

Will Freeway Expansion Kill the Livable Region?

**QUESTIONS about the B.C. Government's
Port Mann and Highway 1 proposal
for the Vancouver Region**

A Position Paper prepared by

The Livable Region Coalition

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Introduction

The Vancouver region has become known throughout the world for its high quality of life. What sets Vancouver apart from other North American regions? Aside from its beautiful setting, diverse economy and population, the Vancouver region has a history of minimizing highway investment in favor of other transportation options, and of promoting compact land use planning.

That history and vision is reflected in the *Livable Region Strategic Plan*, the adopted growth management strategy for the Greater Vancouver region. The LSRP calls for transportation strategies that minimize outward growth in favor of infilling existing town centers. The four pillars of that approach are:

- 1) Protect the green zone
- 2) Build complete communities
- 3) Achieve a compact metropolitan region; and
- 4) Increase transportation choices.

Perhaps more than any other single action, major transportation investments shape a region, and determine not only how we choose to travel, but also impact business activity, our environment, and our own personal health.

Reducing traffic congestion in the Highway 1 corridor is a top transportation priority for BC's provincial government. Traffic growth and delays along this route continue to pose a serious problem. Vehicle travel in the area is generated by ongoing land-use decisions, distances between residential and workplace locations, growing commercial traffic, single-occupancy car trips and short non-work trips.

There are several ways to address traffic congestion, each with their own near and longer term consequences for our future. The province's proposal is to build a new Port Mann crossing and widen Highway 1 to at least eight lanes – as part of a much larger \$3 billion Gateway program of highway expansion in the heart of the Lower Mainland.

This paper calls for an assessment of the most effective means for lasting solutions to traffic congestion in the corridor that are consistent with adopted local and regional policy. At minimum, what is required is a careful weighing of costs and benefits of alternatives to reducing congestion within this corridor. Undue reliance on one single option – freeway expansion – will unleash a reversal of regional policies and threatens well-established visions for a 'livable region.' To ensure sustainable and balanced transportation solutions for the Vancouver region, the Province must pursue a more cooperative approach with regional authorities, local governments and citizens.

Overview

British Columbia's Minister of Transportation Kevin Falcon recently announced his intention to fast-track the twinning of the Port Mann Bridge and to expand the Trans-Canada Highway to at least eight lanes between Langley and Vancouver. These projects are presented as the only solution to the stated problems: congestion due to increases in general-purpose traffic in the region, and the delays for commercial traffic and air pollution that result.

To date, very little public information is available about the project. For over a year, Ministry staff and consultants have been studying corridor capacity options. They have recently begun private meetings with select municipal staff and councils. No public consultations have yet been scheduled. Regional concerns and impacts have been dismissed. Minister Falcon has stated his intention to proceed regardless the outcome of consultation with local government and the public.¹ And all along, Minister Falcon has repeatedly stated the expected result of the Ministry's efforts: a twinned Port Mann, and eight lanes for Highway 1.

Members of the **Livable Region Coalition** believe that the proposed widening of the freeway is flawed for four critical reasons:

- (1) It will not solve the problem of congestion.
- (2) It will have negative consequences for our livable region, particularly in the Fraser Valley.
- (3) There are more affordable and effective alternatives.
- (4) The decision-making process lacks transparency.

(1) WIDENING THE FREEWAY AND TWINNING THE BRIDGE WILL NOT SOLVE THE CONGESTION PROBLEM.

"We know that we cannot build our way out of congestion."
Premier Gordon Campbell, speaking at GVRD Council of Councils, June 2003

Traffic congestion

Road building is typically presented as a solution to traffic congestion. But experience demonstrates that new and wider freeways merely attract more traffic, especially over the long term. Traffic planners and engineers call this the Triple Convergence Principle: widened roads attract drivers who previously used alternative routes, traveled at other times or used different modes of transport. Additional development is stimulated and is likely to be car-dependent. People begin to travel further and more frequently until the widened highway is once again congested.²

¹ "GVRD tries to delay twinning of Port Mann." *The Vancouver Sun*, July 31, 2004

² Anthony Downs, *Stuck in Traffic*, 1992

This 'perfect storm' of driving and development results in the phenomenon of "induced traffic." (See APPENDIX, page 12)

How soon do widened highways fill up? In the case of the Alex Fraser Bridge, new capacity was filled within months and further widening was quickly undertaken. Today the bridge is among the most congested in the region. Can we expect that the No. 1 freeway will be widened even further and more bridges built as a result of the additional traffic?

