

**TRANSPORTATION AND COMMUNICATION
AND THE REGIONAL ECONOMIES**

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Project 250: Regional Economies Expert Panel

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TRANSPORTATION AND COMMUNICATION AND THE REGIONAL ECONOMIES

I. INTRODUCTION

This paper focuses on how transportation and communication could contribute to improving the prospects and performance of the "250" Region¹ in British Columbia. This region, the non-metropolitan parts of BC, is inextricably linked to BC's southwest metropolitan region but its economies have different industrial structures and its greater distance from markets and transport and communication hubs makes the propulsive role of these two facilitators of economic activity quite different.

Transportation and communication have somewhat analogous physical structures and cost relationships in that total cost of using their networks increases with distance (but less than proportionately) but communication moves information while transportation moves goods and people. Transportation is, in terms of resources used in the production of service, more important but both play a vital role in linking regional economies with global markets. While this paper includes both transportation and communication, more attention is given to transportation.

The economy's demand for commercial transportation and communication is "derived" – this means that these two services are not desired for their own sake, by and large, but rather because they provide the means of connection between two different locations. Households in British Columbia spent about \$78 billion in 1998 and \$11.7 billion of this was spent on private transportation (mostly on automobile transportation) and about \$1.7 billion purchasing transport services from commercial providers. Expenditures for the 250 Region were \$4.6 billion and \$500 million out of total consumption expenditures of \$30 billion.² The relative importance of transportation and communication in terms of its share of BC's GDP³ over the last 40 years is shown in Table 1. The declining dependence of the economy on the transportation industries partly reflects their increased efficiency and partly the shift of the economy to the service industries, which use relatively little transportation. When the comparison is with the size of the transport sector and the output of goods-producing industries, the reduction is from 26 percent to 22 percent. The communication industries share of GDP is smaller, only 3 percent, but their 1 percent share increase is itself a 50 percent increase in importance.

¹ In this paper, the 250 Region includes all of BC except Greater Vancouver and southeastern Vancouver Island from Nanaimo south.

² Calculated from Statistics Canada, Spending Patterns in Canada, 1999. (SC 62-202)

³ Note that in the economic accounts "transportation" does not include automobiles and other private transportation and many of the industries that are part of the new information sector are not classified as "communication".

**TABLE 1
TRANSPORTATION AND COMMUNICATION SHARES
OF GDP AT FACTOR COST, 1961-1998 (percentages)**

	Transportation and Storage/GDP	Transportation and Storage /GDP, Goods Industries	Communication/GDP
1961	10.42	26.28	2.34
1971	9.14	24.92	2.75
1981	7.66	21.23	3.09
1991	6.12	21.41	3.09
1998	5.94	22.29	3.30

SOURCE: BC Stats computer file.

The data in Table 1 are the value-added to total output by the commercial transportation and communication industries. Most of this is generated by the operation of commercial transport and communication services and relatively little by the provision of infrastructure. Yet infrastructure – the physical assets and productive capability represented by facilities such as highways and fiber-optic systems – is essential for the production of these services and deservedly occupies a prominent place in public and business thinking about transportation and communication. Infrastructure's role as a facilitator of economic activity has been a popular idea in economics for a long time. The business and government emphasis on railways and other transport infrastructure in the development of North America over the 1850-1950 period is well-known. In British Columbia projects such as the Cariboo Road and the Canadian Pacific Railway are seen as having been integral to the opening up of the province to extensive settlement and economic activity.

The measurable role of transport in economic growth was somewhat downgraded in economic research after 1960 but more recent research has confirmed its impact on the size and direction of trade flows and on aggregate economic productivity.⁴ Investment in infrastructure is not the only important variable. How infrastructure is priced affects both investment and use decisions. Also, the design of infrastructure, long a point of contention between engineers and economists, has been shown to be important in optimizing the efficiency of transport infrastructure investment.

For both transportation and communication there is another critical stage between infrastructure and the use of networks in the production of goods and services. Transport and communication carriers, commercial and private, use these networks to produce services that are then sold to, or used by, actual producers of goods and services and the general population so they can overcome the barriers erected by distance between the locations of production and market demand. The price charged for these services is very important and public policy in Canada has, over the last 30 years, emphasized deregulation of commercial transport and communication as a means of

⁴ A recent survey of this literature is B. Jiang, "A Review of Studies on the Relationship between Transport Infrastructure Investments and Economic Growth", Canada Transportation Act Review Research Paper, January, 2001.

bringing prices as close as possible to the marginal costs of producing transport and communication services.

Consultations by the BC Progress Board with regional and industry groups as part of "*Project 250 - Regional Economies*" have revealed considerable interest in improved transportation as a development strategy in particular parts of the 250 Region. There were fewer references to communication but several mentioned the "digital divide". The consultation request was quite open-ended so the respondents who chose to comment on transportation did not do so because they were specifically asked to. Many respondents identified perceived highway deficiencies as hindering development and several were concerned about airport inadequacies following the transfer of airports from Transport Canada. Several respondents from northwest argued for increased use of northern ports, pointing to excess capacity in contrast to capacity pressures in and around the Port of Vancouver. Some mentioned the need for integrated transportation planning.

The point of view in this paper is that adequate transport and communication, while necessary for economic activity, are not by themselves sufficient to guarantee prosperity and vitality in any economy. The ability to connect with and compete in a globalized economy is helped by good transportation and communication but these are not a guarantee of success. The task at hand is to identify situations where shortcomings in transport and communication are actually preventing economies in the 250 Region from realizing their economic potential.

II. OVERVIEW OF THE REGIONAL ECONOMIES

About 75 percent of the value of British Columbia's production comes from the service industries. The 25 percent of today's GDP from production of goods is a decrease from 30 percent just 15 years ago. Within the province, the ratio between goods and services is highest in the resource-based economies of the Interior and non-metropolitan coast and lowest in Victoria and Vancouver. Economic accounts statistics are not available below the provincial level, but in 2001, 22 to 33 percent of the labour force was employed in goods production in the five Development Regions in the Interior and only 18 percent in the two coastal Development Regions, which are dominated by Vancouver and Victoria.

Forty-five percent of BC's GDP was exported in 2001, two-thirds to other countries and one-third to other provinces. Goods exports to other countries totaled \$32 billion in 2001 while international service exports were \$8 billion.⁵ Interprovincial exports of goods were \$8 billion and of services \$11 billion.⁶ In addition, the tourism industry accounted for 5 percent of GDP, spread across many industry sectors and much of this is in fact an export. Almost all the output of the province's resource industries is exported and this source of demand is what drives much

⁵ About two-thirds of international goods exports were to the United States and 15 percent to Japan. No other country had more than 3 percent of total international exports. Statistics Canada, 13-213.

