

Cable-Stayed Bridges across the Panama Canal and the Orinoco

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Summary

This paper presents two major bridges in South America which have been designed and built in record periods in geotechnical and seismically critical areas combining effectively local workforce and international experience.

Keywords: Design-Build, Fast-Track, cast-in-drilled-hole piles, seismic, cable-stayed, composite, segmental launching method, free cantilevering.

1. Introduction

Important waterways as the Panama Canal and the Orinoco River allow for long distance transport and development along those. With the growth of local communities and industry the dividing effect of these global connections need to be alleviated by an increasing number of fixed crossings. Therefore between 2000 and 2006 two important links were designed and built in Panama and in Venezuela.

The Panama Canal [1] had from the beginning only two narrow roadway crossings using the lock gates. Later in the 60ies the so-called “Puente de las Americas” was built as a four-lane tied arch at the south entrance to the canal. Increasing traffic and safety issues on the narrow bridge led to the planning of a second fixed highway link. The new crossing is located 15 kilometres north of the Pacific coastline close to Panama City, Fig. 1.



Fig. 1 Map Panama



Fig. 2 Map Venezuela