"Widening and building new highways actually causes, not relieves, traffic congestion in Cincinnati and other major U.S. metropolitan areas. This study estimates that up to 43% of traffic in Greater Cincinnati is caused just by expanding the area's road network."

Summary of Noland and Cowart, "Analysis of Metropolitan Highway Capacity and the Growth in Vehicle Miles of Travel," presented to the U.S. *Transportation Research Board*, January 2000

"Between 1982 and 1997, metro areas that were aggressive in expanding the amount of road space per person fared no better in terms of rush-hour congestion than those that did the least to add new road space; in fact, they did slightly worse. This is due in part to what is known among transportation planners as 'induced travel,' a phenomenon in which newly available road space encourages additional car travel."

U.S. Department of Transportation data "show that 69% of the growth in driving in this period was due to 3 factors: longer average trips, less carpooling, and a switch from biking, walking, or transit to driving. Each of these factors is at least partially related to changing [sprawled] development patterns."

The Surface Transportation Policy Project (STPP), USA, 1999

(2) OUR PLANS FOR A MORE LIVABLE AND SUSTAINABLE REGION WILL BE ERODED.

Land Use and Sprawl

Development responds to transportation investment. A primary stimulus of highway construction is the anticipated increase in land value that results from development pressure. This relationship is simple, it is intuitive, and it is a primary driver of the proposed project. This relationship is true for other new road projects in B.C. For example, more car-dependent development has already been announced for the Sea-to-Sky Corridor in anticipation of the highway widening. As well, the planned Golden Ears bridge further east along the Fraser River has already generated industrial development proposals and higher land-values.³ With easier access to the Fraser Valley, the pressure on the Agricultural Land Reserve and on our remaining green space will be intensified.

³ "Planned Bridge boosts development." *The Vancouver Sun*, August 11, 2004

With sprawl comes other negative consequences: demands for the installation of expensive infrastructure, development pressure on scarce agricultural lands, more taxpayer-funded debt, and auto-dependent communities.

The freeway widening will dramatically affect existing land use and undermine the Livable Region Plan, yet a full land-use analysis is not anticipated. In fact, the profound land use implications of the expansion are not adequately factored into the current transportation models being used to justify this project in the first place. The land-use shifts induced by such a major road project will quickly eliminate the project's alleged benefits. The project needs to be modeled in association with the actual land use pattern that it will create.

CASE STUDY from Washington D.C.

In the mid-'80s congestion on a 12-mile stretch of Interstate 270 verged on the unbearable. "So the county applied to the Maryland state government for \$200 million to expand the road up to 12 lanes. The state, tapping chiefly federal funds, agreed. Now, less than eight years after the expansion was completed, the highway is again reduced to what one official described to the *Washington Post* as 'a rolling parking lot.'"

"The daily auto and truck usage is running as high as 210,000 vehicles a day, beyond the official capacity of 190,000, in fact more than state highway officials had projected for 2010. In the five years before I-270 got widened, 1,745 new homes were approved in the 12 miles north of Rockville, the major community on the route. In the following five years, 13,642 were approved."

Source: *The Washington Post*, January 4, 1999

Impact on Adjoining and Local Roads

There will unquestionably be an increase in traffic that will be funneled onto municipal streets adjoining the freeway. How will the additional traffic affect neighbourhoods and business districts? Will congestion simply be transferred on to municipal roads and into adjacent neighbourhoods? Inevitably, the cost of mitigating the impact on local neighbourhoods will be borne by local taxpayers.

Public Health and Physical Activity

Recent evidence indicates that highway-fed sprawling developments – low-density, single-use residential areas disconnected from commercial areas and workplaces – are associated with multiple health problems. Physically active modes of transportation (e.g. walking and cycling) are seldom chosen as modes of travel amongst residents of sprawling environments.⁴ Health affects related to sprawl include respiratory failure, asthma, and hypertension.⁵ Reduced physical activity and increased obesity has been found in association with sprawl.⁶ One study shows that residents of the most walkable environments in the Atlanta region were 2.4 times more likely to get U.S. Surgeon General's recommended 30

⁴ Sallis et al 204; Ewing and Cervero 2001; Frank and Pivo 1995

⁵ Sturm and Cohen, 2004

⁶ Ewing et al 2003

minutes of moderate physical activity per day than residents of the most sprawling areas of that region.⁷

Air Pollution and Climate Change

Advocates for expansion argue that freely flowing traffic will generate less emissions. But it is unlikely that free-flowing traffic will be maintained, and we will once again face congestion only this time with eight lanes and increased air pollution. In any case, regional air pollution arises more from sheer number of vehicles (and distances traveled) than by those vehicles idling in traffic. Why fight a battle to stop an energy plant like Sumas II only to see the air quality gains dissipated on our own roads?