⁶ Based on 1998 data, 40 percent to Alberta and 27 percent to Ontario. Statistics Canada, 15-546.

of the provincial economy. A study of income dependency by industry sector⁷ in 1996 for local areas in BC outside Greater Vancouver showed that 49 of 63 had more than 40 percent income dependency on goods and service production for export (including tourism). Twenty-three areas had more than 25 percent income dependency on the forest industry. Thus, it is reasonable to conclude that the 250 Region is even more dependent on exports than the BC economy as a whole.

Based on changes in population and employment, the relative performance of economies in the 250 Region has lagged behind metropolitan BC in the last five years. Table 2 shows the shares of BC's total population across the eight Development Regions has changed over the last 25 years.

TABLE 2
POPULATION SHARES OF DEVELOPMENT REGIONS,
1976 AND 2001 (percentages)

	1976	2001
Vancouver Island/Coast	18.8	17.9
Mainland/Southwest	53.0	57.1
Thompson/Okanagan	12.0	12.2
Kootenay	5.1	3.9
Cariboo	5.3	4.4
North Coast	2.5	1.8
Nechako	1.4	1.2
Northeast	1.8	1.6

SOURCE: Calculated from BC Stats, Population Statistics

These changes may not appear large, but for the two least successful regions, Kootenay and North Coast, 2001 populations, if these regions had held their 1976 population shares, would have been 209,000 and 102,000 respectively, instead of 159,000 and 73,000. These changes would have amounted to 30-40 percent larger populations and economies. Unfortunately, both the statistical trend and recent economic and business events seem to point to continuing reduction in the historic importance of most of the 250 Region.

The important question for this paper is whether improvements in transportation and communication facilities and services could have had a substantial impact in changing the recent performance and current prospects for the economies of the 250 Region.

⁷ Income dependency is a measure based on the concept that a region's basic sector, dominated by external influences, drives the local service sector. The basic sector is here defined to include government, transfer payments, and other income such as pensions and investments. The 40 percent cut-off is an arbitrary limit designed to emphasize the importance of export-based industries in the province's areas. By definition, areas with over 60 percent income dependency on government, transfer payments, and pension and investment income have less than 40 percent dependency on goods and tourism. BC Stats, British Columbia Local Area Economic Dependencies and Impact Ratios - 1996.

III. TRANSPORTATION AND COMMUNICATIONS IN HISTORICAL PERSPECTIVE IN BC

In answering this question it would have been desirable to have had a detailed database that described the passenger and freight transportation and communication systems of each region and their traffic flows to facilitate the linkage of this information to each region's economy. No such database exists and so this section simply provides a brief summary of the historical development of these systems. Its purpose is to show how the creation of modern extensive transport and communication systems has paralleled the development of British Columbia and in some cases been directly associated with the economic development of its outlying regions.

This overview will be presented through brief summaries of 16 important transportation and communication infrastructure projects and programs and their importance for the BC economy.⁸ These summaries will not be exclusively targeted on the 250 Region because, as was pointed out earlier, the entire province depends on the system network.

1. **Early road construction** - beginning in the 1860s, projects such as the Cariboo Road, together with lake and river shipping, opened the Interior of the province.
2. **Canadian Pacific Railway** - the construction of the first transcontinental railway in the 1880s and later branchlines made a vast improvement in the accessibility of southern BC.
3. **Early telephone system** - although BC had telegraph service from 1865 with subsequent expansion following railway construction, the major communication breakthrough was the beginning of the telephone system in Victoria in 1880. By 1890 Vancouver's system had 500 subscribers.
4. **Canadian National Railways** - construction of the predecessors of Canadian National before World War I brought low cost land transportation to large areas of central British Columbia.
5. **Port of Vancouver** - Vancouver has been BC's major port for over 100 years. Very strategic investments in the port occurred between 1890 and 1925.
6. **Provincial highway system** - when automobile and truck registrations soared in the 1920s the provincial road system, which had fallen into disrepair when the railways arrived, was rebuilt and expanded. It is difficult to think of a transport project with more far-reaching and durable impact.
7. **PGE/BCR** - the 1920 railway from Squamish to Quesnel was not of much use; the 1950-75 extensions of the PGE/BCR to the north facilitated the development of the northern forest industry. In the end, more construction was planned and built than was warranted.

⁸ Sources for this section include Cole Harris, "The Struggle with Distance," in Cole Harris, ed., The Resettlement of British Columbia: Essays on Colonialism and Geographical Change, Vancouver, UBC Press, 1997, pp. 161-193; G.W. Taylor, Builders of British Columbia: An Industrial History, Victoria, Morriss Press, 1982; and R.G. Harvey, The Coast Connection, Lantzville, BC, Oolichan, 1994.

- 8. Modern provincial highway system** - in 1945 the system was incomplete (no southern connection between the coast and interior, no BC highway to the Peace River, etc.) and of low quality even by standards of the time. By 1985 a much larger and better system linked all population centers with modern paved highways
- 9. Air transport system** - after World War 2 air transportation spread over the entire province and revolutionized passenger transportation within British Columbia. Airports and air services were expanded to meet demand.
- 10. Postwar telephone system** - various technical improvements in telephone communication increased information accessibility throughout British Columbia and laid the basis for the first use of the internet in the 1980s.
- 11. Pipeline transportation** - the first oil and natural gas pipelines were constructed in the 1950s to serve the transportation needs of the new energy industries.
- 12. BC Ferries** - coastal passenger transportation was greatly expanded between 1960 and 1980 as the provincial government built the BC ferry system and enhanced the movement of passengers and freight along the coast.
- 13. Vancouver International Airport** - Expansion of facilities and services at Vancouver International Airport provided continuously expanding links to the world, especially after 1985.
- 14. Metropolitan transportation** - expansion of the Vancouver transit system in the 1970s and the use of new technologies combined with major highway projects to limit somewhat the impact of congestion in BC's rapidly growing metropolis.
- 15. Provincial highways improvements** - in the 1980s and 1990s new projects such as the Coquihalla highway and the new Vancouver Island highway brought increased speeds and much reduced transit times to a few parts of the province, lowering the costs of truck transport and increasing automobile travel.
- 16. High speed communications** - after 1990 the installation of high speed, broadband communication networks connected some parts of the province to the modern information system. However, a digital divide, not unlike the transportation divide that existed before 1950, emerged as parts of the province were left out of this new communications accessibility.

Against the backdrop of this huge expansion in the province's transport and communication facilities is a major alteration in the direction of federal government policy towards transportation carrier operations. Beginning with the initial deregulation of railways in the 1960s and continuing through all the other modes, government has decided to rely mainly on market competition to ensure efficient transportation service. The exceptions to this choice are federal regulation of communications carriers, provincial government ownership of BC Rail and BC Ferries, provin-

cial regulation of for-hire road passenger transportation, public transit, and continued government provision of all highway, most port, and some airport infrastructure.

Deregulation still leaves governments with direct access to several policy levers in transportation and communications; these could be used to induce change in the economies of various regions in the province. Because of its greater reliance on transportation, and the existence of the digital communications divide, the 250 Region is an especially suitable candidate for this sort of policy attention. The questions are, what could be done and what would the impact be on the 250 economies?

