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THE TRANS-CANADA HIGHWAY

(Based on an address by the Minister of Public Works, Mr. Robert Winters, delivered in Hamilton, February 22, 1956; and on an article by Lance Connery, Chief, Publicity Division, Canadian Government Travel Bureau, published in "International Markets" July 1953.)

Canada's national story is in many ways the story of facing up to the problems of the country's vast space. Space has not been the only obstacle to conquer; the towering Rocky Mountains and the rugged Canadian shield have posed formidable barriers to carry travel and communications. Moreover, the natural lines of geographic similarity and economic interest to a great extent run north and south across the Canadian-U.S. border rather than east and west across the Canadian nation.

Given these factors, it is obvious that the modern Canadian nation could arise only with the help of complex and extensive systems of communications. Indeed, the history of Canada has been shaped by the development of communications perhaps more than by any other single factor; Canada's growth has from the first been interwoven with the story of the development of water, rail, road and air transportation. Step by step, a web of communications has been built across the country opening the way to new resources and stimulating economic development. This story is being extended today by great projects like the St. Lawrence Seaway, worthy in every way to take their place with the episodes of the past. It is against this background of communications and transportation development and of their great benefits, past and present, that one can perhaps find the proper context for that other major project, the Trans-Canada Highway.

Under the Canadian constitution, roads are normally considered to be a provincial responsibility. But since 1919 the Federal Government has shouldered part of the financial burden for road-building. It is responsible for instance, for building and maintaining roads in the National Parks and the Yukon and Northwest Territories and it maintains the Alaska Highway. In the construction of the Trans-Canada Highway the Federal Government is co-operating with nine of the ten Provincial Governments in the most ambitious road construction program in Canada's history. For six years now provincial and federal authorities have been working together on the task of completing a 5,000 mile, paved, all-weather highway from St. John's, Newfoundland to Victoria, British Columbia.

Capital costs are shared, with the Federal Government contributing 50 per cent, matching provincial expenditures dollar for dollar up to a total federal contribution of \$150 million. Administering the federal portion of the project is Honourable Robert H. Winters, Canada's Minister of Public Works.

Mileages in the various participating provinces, when completed, will be as follows: British Columbia, 692; Alberta, 292; Saskatchewan, 414; Manitoba, 305; Ontario, 1,412; New Brunswick, 388; Nova Scotia, 310; Prince Edward Island, 74 and Newfoundland, 610. This makes a total of 4,580 miles when an additional 83 miles in the National Parks is included.

Under the terms of the agreement each province designates the route of the Highway within its own borders, provided that adjacent provinces agree on locations where it crosses provincial boundaries, and that routes selected are the shortest practical east-west distances.

Mileage through the National Parks of Canada is constructed entirely with Federal Government funds. With this additional construction and Quebec's connecting route, the Trans-Canada Highway is some 5,000 miles in length. As well as St. John's and Victoria, cities on the route include Charlottetown, Prince Edward Island; Moncton and Fredericton, New Brunswick, Ottawa, Peterborough, Orillia and Kenora, Ontario; Winnipeg and Portage la Prairie, Manitoba; Regina, Moose Jaw and Swift Current, Saskatchewan; Medicine Hat and Calgary, Alberta; and Kamloops, New Westminster, Vancouver and Nanaimo in British Columbia. In Nova Scotia the Highway will pass through Sydney and Truro, and over a 4,000-foot causeway which has been built across the Strait of Canso on the route. The causeway itself is a separate federal project, the cost of which is not included in appropriations for the Highway.

Nine provincial governments signed agreements with the Federal Government to complete their share of the project by December 9, 1956. But progress has been slower than had been hoped for. At the end of 1955, just one year away from the anticipated completion date, about one-third of the total mileage remained unpaved and for some 250 miles of the route there was no highway of any kind. However, the problem was re-examined and a new formula devised providing for increased federal assistance. It was designed particularly to close the gap and it is now expected that the Highway will be a completed reality by the end of 1960.

Ironically, a major obstacle to the Highway's progress is the fact that Canada is enjoying a period of unparalleled prosperity. For engineers, surveyors, contractors, equipment, steel and other essentials, the Highway has to compete with urgent defence construction priorities, a nation-wide demand for more homes, and a record-breaking program of industrial growth.

Timing is a factor too. Unlike some earlier road-building projects in both the United States and Canada, the Trans-Canada Highway is not a government-sponsored measure to provide employment. Instead, it is proceeding during a period when skilled and unskilled labor alike are in short supply. For both men and supplies the Highway has to stand in line.

The Highway's specifications are impressive, particularly to those who in recent years have crossed Canada from Atlantic to Pacific by automobile. Trips by car have been made, but there have been a number of inconvenient stretches. The Highway's right of way will have a minimum width of 100 feet except through urban areas, where 66 feet is acceptable. The minimum finished width is 32 feet, including five-foot shoulders and 22-foot width of pavement. The maximum width will be 44 feet, including a pavement width of 24 feet with 10-foot shoulders on each side. Curvature will generally not exceed six degrees and where possible flatter curvature will be used. Maximum gradient is 6 per cent. Sight distance provides for a clear view from the driver's eye to a small object on the pavement at least 600 feet ahead.

The engineering tasks have been stupendous. Ever since work began in 1950, motorists have been seeing the heaviest array of power shovels, bulldozers, graders, dump trucks and other earth moving equipment ever used on a single road-building project in Canada. Muskeg has been an important difficulty in Northern Ontario as it has been in Newfoundland and elsewhere. A wide, marshy tract full of dead trees, leaves and debris must be excavated before a stable foundation can be laid, and in some places the muskeg goes as deep as 50 feet. Then there is the prairie "gumbo" - the treacherous, heavy clay soil covering 25 to 30 per cent of the route in this area. It requires the use of reinforced concrete and other special techniques. And in British Columbia the road-building crews have literally had to move mountains. Work is hazardous in the extreme in the Fraser Canyon and the Kicking Horse Canyon, where hard-rock miners blast away the mountain wall 500 to 1,000 feet above a turbulent river, and land slides are frequent. Since in most places the railway runs below the new highway, great care must be taken to protect the tracks and tons of rubble must be carried away truckload by truckload. In one 9-mile stretch between Field and Golden two million tons of rock and an equal amount of dirt have been moved. The job took 5,000 tons of explosives. Cost of construction in this area is estimated at \$1 million a mile, and one-half mile stretch has cost \$1,500,000.

The various stages in Canada's story of communications have each made their contribution to the nation's development. There could hardly have been a Canada without them. The Trans-Canada Highway is part of this story and ranks with the great transportation achievements of the past.

When completed, the Highway will contribute materially to Canada's development. It will bring with it commercial benefits besides offering Canadians and foreign tourists one of the world's great scenic routes from Newfoundland to the sheer rock cuts of the Fraser River Canyon. Like the railways of an earlier day it will entice people to build along its route and will encourage the development of new communities and the enlargement of some now existing. And not the least significant it will add another beam in the framework of national unity by enabling Canadians to travel across their country by automobile on their own soil.

