



Description of the work :

This important infrastructure is part of the Trans-Canadian Highway Project called the Port Mann Highway 1 project. This section of the motorway links Vancouver with Lower Mainland, the smallest and most heavily populated region of British Columbia. This bridge over the Fraser River offers two five-lane carriageways making it, at 50 m, the widest bridge in Canada. Aside from that, it's a cable-stayed bridge with two towers rising 75 m above the deck, and with a total length of 2 200 m. This bridge is built with steel girders which support precast concrete deck panels, and has an asphalt road surface. This section of the bridge is supported by two centre pylons, rising 160 metres from above water, and can be divided into :

- The main span (470 metres)
 - The north and south back spans (190 metres each)
 - South approach, Surrey (350 metres) - constructed using 327 precast concrete sections with an asphalt road surface
 - North approach, Coquitlam (820 metres) - constructed using 831 precast concrete sections with an asphalt road surface
- Spread over a four-year period, the public private partnership project involves modernisation and interchanges and the motorway connecting Vancouver with Langley over a distance of approximately 40 km, as well as this new bridge to replace the existing structure, built in the 60's. Additional elements of the project include the widening of seven highway overpasses, the replacement of nine highway interchanges, and the creation of five special purpose truck/transit ramps.

Freyssinet mission :

Freyssinet supplied and technically assisted the installation of 288 HD 2000 stay cables with units ranging from 27 to 75 strands, for a total of 2 200 tons. All the stays are fitted with dampers: 80 with Internal Hydraulic Dampers and 208 with Internal Radial Dampers. The design of the IRDs had to be modified to adapt the limited space available between the cables and the barriers. Freyssinet also designed and supplied special deviating devices to limit the effect of mislocation of pylon formwork tubes, and allowed to avoid any big rework to reorient the formwork tubes.

Owner :	TRANSPORTATION INVESTMENT CORPORATION
Engineer :	Kiewit Flatiron GP
Engineering consultant :	TY Lin
Subsidiary(ies) :	Freyssinet Canada Ltd
Other(s)	FIC DGP
Subsidiary(ies) :	
Beginning of works :	03/2011
End of works :	08/2012