IV. TRANSPORTATION AND COMMUNICATIONS DEMAND IN THE 250 REGION

Before answering these questions we need to review the role of transportation and communication in the economy of British Columbia, with emphasis on the 250 Region. This is a difficult task, partly because the subject is so broad and partly because data on transportation and communication services is typically not available by region. To deal with the first problem, a series of summary facts about the nature of demand for transport and communications in the 250 Region will be presented. The second problem will be dealt with by adapting available provincial-level data on transport and communication to the regional level.

Demand for Passenger Transportation

- a) Well over 90 percent of 250 intercity passenger-kilometres are produced by automobile transportation. The tourism industry is largely automobile-based and personal travel is almost all by automobile.
- b) Passenger transportation by ferry is vital along the coast for both tourism and personal travel.
- c) Much air transport demand is from business travelers and thus the operations of many enterprises in the 250 Region have a major interest in the price and quality of commercial air transport service. Air transport is also important for some parts of the tourism industry.

Demand for Freight Transportation

- a) Total freight transport flows in British Columbia are estimated at 170 million tonnes⁹ - 100 million tonnes overseas trade, 25 million tonnes U.S. trade, 16 million tonnes trade with other parts of Canada, and 31 million tonnes of flows with BC origins and destinations. Over 40 percent of this total are bulk commodities (the largest are coal and grain, which is largely from the Prairies), 30 percent is forest products, and the remainder is scattered across many commodities. The dominance of forest products and bulk commodities together with important flows of metals and minerals in the remainder group means that the 250 Region is the origin of most of the traffic flows that have BC origins.

⁹ Transport Canada, Freight Transportation in British Columbia, Final Report, March 2002. (TP 13909 E, prepared by IBI Group). A product may enter this total more than once during processing (e.g., processing logs to wood chips to pulp would be counted three times).

- b) Truck transportation serves the whole 250 Region and meets a wide variety of different freight transport demands ranging from transport of commodities such as mineral concentrates and logs to high value package freight.¹⁰
- c) Freight transport demand for some industries is dominated by railway transport and all the 250 Region's resource industries make extensive use of railway transport.
- d) Oil and natural gas are dependent on pipelines for meeting their transport demand.
- e) Overseas exports are mainly shipped through the Port of Vancouver although many coastal production facilities operate their own ports. The province's second most important port, Prince Rupert, only handles about 10 percent of Vancouver's international traffic flow.

Demand for Communication

An information base equivalent to that used to summarize demand for freight and passenger transportation does not exist for communication. There is little published statistical information¹¹ and it is difficult to make judgments about the direction and extent of demand for communication services. The reports of the Premier's Technology Council fill this information gap to some degree but their work is unfinished and heavily focussed on high speed, broad band internet access. The impression from the Council's consultations is that there is a large demand, mainly unsatisfied¹², across the 250 Region for the type of internet access enjoyed in Vancouver, Victoria and a few other centers. This may not be the case for the whole 250 Region but research and data from other places¹³ leaves little doubt that the basic telephone services that have been available at about the same level of quality across the province for decades are no longer sufficient to meet business and personal demand for modern communication opportunities.

V. FREIGHT TRANSPORTATION IN THE 250 REGION

This is the first of three sections that will examine the supply of transportation and communication services in the 250 Region. Each section includes summaries of infrastructure, government policies regarding operations that use the infrastructure, and services provided.

¹⁰ In 1999, 35 percent of B.C.'s exports (measured by value, not weight) are travel across the border by truck compared to 20 percent by rail, and 35 percent by sea (much of which has already been transported to ports by rail and truck). The remaining 10 percent export value moves by pipeline, electricity transmission lines, and air (4 percent). BC Stats, "Trade Growth Tied to Transportation Infrastructure," [Exports \(BCOrigin\)](#), November, 2000.

¹¹ The recent merger of BC Telephone Co. into Telus and restructuring in the cable television industry has removed B.C.-specific statistics from corporate reporting.

¹² But Statistics Canada reports (SC 56-504-XIE) that internet use (proportion of households using the internet (at any location) in 1999 was 48 percent for all of BC and 50 percent in Vancouver and 56 percent in Vancouver. This would make the P250 internet penetration rate in 1999 about 44 percent, not that much lower than Vancouver's 50 percent. Of course, the Premier's Technology Council's observations about quality of access remain.

¹³ There is a rapidly growing literature on this. See, for example, Organisation for Economic Co-Operation and Development, [Information and Communication Technologies and Rural Development](#), Paris, OECD, 2001 and Benjamin M. Compaine, ed., [The Digital Divide: Facing a Crisis or Creating a Myth](#), Cambridge, MA, MIT Press, 2001.

Freight Transportation - Highways

Highways connect all centers of population and production in the 250 Region and railways are available in most parts of the region except the southern Interior near the U.S. border where abandonment of railway lines has occurred. In some areas, water transportation is an important complement to this infrastructure. Airfreight is little used in the region but the basic airport infrastructure is in place. Natural gas and oil pipelines are available for the transport needs of the energy industry.

Although there are few locations, if any, unserved by freight infrastructure, questions can be asked concerning the degree of circuitry on particular links in the transport network and the quality of certain links. The issue of circuitry can be illustrated with reference to the success of the Coquihalla highway. All the points it serves were already connected by provincial highways when the new highway was built in the 1980s. But it gave every one of its locations less circuitous connections with Vancouver and with each other than had existed before. Similarly, the Coquihalla highway was built to higher design standards than those generally found on the previous connections. In this way, it permitted a higher quality service and lower freight costs than was possible on existing highways.

The provincial highway system has two components - 12,000 kilometres of numbered (mostly paved) highways and 30,000 kilometers of rural roads. The size of the provincial highway system has not changed much in recent years but highway expenditure levels have shown a general decline. Table 3 shows that the decline in real expenditures on BC highways and streets over the 1990s will continue at about the same rate for the next three years. The decline has been most marked for provincial capital expenditures and this trend will continue with average annual capital expenditures amounting to only \$233 million in 1997 dollars over the 2001/02 to 2004/05 period. However, the Ministry of Highways is planning to increase capital expenditures on infrastructure beyond these levels through forming public-private partnerships for highway infrastructure.¹⁴ This initiative is discussed below.

¹⁴ According to the Ministry's Service Plan, these would amount to \$20 million in 2002/03 rising to \$140 million in 2004/05. The need to make very large expenditures in connection with the 2010 Winter Olympics would add greatly to the need for these arrangements within the next three years.

