilities linking regional town centres.

4.2 Transit providers should offer a family of local transit services, including para-transit and flexible-route transit services, to serve demand for different time periods and different markets.

4.3 Transit providers should place priority on improving local transit services in designated urbanized and denser-developed areas within the compact metropolitan area.

High-occupancy vehicle (HOV) and bus priorities

4.4 To make best use of existing investment, the governments should re-allocate existing roadway capacity to maximize people-carrying capacity, not vehicle-carrying capacity, and take into account the expected number of passengers per vehicle rather than the number of seats.

4.5 In particular, where congestion is not serious and where operationally feasible, the governments should provide HOV capacity by removing mixed traffic or parking lanes from the existing system; where this is not operationally feasible, it will be necessary to construct new HOV facilities.

4.6 The Province and municipalities should install bus/HOV priority measures, wherever an advantage for transit can be demonstrated, and accept that a time penalty to other road users may occur.

4.7 On regional roads intended for inter-regional and regional traffic as opposed to local traffic, the Province should provide new capacity preferably by new HOV facilities, recognizing some mixed traffic capacity expansion may be necessary.

4.8 The Province and municipalities should consider opening HOV lanes to trucks and other mixed traffic in the off peak period, provided that the performance or safety of transit is not compromised.

Single-occupant vehicle restraint

4.9 Governments should follow a single-occupant vehicle restraint strategy, consistent with the regional objective of reversing the past priorities among the transport modes, increasing the choice of modes available, complementing the TDM policy and allowing investment in transit to be maximized.

4.10 In particular, on regional facilities within the urban area, the Province and municipalities should not increase mixed traffic peak hour capacity, except for the limited increase resulting from displacement of HOVs into new exclusive HOV lanes.

Inter-regional road traffic and goods movement

4.11 The Province and municipalities in both the GVRD and neighbouring regions should do everything within their power to limit the use of interregional, long haul roads for commuting, which may involve restriction at the point of access from valley towns onto the long-haul facilities.

4.12 Governments and transit providers should facilitate the transfer of passengers between long haul transport and regional transit services to promote the movement of passengers by non-auto modes (e.g. buses to airport, ferry terminals, bus priorities internally).

4.13 The Province should designate interregional roads which are to be protected from congestion by long-haul commuter traffic.

4.14 The Province should make the necessary legislative changes to permit transportation corridors to be reserved, especially for the purposes of inter-regional travel.

5. Policies for Keeping Options Open

5.1 All parties should regard the preservation of future potential corridors, even though such corridors are not recommended for functioning transport facilities under this long range plan, as a fully legitimate activity of responsible agencies in order to keep options open and deal with the uncertainties of the future.

5.2 The agencies responsible for transport facilities should continue with those activities required to define, assess and protect long range options in support of continuous planning.

5.3 The Province and local governments should establish a stable planning cycle covering all modes of transportation, passenger and goods movement, which fully recognizes the interaction between land use and transportation.

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