

Transportation— Canada's chronic problem



Test car crashes through wire cable roadside barrier as part of highway safety study. • Une voiture heurte une glissière spéciale pour autoroutes lors d'essais sur la sécurité routière.

Canada might well be defined as a nation chronically in search of solutions to transportation problems.

In the beginning, there was the vital necessity of finding some way to unite the tiny crown colony of British Columbia to its sister British North America provinces. Today the developing transportation problem to be solved is posed by the transformation of the country from a predominantly rural into a highly urbanized society. Montreal, Toronto and Vancouver will be home to at least one-third of the entire Canadian population by 1980. If these three cities, as well as other large cities in North America, are to function efficiently during the coming era, new methods of moving goods, services and people to, from and within urban boundaries will have to be found.

The solution to Canada's first major transportation problem was made easier by the timely invention of the steam engine. The Fathers of Confederation were able to promise and deliver a railway system bridging the pre-cambrian muskeg and the unsettled prairie grasslands. It was enough to bind the nation together from sea to sea.

Today transportation researchers are looking into such things as vertical/short takeoff and landing (V/STOL) aircraft, monorail systems, turbotrains, hovercraft, moving sidewalks, pipelines, in short anything that might aid in preventing development of transportation congestion within the emerging megalopolises.

In the intervening 100 years, transportation experts faced and overcame a number of formidable situations, created in large part by the country's vast geographic expanse and small population base.

The invention of the automobile opened up the country to travel through a massive roadbuilding program that peaked only in 1960 with the completion of the 3,500-mile long Trans-Canada Highway.



The Division of Building Research is also interested in transportation problems. It has pioneered use of polystyrene for highway insulation in Canada. • La Division des recherches en bâtiment s'intéresse aussi aux transports. Elle a fait oeuvre de pionnier dans l'utilisation du polystyrène pour isoler les routes canadiennes.

The isolation of Canada's north was ended by the Canadian bush pilot flying post World-War-One aircraft developed to withstand the rigors of the subarctic climate.

The problem of moving prairie grain by water to Europe was solved with the creation in the 1950's of the St. Lawrence Seaway which opened the midcontinent Great Lakes to the Atlantic, and development of the Arctic port of Churchill.

Discovery of oil in Alberta prompted development of pipeline systems to carry it to the industrial areas of central Canada.

The wholly Canadian invention, the snowmobile, all but put an end to dog teams as the mode of Arctic travel and placed the Eskimo firmly in the mechanically-oriented twentieth century.

Since 1929, the National Research Council of Canada has concerned itself with various aspects of Canadian transportation research. That year, John Parkin, previously with the University of Toronto where he served as a professor in the Faculty of Engineering, came to Ottawa to serve as assistant director of the Division of Physics.

Up to that time, NRC was a 13-year-old organization whose function had been solely to advise the federal government on science matters. It had restricted itself to setting up operations in the areas of physics, chemistry and biology.

Dr. Parkin was hired in order to implement a government decision to allow NRC to take a direct role in assisting Canadian industry through the operation of engineering laboratories. His first job was to set up a wind tunnel that could be of use to the Canadian air force and the infant Canadian air industry. His efforts resulted in the development of a nine-foot