**TABLE 3
ACTUAL AND PLANNED REAL EXPENDITURES ON
BC HIGHWAYS AND STREETS, 1991-2005 (in 1997 \$million)**

Actual	Provincial Govern- ment Operations and Maintenance	Provincial Govern- ment Capital	Provincial Govern- ment Total	Local Government Total
1991	603	602	1205	586
1992	649	557	1206	561
1993	649	263	912	592
1994	741	184	925	593
1995	617	398	1016	575
1996	582	507	1090	606
1997	554	456	1010	643
1998	476	356	832	679
1999	437	620	1057	636
2000	452	791	1243	663
2001	449	765	1215	615
Average 1991-2001	609	415	1024	605
Planned				
2002	411	312	724	
2003	415	235	650	
2004	398	200	599	
2005	359	184	543	
Average 2002-2005	396	233	629	

Note: Years are fiscal years ending.

SOURCES: Transport Canada, *Transportation in Canada, 2001*; BC Ministry of Transportation, *Service Plan, 2002/2003-2004/2005*; actual and planned expenditures deflated by implicit GDP deflator, SC 13-213 (future inflation 2 percent annually).

The declines in real expenditures are even more significant when stated in per capita terms (population is a proxy for changes in the level of highway use). Annual provincial government expenditures on road operations and maintenance in 1997 dollars have declined from \$181 per capita in 1991 to \$110 in 2001 and are planned to decline further to \$83 in 2005. For capital expenditures the per capita decline is more marked: from \$180 in 1991 and \$188 in 2001 (the new Island highway project pushed 2000 and 2001 capital expenditure levels up) to only \$43 in 2005. Despite these declines in expenditure levels, there is little evidence of general inadequacy in the BC highway system. There are two exceptions to this generalization: there are high levels of congestion in the Lower Mainland¹⁵ and low highway quality on certain major routes such as the Trans-Canada Highway east of Golden. Also, it appears that planning mechanisms are in place to provide road access to new resource developments in areas where this is lacking.

¹⁵ The Greater Vancouver Gateway Council has addressed the problems created by highway, railway, and port congestion in the Lower Mainland. See "Serving the Nation's Trade: Towards a Transportation Policy for the 21st Century," Submission to the Canada Transportation Act Review Panel, January, 2001.

**TABLE 4
SUMMER VOLUME/CAPACITY RATIOS FOR
SELECTED HIGHWAY SEGMENTS, 1999**

Highway	Segment(s)	Range of Summer Volume/Capacity Ratios
1	Victoria-Bamberton	0.63-1.09
	Bamberton-Departure Bay	0.43-0.61
	Horseshoe Bay-Abbotsford	0.90-2.77
	Abbotsford-Hope	0.72-0.92
	Hope-Kamloops	0.28-0.32
	Kamloops	0.80
	Kamloops-Alberta Border	0.28-0.66
3	Hope-Keremeos	0.11-0.34
	Keremeos-Cranbrook	0.14-0.26
	Cranbrook	0.76
	Cranbrook-Alberta Border	0.27-0.28
5	Hope-Clearwater	0.25-0.35
	Clearwater-Highway 16	0.15
16	Alberta Border-Highway 5	0.29
	Highway 5-Prince George	0.11
	Prince George	0.52
	Prince George-Smithers	0.13-0.22
	Smithers	0.46
	Smithers-Prince Rupert	0.10-0.24
	Prince Rupert	0.39
97	Canada/U.S. Border-Penticton	0.23-0.37
	Penticton	0.75
	Penticton-Peachland	0.26-0.64
	Peachland-Kelowna	1.48-2.21
	Kelowna	2.70
	Kelowna-Highway 97A	0.54-0.81
	Highway 97A-Kamloops	0.25-0.37
	Highway 5 SB-Prince George	0.20-0.46
	Prince George	0.92
	Prince George-BC/Yukon Border	0.13-0.21

SOURCE: Transport Canada, Freight Transportation in British Columbia, Final Report, March, 2002. (TP 13909 E, prepared by IBI Group), Technical Supplement.

Overall, as Table 4 shows, the major provincial highways have traffic levels that are far below their capacities. The summer volume/capacity ratios shown in Table 4 are based on the average regularly recurring daily vehicle flow peaks in the summer months and highway traffic flow capacities, which are determined by the number of lanes, urban or rural location, and intersection

patterns.¹⁶ Segments with volume/capacity ratios above 0.75 are bolded to illustrate that capacity pressures exist around Victoria, Vancouver as far east as Hope, in the Okanagan (especially around Kelowna), and in certain other cities (Cranbrook, Kamloops, and Prince George) in the 250 Region. Apart from the exceptions mentioned above, rural highways in BC carry peak traffic levels that are far below their design capacities.

Another aspect of highway adequacy is safety. In 1999 British Columbia had 20,349 traffic accidents with injury or death. Less than 10 percent of these accidents involved commercial vehicles. Available provincial traffic collision statistics¹⁷ do not permit a very rigorous examination of highway safety differences in different regions but a cursory examination of the relationship between the number of motor vehicles registered in different centers and injury and fatality motor vehicle accidents reported by local police detachments suggests that there is little difference across the province. However, the areas where volume/capacity ratios are higher seem to have a higher ratio of serious accidents to vehicles registered. These statistics also report "contributing factors" (sometimes more than one per accident) or injury and fatality accidents. Highway conditions only account for about 2 percent of the factors identified as causing serious accidents across the province. Moreover, the number of serious accidents decreased by 40 percent over the decade ended in 1999. Thus, there seems to be little reason to be concerned about the adequacy of the provincial highway system leading to a general problem of safety and accidents. This is not to say that there are not locations where highway quality deficiencies contribute to safety problems.

The costs of truck transportation are influenced by factors such as volume/capacity ratios and the prevalence of traffic accidents. Measures that reduce congestion and improve safety are thus beneficial to the trucking industry and, in a competitive market, should be passed on to shippers in lower freight rates. However, since congestion and safety levels seemingly impose few if any extra costs on trucking operators in the 250 Region, improving highways to lower congestion and make roads safer would not have much impact over most of the region. An exception must be made, however, for heavily congested highways in the Lower Mainland, the Okanagan, and, to a lesser degree, Greater Victoria and the largest cities in the 250 Region. Here investments in highway capacity would lower trucking costs through reducing congestion and, probably, improving safety. Other highway links that compromise safety would also be desirable locations for highway improvements.

With the deregulation of the provincial trucking industry in 1999 there is no need to review the supply of trucking services. It is by now well-established that removing restrictions on entry and pricing leads to competitive provision of trucking service at prices that approximate the marginal costs of providing service. Companies with licensing advantages thus no longer dominate the

¹⁶ For example, the capacity of a 4-lane rural freeway such as the Coquihalla Highway is 6600 vehicles per hour in both directions while a 2-lane rural arterial highway such as Highway 97 in the Cariboo has a capacity ranging from 2049 to 2410 vehicles per hour in both directions, depending on highway design factors. Transport Canada, Freight Transportation in British Columbia, Final Report, March 2002. (TP 13909 E, prepared by IBI Group).