Greenhouse gases are the direct result of the combustion of fossil fuels. Increased capacity will open up new areas for development and result in longer commutes from new homes located in low-density environments. Recent research conducted in the Seattle Region shows that lower density, auto dependent development is associated with higher per capita production of greenhouse gas.⁸ Based on these findings, the proposed freeway expansion will increase the amount of greenhouse gases emitted in the region and is counter to our national commitment to the Kyoto Protocol.

Other Environmental Impacts

Widening the highway will reduce green space, increase the amount of noise, and add to light pollution. Additional asphalt create new impervious surfaces, which reduces groundwater recharge, and increases runoff of vehicle fluids into streams and waterways.

(3) THERE ARE MORE AFFORDABLE AND EFFECTIVE ALTERNATIVES.

Traffic congestion and longer travel times are a very real problem in the region. The frustrations of traffic tie-ups and delays are familiar to all of us. The residents and businesses of this region need a response to the problem of congestion that offers some prospect of working over the long-term. Expensive solutions that provide some short-term relief will come at high cost to taxpayers, but will simply move the traffic bottlenecks around, postponing more comprehensive solutions to congestion.

While much attention is focused on the daily commute, most trips are short non-work trips. Short distance trips by single occupant vehicles make up a significant proportion of traffic volume on the No. 1 Highway in the Lower Mainland and the Port Mann Bridge.⁹ Expanding general-purpose road capacity would clearly encourage more of these short haul trips. This runs counter to both regional and provincial policies.

⁷ Frank et al, forthcoming.

⁸ King County LUTAQH Study, 2004

⁹ "Travel Characteristics of Traffic on the Highway 1 Corridor, " *TransLink Board report*, July 21, 2004 http://www.translink.bc.ca/files/board_files/meet_agenda_min/2004/07_21_04/4.12travel.pdf

There are alternatives. Below is a short list of potential options. The five suggestions here are by no means exhaustive. However, in combination, these measures have great potential to reduce short-haul trips and single-occupancy travel that generates much of the traffic congestion along the Highway 1 corridor. These and other options can and should be explored by regional and provincial authorities. Any alternative that costs less but achieves similar results deserves a full examination by the Ministry of Transportation.

HOV lanes and HPV lanes

HPVs are High-Priority Vehicles, which include High-Occupancy Vehicles (HOVs), buses and commercial vehicles.

HOV lanes which are currently open to bus travel could be easily expanded to allow HPVs. If an HPV lane starts to become congested, it would be a simple matter to either convert another general-purpose lane to an HPV lane, perhaps with time-of-day restrictions, or to increase the minimum HOV occupancy.

Where HOV lanes do not currently exist, as in Surrey, they could be added. This would create queue-jumper lanes to give priority access to the Port Mann Bridge. This would reduce congestion without the enormous expense of widening the road or building a new bridge. It would also give explicit and lasting priority to those identified by the province as the primary reason for the project: commercial vehicles.

Improved Transit Options

There is significant potential for better express bus service between the south of Fraser communities and the Burrard Peninsula. For example, at present not a single TransLink bus runs over the Port Mann Bridge. TransLink recommends running an express bus over the bridge to link Surrey with Coquitlam. We support this recommendation. Such a service would obviously benefit from the HOV/HPV lanes proposed above.

By 2010, rapid transit will connect the Vancouver, Metrotown, Brentwood, Edmonds, Lougheed, Coquitlam, Port Moody, New Westminster, Surrey and Richmond town centres. By proposing to complete the freeway and bridge expansion over the same time period, the provincial government may in fact undermine the investments already made in rapid transit.

Specifically, ridership and revenue potential on new and existing rapid transit and bus services throughout the Northeast Sector could well be compromised by freeway expansion.

"If you invest in highways at the same time as you invest in public transit, the car will win out every time. The car may win, but people with cars will lose, because as studies have shown, traffic congestion returns and increases after the construction of more or wider roads."

Jacques Fortin, Director-General (1997-2002) of STM, Montreal's transit agency

New Rail Options

There is a strong potential to connect the Southern Railway of BC track that runs near Scott Road to the SkyTrain system. This would provide service to the Newton, Cloverdale and Langley town centres.