¹⁷ ICBC, Traffic Collision Statistics, 1999.

provision of freight service by highway in the 250 Region and so consideration of the influences on freight transportation costs should focus on the highway infrastructure.

Freight Transportation - Railways

Increasing traffic volumes and longer and heavier trains in the last 25 years have induced all three major railways in BC (British Columbia Railway, Canadian National, and Canadian Pacific) to invest substantial amounts in upgrading the capacity and speed limits of their lines. The total 6,600 kilometers are about equally split between the three companies. Railway connections can be somewhat circuitous but the generally low value to weight of railway freight traffic makes it unnecessary to eliminate this circuitry. The only area of BC where railway capacity seems pressed to deal with current or projected traffic flows is in the Lower Mainland. There, local geography and the locations of the tracks of the four main railways (the three listed above plus Burlington Northern Santa Fe) create complex connections between railways and the large volume of traffic flowing to port facilities often has to deal with general congestion and problematic bottlenecks. This congestion is not just a problem for the Lower Mainland; it can cause back ups into other parts of the province and, since freight transport is a system. This is also a problem that directly impacts shippers in the 250 Region even though it occurs elsewhere.

We can assume that investment to alleviate these conditions will occur when they are economically justified. Projects such as replacing the New Westminster railway bridge (usually cited as the most important railway bottleneck in BC) should be made when the investment will be profitable. Future extensive railway expansion in BC seems unlikely although the project to connect Alaska to the rest of the North American railway network has again become active.¹⁸

Railways operate their own train services on their own infrastructure and are often, in effect, monopolists for railway service to shippers located on their lines. Thus, it is necessary to review some of the operating characteristics of the three main railways. Following deregulation and privatization, two of BC's three major railways operate in a private enterprise competitive environment. The British Columbia Railway, however, is owned by the provincial government and, while it is designated a "commercial" Crown corporation, it is subject to various types of government policy direction. BCR's freight business is dominated by originating lumber and other forest products traffic along its lines and delivering it to Canadian National at Prince George and Vancouver for movement to destinations in the U.S. and Canada.

¹⁸ For further information see <http://www.canarco.ca/index.shtml> and <http://www.repjames.org/index2.htm>. This project was an active objective of development policy in British Columbia from 1950 to 1975. Its consequences were the subject of Royal Commission report.

**TABLE 5
OPERATING AND FINANCIAL COMPARISONS, CANADIAN RAILWAYS, 1999**

	Canadian National	Canadian Pacific	British Columbia Railway
Freight Revenue Per Revenue Tonne-Kilometer	2.22 cents	2.32 cents	4.42 cents
Freight Revenue Per Employee	\$184,000	\$170,000	\$173,000
Freight Revenue Per Kilometer of First Mainline Track	\$187,000	\$208,000	\$142,000
Revenue Tonne-Kilometers Per Kilometer of First Mainline Track	8.4 million	9.0 million	3.2 million
Revenue Tonne-Kilometers Per Freight Car	2.9 million	3.2 million	0.8 million
Average Length of Haul	1297 km	1147 km	508 km

SOURCES: Statistics Canada, *Rail in Canada* and British Columbia Railway, *Annual Report*.

Table 5 presents comparisons between the BCR and system averages for Canadian National and Canadian Pacific. The ratios of freight revenue per revenue tonne-kilometer illustrate the operating problems of BC Rail. These problems originate in the low traffic densities¹⁹ (freight revenue tonne-kilometers per kilometer of track are less than half those of CN and CP) and the low revenue production of the freight car fleet, only 25 percent of Canadian Pacific's (mainly caused by BC Rail's freight cars spending much of their service lives producing revenue freight service on other railways). Also, BC Rail has an average length of haul less than one-half that of CN and CP. Together, these difficulties increase unit costs and so require higher revenue levels to cover these costs. As a result, the average price charged for carrying one tonne of freight for one kilometer on BC Rail is almost twice as high as on the two national railways. Furthermore, the disappearance of coal traffic since 1999, soon to be complete, will worsen BC Rail's traffic density problems, even if the Tumbler Ridge branchline is abandoned. The higher operating costs associated with a low density railway are, of course, borne by BC Rail's shippers at least as long as the company is designated a commercial Crown corporation. It seems unlikely, and undesirable, for the government to reintroduce direct subsidy of the company.

The two national railways have made strenuous and quite successful efforts to increase their traffic densities by abandoning low traffic lines or by selling them to short line or regional railway companies who then introduce a more cost efficient style of operation. This type of restructuring has in fact occurred across the North American railway industry but it seems beyond the current policy mandate of BC Rail.

The location of BC Rail and its connections with other railways mean that it has something of a monopoly position with respect to the traffic of many of its major shippers of forest products, grain, and minerals. Some of these shippers have the alternative of using trucks to reach other railways, ports, or market destinations that are not too distant, but the underlying cost structure of

¹⁹ In the literature on railway costs, this is the most important factor influencing unit costs.

BC Rail is a floor for the prices charged for this alternative service. Also, given BC Rail's strong competitive position (BCR has an estimated 70 percent of forest products traffic in the region it serves and almost all the grain and mineral traffic), it seems likely that for most shippers it offers other transportation advantages over shipment by truck. If this were not the case, shippers would be making more use of truck transport to reach other railways, ports, or markets.

Freight Transportation - Other Modes

There are four other modes of transportation that are important in the 250 Region.

Pipelines carry natural gas and petroleum from production areas to markets in BC or the United States. BC has 2,300 kilometers of oil pipelines and 10,000 kilometers of gathering and transmission pipelines for natural gas.²⁰ The length of the network has increased over the last decade with production increases. Further expansion can be expected when the industry needs it. Natural gas pipelines are now common carriers and should invest in new capacity when the market demands it. The prospect of a natural gas pipeline project to link producing areas in Alaska and the Northwest Territories with the U.S. passing through British Columbia along the Alaska Highway would have construction and, probably, operating benefits to the 250 Region. However, decisions as to timing and route will be made in the first instance outside the province.

Domestic marine transport services provide essential freight transportation along the coast for the forest and other industries. BC's tug and barge operators operate in a deregulated environment and usually make use of terminals owned and operated by their shippers. (The position of BC Ferries, also a large freight service operator, will be discussed in the passenger section below.) The recent Transport Canada review of freight transport in BC did not identify any major concerns associated with this type of freight transport operation except for issues of ownership concentration.²¹

Port and international shipping services provide freight service for the largest commodity flows in the province although much of what they handle originates on the Prairies. Canadian transportation policy has relied on the provision of international shipping services through a more or less freely competitive international shipping industry²² and the operation of a generally efficient port system. These conditions seem to be more or less present in BC today although the concentration of traffic in the Port of Vancouver is detrimental to other BC ports, notably Prince Rupert. However, this is what the market wants and shippers typically determine routings, including, ports, according to their own best interests.

Air freight in the 250 Region is almost entirely provided in conjunction with passenger service. There are 41 airports in the 250 Region with paved runways of 4,000 feet or over, but not many

²⁰ Plus another 21,000 kilometers of natural gas distribution pipelines.

²¹ Transport Canada, Freight Transportation in British Columbia, Final Report, March 2002. (TP 13909 E, prepared by IBI Group), page 66.

²² Competitive for bulk and forest products freight but less so for "liner" type services operated by container shipping companies.

of them have scheduled air service. Further discussion of air transportation will be provided in the following section on passenger transportation.

VI. PASSENGER TRANSPORTATION IN THE 250 REGION

Passenger Transportation - Highway

In 2000 there were 2.2 million light vehicles registered in British Columbia. The drivers of these automobiles and light trucks drove their vehicles an average of 15,100 kilometers in 2000, producing over 33 billion vehicle-kilometers. At a conservative 1.6 persons per vehicle, this would amount to 53 billion passenger kilometers. We do not know what proportion of this travel occurred in the 250 Region; however, about 40 percent of BC's motor vehicles are registered here and many vehicles that are registered in Vancouver and Victoria travel in the 250 Region. Across Canada, 38 percent of vehicle-kilometers are produced on trips of 80 kilometers and greater.²³

Buses also produce highway passenger transportation. There were over 8,000 buses registered in BC in 2000 and they produced 160 million vehicle-kilometers of transportation. For Canada urban buses accounted for 27 percent of this total with school buses accounting for 47 percent, charter buses 10 percent, and intercity buses 5 percent. Across Canada there were 16 passengers per bus and applying this figure to 73 percent of BC's assumed non-urban bus vehicle-kilometers would give a passenger-kilometer estimate of 1.9 billion for school, charter, and intercity buses.²⁴ The majority of this travel would have occurred in the 250 Region.

The highway information presented in the previous section on freight transportation is, of course, applicable to highway passenger transportation. Overall, the patterns of traffic use and highway capacity, and the concerns associated with these patterns, are similar. The unit cost impacts of congestion and low quality highways are greater for freight transportation because of the larger vehicle sizes but the much larger volumes of light vehicle traffic and the values of time and safety associated with their operation in congested and unsafe conditions have a larger total impact on passenger transportation.

Passenger Transportation - Ferry

The services provided by the British Columbia Ferry Corporation (BC Ferries) are an essential component of the province's transportation infrastructure. This year BC Ferries expects to carry 21.5 million passengers and 8.1 million vehicles on 25 routes.²⁵ Many of these routes are in the 250 Region and coastal communities have a major stake in the continued provision of efficient ferry service to serve freight customers, the local population, and tourism.

²³ Data from Transport Canada, [Transportation in Canada - 2001 Annual Report](#), Chapter 12.

²⁴ Data from Transport Canada, [Transportation in Canada - 2001 Annual Report](#), Chapter 12.

²⁵ British Columbia Ferry Corporation, [Service Plan, 2002/03-2004/05](#).

BC Ferries has long been operated in a politics-sensitive environment as far as its prices and schedules are concerned. The prominent fast ferry fiasco of the 1990s reinforced the popular view of politics as a driver of BC Ferries decisions. The failure to recover any useful assets from the expenditure of almost \$500 million on these vessels has also impacted BC Ferries' ability to provide adequate ferry services in the future. Faced with an aging fleet of ferries²⁶ and reduced access to investment funding, a future shortfall between demand for ferry service and the ability of BC Ferries to deliver it is a distinct threat. The management of BC Ferries is aware of these problems and has a plan for replacement of its older vessels. The plan is based on a continuation of the relatively slow traffic growth rates of recent years. A return to the more rapid traffic growth rates of the early 1990s would severely strain the ferry system.

All of BC Ferries' 250 Region services operate at a financial loss; this is covered by the government transferring over \$70 million annually from motor fuel tax revenues. In an effort to limit financial losses on unprofitable routes, BC Ferries is considering eliminating its seasonal Route 40 (Port Hardy-Mid Coast) service. Services to the other mid-coast communities would, under BC Ferries current planning, be continued in other ways but service to Bella Coola would end. This is an instructive case for understanding the costs of providing transportation service in low-density demand areas and the problems that financially-driven decisions may create for local economies. Route 40 was initiated in 1996 and now operates for 91 days each year.²⁷ About 9,000 passengers and 2,400 vehicles were carried in 2001 – this was approximately 25 percent of the vessel's capacity. BC Ferries reported that the service had a direct loss of about \$1 million in 2000/01.²⁸ A study of the spending impacts of the 5,600 passengers who traveled to or from Bella Coola estimated that tourism spending in Port Hardy and Bella Coola by these passengers totaled \$810,000 and that 10 FTE jobs were supported by this spending.²⁹ By itself, this does not appear to be a case where the large cross-subsidy from other BC Ferries services is warranted but it is perhaps worth observing that lightly traveled highways also have large implicit subsidies that are, by their nature, unnoticed.

Passenger Transportation - Air

As was noted in the freight transportation section, there are 41 airports in the 250 Region with paved runways of 4,000 feet length or over. Four of these airports are part of the "National Airport System" (NAS) – these are Vancouver, Victoria, and two 250 Region airports, Kelowna and Prince George. BC's air transportation system is focussed on Vancouver. Table 6 shows the

²⁶ The average age of the BC Ferries fleet of 40 vessels is 28.3 years. British Columbia Ferry Corporation, Service Plan, 2002/03-2004/05.

²⁷ Information from Grant Thornton, Preliminary Economic Assessment, Bella Coola and Port Hardy Service, May, 2002.

²⁸ Using more inclusive cost methodology, the "Wright Report" (Fred R. Wright, Review of BC Ferry Corporation and Alternative Uses for the Fast Ferries, December, 2001) placed the 2001 loss on Route 40 at \$2.7 million with revenues only enough to cover vessel labour and fuel costs. Also, refit costs for this vessel will total \$12.6 million over the next five years. BC Ferries, Northern Services Discussion of Scheduling Options, June, 2002.

²⁹ In Bella Coola these amounted to almost 10 percent of tourism employment.

number of airports served by commercial air service from each of BC's four NAS airports in December, 2001.

**TABLE 6
AIRPORTS SERVED BY BRITISH COLUMBIA NATIONAL
AIRPORT SYSTEM AIRPORTS, DECEMBER, 2001**

	NAS Airports Served	Other Airports Served	Total Airports Served
Kelowna	4	0	4
Prince George	3	1	4
Vancouver	10	21	31
Victoria	6	0	6

SOURCE: Transport Canada, Transportation in Canada - 2001 Annual Report, Chapter 12

There is little current information on traffic levels on particular routes in BC but statistics are available on enplaned and deplaned traffic at 19 airports in the 250 Region. The daily traffic levels shown in Table 7 are annual totals divided by 365 days – daily traffic during seasonal peaks would be higher. Apart from Kelowna, none of these airports handle more than 1,000 passengers daily and the bottom 7 are below 100 per day. By comparison, Vancouver International Airport's average daily traffic is 41,500, almost eight times the total of these 19 airports.