Another possible rail option is the New Westminster (Fraser River) Rail Bridge, which could be upgraded or replaced in the near future, providing commuter rail service between the Burrard Peninsula and south of the Fraser.

In broad terms, rail freight services are more efficient, and should be encouraged wherever possible.

Congestion pricing and ramp signals

Congestion pricing is now in effect in urban areas throughout the world. The technology is quite mature, and some of it was developed in the Vancouver region and is used elsewhere. The most dramatic success of congestion charges has been in London UK, where traffic has been reduced by 20%, delays have been cut 30% and travel times for buses have improved 50%.¹⁰ Even major automobile and oil companies are now calling for the widespread adoption of congestion pricing as an “effective means” to reduce traffic congestion. In their report, the *World Business Council for Sustainable Development* states that congestion charges “provide a financial incentive to adjust travel times, choose alternative routes, share rides, combine trips or eliminate them entirely.”¹¹

By tolling existing infrastructure, congestion can be reduced at little cost. In fact, the revenues from tolling can be devoted to better maintenance, transportation alternatives and public transit without having to raise general taxes. In the San Francisco/Bay Area, tolls on existing bridges generate US\$125 million a year, and revenue is being directed to new ferries, expanded rail lines, and increased bus service in the often-gridlocked region. Voters recently agreed to a \$1.00 increase (to \$3.00) on seven Bay Area bridges.¹²

Ramp signals could easily be installed at all freeway on-ramps to regulate flow and manage the congestion caused by local drivers using the highway for short trips. The metering of on-ramps could be easily adapted to provide a priority bypass for High-Priority Vehicles by constructing queue-jumper lanes that provide direct access to the highway. Single-occupant vehicles would have the lowest priority access to the highway, and current highway capacity would be more efficient.

¹⁰ “Ken’s Coup: London’s charge working better than expected.” *The Economist*, March 20, 2003

¹¹ “Big 12 motor and oil firms back congestion charges.” *Glasgow Sunday Herald*. Sept. 12, 2004. Members of the Council include: Ford, Honda, DaimlerChrysler, Toyota, Nissan, Volkswagen, BP, Shell and Norsk Hydro.

¹² “Tolls Raised on Bay Area Bridges,” *Los Angeles Times*. July 5, 2004

Transportation Demand Management

Managing demand on the road network is another regional priority. For regional planning to be effective, good land-use decisions must be made, which would in turn reduce the demand for much of the additional highway capacity now being proposed. Congestion pricing would also serve to significantly reduce demand on busy corridors and manage existing traffic congestion.

The other major demand management tool that has not been applied in any significant way in the Lower Mainland is employer Trip Reduction Programs (TRPs). Most employees are encouraged to drive by the provision of free parking, while the great majority of employees who take alternative modes are provided no support from employers.

A wide range of well-proven TRP methods exist, including compressed work weeks, telecommuting and employee transportation credits that can be applied to transit, parking fees or simply pocketed if the employee carpools, cycles, or lives close enough to walk to work.

(4) PUBLIC PARTICIPATION AND TRANSPARENCY

It is clear that the proposals being studied by the province and championed by Minister Falcon are based on the assumption of the continued dominance of the automobile and trucks. This brief paper has shown that a number of viable alternatives exist that have not been given due consideration.

The province's one-solution approach is an affront to the principles of provincial and federal environmental assessment legislation, which requires proponents to examine a wide range of alternatives. The experience in other jurisdictions should also be evaluated. Portland, Oregon, for instance, has found that changes in land-use can achieve better results in controlling congestion than widening roads.

There are a number of alternatives which could be identified and funded, and would better meet regional and provincial policy objectives. This paper has listed just a few. Will these alternatives be fully considered? Not unless the public and their representatives insist upon it.

It is clear that a multi-stakeholder process is required before embarking on such an expensive, contentious and controversial transportation infrastructure project. The Port Mann/Highway 1 proposal is likely to transform the region for the foreseeable future into a sprawling, low-density, automobile-dependent urban agglomeration. This is contrary to the goals of the Livable Region Strategic Plan and will reduce our long-range economic competitiveness.

To date, Minister Falcon has been dismissive of regional concerns about the impact and implications of these projects in Lower Mainland communities. He disputes the need for assessment of the project: "We don't need more studies," Falcon claims. Yet

Transportation Ministry staff and hired consultants have been studying the project for over the last 18 months, and continue to do so.