Low traffic potential is a disadvantage when communities are trying to attract additional air services. The deregulation of Canadian airlines in the 1980s has opened entry to any technically qualified applicants but this opportunity has not led to much competition at most of these airports. During the period that Air Canada and Canadian Airlines were competing at the national level many of these airports had service from both airlines. Since the acquisition of Canadian by Air Canada in late 2000 many of these airports have reverted to single carrier service from Air Canada subsidiaries. Service between some of these communities is provided by smaller airlines. At the present time all these airports have scheduled service to Vancouver but at only five is there competition on the route to Vancouver. There is also some indication that airports with single carrier service have higher regular fares and benefit less from seat sales than those, such as Kelowna and Prince George, where both Air Canada and WestJet are present.

**TABLE 7
AVERAGE DAILY TRAFFIC, ENPLANED AND DEPLANED, 1999**

Kelowna	2358
Prince George	968
Kamloops	427
Fort St. John	285
Terrace	249
Castlegar	223
Cranbrook	219
Penticton	208
Prince Rupert	174
Smithers	154
Nanaimo	153
Campbell River	104
Powell River	91
Williams Lake	80
Nanaimo Harbour	76
Dawson Creek	59
Port Hardy	59
Quesnel	47
Fort Nelson	43

SOURCE: Statistics Canada, Air Carrier Traffic at Canadian Airports, 1999.

Last year the British Columbia Air Merger Consortium, a group of tourism organizations, presented a submission to the Canada Transportation Act Review Panel on this subject. The submission observed that seat capacity had been reduced and average fares increased for air services between Vancouver and other BC points following the acquisition of Canadian Airlines by Air Canada. It further argued that Canada's air transport policy system was not adequate to deal with concerns of this type.³⁰ Given the importance of air travel to local businesses in the 250 Region and its role in some aspects of the tourism industry, the effects of *de facto* air transport monopoly are a matter for concern.

Passenger Transportation - Railway

Almost all railway passenger transportation in British Columbia is a tourism experience for its customers. All the passenger train operations that are operated by the public sector are unprofitable³¹ and only the privately-operated seasonal Rocky Mountaineer service earns a profit. In the case of BC's three VIA Rail services, the subsidy is in the form of a block grant from the federal government. In the case of BC Rail the subsidy for its regular passenger train service³² has since

³⁰ The Council of Tourism Associations of British Columbia repeated these points in a recent submission to the BCProgress Board.

³¹ VIA Rail's Vancouver-Jasper service may be profitable in the summer travel period.

³² BC Rail also operates two tourism services and used to operate a third, the well-known Royal Hudson service from Vancouver to Squamish.

1994 been provided by the freight operations of the company. The current operating loss on this service is about \$7 million³³ and the railway is facing an imminent need to replace the 50-year old equipment that is used on the service. There are a few segments of BC Rail's line where the passenger train provides the only service but for almost all the route the passengers on the train are tourists.³⁴ The need for new investment in this service makes its continuance an extremely unattractive financial proposition for BC Rail and its discontinuance has been announced. The arguments for and against this course of action are very similar to those around the future of BC Ferries' Route 40.

VII. COMMUNICATIONS IN THE 250 REGION

The Premier's Technology Council has documented the shortage of high speed, high bandwidth internet access in much of BC. The demand for these services is present and growing and the challenge will be to determine which investments are justified and who should make them. Much of North America is now over-supplied with fiber-optic networks that are not needed but this over-investment was made between major population centers, not in relatively remote areas such as the 250 Region. Extending the option of higher bandwidth across BC is a worthwhile objective but deciding how this should be done will be more difficult. An evaluation of the options is, in any case, beyond the scope of this report and the Progress Board should await further work from the Premier's Technology Council. In the meantime, the financial difficulties of the province's major telecommunications company, Telus, are a cause for concern.

VIII. NEW TRANSPORTATION POLICY INITIATIVES

This section discusses three transportation policy initiatives that have a bearing on the economies of the 250 Region.

Transportation Planning

The Ministry of Transportation's Service Plan outlines the intention to develop "an integrated transportation plan that incorporates all modes of transport and provides a strong foundation for economic growth". This would represent a considerable improvement over recent transportation planning in BC and would be closer to the planning systems that are used in U.S. states and Alberta.

There have been two previous BC government transportation-planning efforts since 1990.

- 1. "Freedom to Move" (1990).** This regionalized transport planning exercise began in 1988 and its final report set out a number of planning "issues" organized by mode of transport (air,

³³ British Columbia Railway Company, Three Year Service Plan, 2002-2004.

³⁴ The train operates from North Vancouver to Lillooet daily and from Lillooet to Prince George three days a week in summer and two days a week in winter. Fares from Vancouver to Prince George are twice as high as the thrice daily bus service and 80 percent of standard economy air fares.

highways, public transit, railways, ferries and ports). Each of the eight development regions had its own regional plan consisting of general statements about transportation problems and needs prepared by regional committees and a "capital program" setting out a variety of government investment projects (typically 95 percent highways).

- 2. "Going Places" (1995).** The BC Transportation Financing Authority (BCTFA) prepared this planning document in consultation with other government ministries and Crown corporations with transportation interests. The plan apparently did not have region-level input (although the text refers to Regional Transportation Advisory Committees) and was dominated by Lower Mainland transportation projects and a small number of other projects in southern BC. BCTFA's spending decisions were then apparently guided by "Going Places". In its last annual report (2000-2001) BCTFA presented its capital plan across 15 separate "programs". Five of these (Priority Corridor Program, Preservation & Replacement Program, Lower Mainland Congestion Relief Program, Major Highway Performance Sustaining Program, Oil and Gas Initiative Program) were highway-focussed and accounted for over 90 percent of BCTFA expenditures. Their annual reports mention a considerable number of projects in the 250 Region.

In the current transportation planning process the Ministry of Transportation expects to set up 10 regional transportation committees by December, 2002 and publish a comprehensive and integrated transportation plan by the end of 2003. The current intention is to maintain a role for these regional transport advisory committees once the plan has been prepared so that they can advise on its implementation. This planning approach would also be useful for participation in the federal government's Strategic Highway Infrastructure Program.³⁵

In the United States state transportation planning is mandated by the Transportation Equity Act for the 21st Century (TEA-21). States that wish to access federal government funds (\$218 billion over the six-year 1998-2003 period) for highway and public transit projects must comply with guidelines for transportation planning.³⁶ The Province of Alberta has a series of transportation planning initiatives that span all modes of transportation.³⁷ Alberta's transport planning emphasizes the role of the transportation system in facilitating Alberta's trade with other provinces and internationally.

³⁵ This cost-sharing program will provide \$485 million to the province's and territories over the 2001-06 period. B.C.'s share is about \$61 million.