Only in recent weeks has the Ministry's Gateway team begun to unveil the project options to selected municipal staff and councillors. These meetings are private; full project options, costs and details remain unknown or sketchy. Public consultation is expected, but no meetings have yet been scheduled.

Minister Falcon has pre-judged and peremptorily declared that a twinned Port Mann bridge and an eight-lane widening from Langley to Vancouver is the only solution to congestion. Minister Falcon has stated that consultations will be undertaken in the region. Yet he told the *Vancouver Sun* that he plans to push ahead with the project "whatever the outcome of consultation with the public and local government."¹³

This approach is clearly not acceptable. The provincial government must give full and due consideration to all potential solutions to the stated problem: traffic congestion in the Highway 1 corridor, and air pollution throughout the region.

MIXED MESSAGES?

Minister Kevin Falcon, *The Vancouver Sun*, July 31, 2004:

Asked if he plans to push ahead with the project following consultations, Falcon said: "Yes, very much."

Minister Falcon, *The Province* September 08, 2004,

With regards to concerns of Lower Mainland mayors and GVRD politicians: "I will certainly work as hard as I can to build as much consensus as I can."

Minister Falcon, *Surrey News-Leader*, September 12, 2004.

Falcon says local government opposition to the plan won't affect his schedule. "It's really quite absurd - you've got the GVRD which has towers full of bureaucrats that do nothing but turn out studies that not a lot of people pay attention to. There's no need for more studies."

THE FEDERAL ROLE IN URBAN TRANSPORTATION

Given the status of Highway 1 as part of the Trans-Canada Highway, and Ottawa's promises to share gas tax for urban infrastructure through its 'New Deal' for cities, supporters of highway expansion may be counting on federal funding and support for the Port Mann/Highway 1 project.

However, the federal government clearly intends to direct gas tax/New Deal funds towards sustainable transportation that will combat, not encourage, urban sprawl. The recent Throne Speech clearly stated that these "funds will enable municipalities to make long-term financial commitments needed to help contain urban sprawl."

Recent comments to *The Globe and Mail* by John Godfrey, the federal Minister of State for Infrastructure and Communities, were even stronger. He said that gas tax money should be spent on municipal infrastructure "which is compatible with our long-term goals to meet our Kyoto obligations, to have clean air and water, and to have cities that in 30 years make sense and have not just destroyed themselves through sprawl."¹⁴

¹³ "GVRD tries to delay twinning of Port Mann," *The Vancouver Sun*, July 31, 2004

¹⁴ "Divy up gas-tax revenues by population, minister says," *The Globe and Mail*, June 29, 2004

In later comments, Minister Godfrey praised an Ontario government plan to ease urban sprawl by restricting growth to 26 urban areas over the next three decades. He suggested that the federal funding could be used to help make the plan a reality. “We simply want to reinforce the policy direction that the province is going in, reinforce the desire of Ontario cities to be sustainable,” Godfrey said.¹⁵

Meanwhile in B.C., the provincial government is poised to advance freeway expansion that will only accelerate sprawl-type developments. This contravenes the Livable Region Strategic Plan goals for compact development and enhanced transportation choices. The proposal also fails to meet stated federal objectives. It seems apparent that the Province’s plan for freeway expansion is unlikely to win federal support.

CONCLUSION

Clearly, the Province has been less than forthcoming with details of this proposal. The impacts on land use, transit and transportation patterns will be very significant. The assumption that widening Highway 1 and twinning the bridge will solve traffic congestion needs to be seriously questioned. Alternatives to widening and twinning are available, and need to be fully evaluated and considered.

In many respects, the freeway and bridge expansion represents a “fork in the road” regarding the future sustainability of the region. The choice before us is between a future built around largely around the motor vehicle and spread-out development, or continuing with current efforts and progressive achievements towards more compact development, wider transport choices and a livable region.

¹⁵ “Godfrey hopeful of gas tax deal,” *The Toronto Star*, Sept. 29, 2004

APPENDIX

Summary of studies demonstrating % new capacity wasted on induced traffic		
Source of study	Short-term (0-2yrs)	Long-term (3+ years)
SACTRA		50 - 100%
Goodwin	28%	57%
Johnson and Ceerla		60 - 90%
Hansen and Huang		90%
Fulton, et al.	10 - 40%	50 - 80%
Marshall		76 - 85%
Noland	20 - 50%	70 - 100%

Source: Sierra Club <http://www.sierraclub.org/sprawl/transportation/seven.asp>

SOURCES for Figure Values in TEXT BOX above:

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