³⁶ For a broad discussion see Eileen S. Stommes and Dennis M. Brown, "Transportation in Rural America: Issues for the 21st Century," *Rural America*, 16, Winter, 2002, pp. 2-10. The guidelines for project analysis under TEA-21 involve considering broader project impacts than those included in standard benefit-cost analysis. Glen Weisbrod and Martin Weiss, "Development of Benefit-Cost Policy in the Era of TEA-21," January, 2001.

³⁷ See <http://www.trans.gov.ab.ca/Content/doctype523/production/FutureHwyNeeds.pdf> and <http://www.finance.gov.ab.ca/publications/budget/budget2002/trans.html#11>.

Infrastructure Partnerships

The Ministry of Transportation recently distributed a discussion paper on public-private partnerships ("P3s") in transportation.³⁸ This is a companion to Bill 57, the Transportation Investment Act, which earlier received first reading in the BC Legislature. The paper identifies a number of desirable transport projects in BC (a figure of \$10 billion over ten years is mentioned) and describes a number of ways in which private sector participation and financing could be used to avoid adding to provincial government debt. In the end, financial benefit to the government from these "P3" arrangements will depend on the possibility of collecting revenues from third parties such as highway users.³⁹ Bill 57 proposes the establishment of "concession highways" where a highway would be transferred to a concessionaire who would then be able to charge tolls for use of the highway in return for agreeing to carry out some expenditure related to the highway.

Tolls on highways and bridges are thought to be politically unattractive although the tolls on the Coquihalla highway did not lead to significant outcry and other places in Canada and the United States use tolls. However, most tolls in North America are on bridges or tunnels, not highways and research shows that U.S. states prefer to collect tolls from non-residents.⁴⁰

If Bill 57 were to become law the financing difficulties that now impede necessary investments in the highway system could be reduced or eliminated. Many jurisdictions around the world have turned to toll financing and dedicated fuel taxes for just these reasons.⁴¹

National Transportation Policies

The Canada Transportation Act (CTA) is the federal statute that facilitates national transportation policy. The CTA includes a mandatory formal review of the legislation every five years. The Canada Transportation Act Review Panel carried out a major review of CTA in 2000-2001.⁴² British Columbia and the 250 Region have several interests that are affected by the CTA but one of the most important are its provisions to bring more competition into the railway industry.

One of the measures included in the CTA is the opportunity for a federally regulated railway to be required to run trains of other federally regulated railways over their lines. "Running rights" have existed in Canadian railways for years and in fact virtually all the country's railway passen-

³⁸ Ministry of Transportation, "Creating Opportunities for Expanding Transportation Infrastructure," June, 2002.

³⁹ The discussion paper also mentions that government would provide the necessary financing through motor fuel tax increases.

⁴⁰ David Levinson, "Why States Toll: An Empirical Model of Finance Choice," *Journal of Transport Economics and Policy*, 35, 2001, pp. 223-237.

⁴¹ A comprehensive review is Fred Nix, "Alternative Road Financing Arrangements," Canada Transportation Act Review Research Paper, March, 2001.

⁴² The Panel's final report, *Vision and Balance*, is available at <http://www.reviewcta-examenlrc.gc.ca/english/pages/whatsnew.htm>.

ger service operates on this basis and other voluntary running rights agreements have been made between Canadian National and Canadian Pacific such as the directional running rights now in place between Ashcroft and the Lower Mainland. The CTA provides the Canadian Transportation Agency with the power to force a railway to accept running rights. The purpose of this measure is to reduce the monopoly power that a railway network exercises over shippers by allowing other service providers to use the network and so introduce competition. In other network industries such as telecommunications and gas pipelines this innovation has lowered prices and, indeed, the successful transport deregulation of trucking and airlines has amounted to the same thing. Some countries have already implemented running rights for railways – the most notable and radical is the United Kingdom.

The power to force railways to accept running rights has so far not been exercised but there is great interest in seeing some implementation of these provisions in Canada. The Agency rejected three applications for running rights over Canadian National lines last year but all these included the right to solicit traffic on Canadian National lines. Two applications are pending and one of them is for running rights for grain shipped from Camrose, Alberta to Prince Rupert. The current legislation does not give standing to non-federal railways to apply for running rights but the CTA Review Panel has recommended that this be changed. If it were, BC Rail would be able to apply to operate its trains over Canadian National track from Prince George to Edmonton (the nearest Canadian Pacific line), thus breaking Canadian National's monopoly over traffic interchanged at Prince George for movement to eastern Canada or the United States. Of course, a reciprocal obligation for BC Rail to give running rights to Canadian National over BCR tracks might be required even though BCR is not federally regulated.

IX. CONCLUSIONS AND RECOMMENDATIONS

The role of transportation in opening up British Columbia gives an interesting and valid historic perspective on the power of investments in facilities and services to transform regional economies. But this perspective does not have universal applicability. As was argued earlier, the important contemporary policy task is to identify situations where improvements in transportation (and communication) can have the transforming effects that are so familiar in thinking about BC's history.

The review in this paper suggests eight areas where changes would benefit economic development in the 250 Region).

1. Highway transportation of passengers and freight is the most important transportation activity in BC. Planned highway expenditures on both operations and maintenance and on capital seem too low to meet the highway transportation needs of the 250 Region. The planning for P3 financing is commendable but its start will be complex and this approach will take longer to make arrangements than would funding by government. Many transport needs will remain unmet unless changes are made.

2. A more competitive commercial transportation industry has been a great success in Canada. Two areas where competition is weak that impact the 250 Region are air transport and railway transport. Government should be alert to abuses of monopoly power and to opportunities to reinforce competitive tendencies.
3. All British Columbia suffers from unnecessary congestion of freight transportation in the Lower Mainland. Expenditures to address this problem might be unpopular in the 250 Region but the benefits of improvement would be felt there, too. While proposals to force traffic to northern ports are not commercially feasible, study of the potential and problems of these ports would be worthwhile.
4. The closing of the "digital divide" would enhance business opportunities in parts of the 250 Region. How best to achieve this change is not clear but the Premier's Technology Council will no doubt address this in its future reports.
5. Canadian and U.S. railways are midway in a major re-structuring process that will benefit the economies they serve. The benefits of railway restructuring to the 250 Region will be reduced unless the future of the British Columbia Railway is re-examined.
6. BC Ferries' vessel replacement plan envisages a slower pace of acquiring new vessels than would be desirable for the transport needs of the 250 Region. This problem would become especially pressing if economic recovery made traffic levels begin to grow at former rates.
7. The tourism industry has many advantages as an economic base for many 250 Region economies. It is important that careful consideration be given to this industry as government makes decisions concerning transportation investments and services.
8. The transportation planning initiative of the Ministry of Transportation is to be commended for its integrated approach and its involvement of regional expertise. Giving real voice to interests in the 250 Region should lead to a better transportation system. The more open this planning process, the better.

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