The World's One and Only Transporter Bridge

By: Ir. Chin Mee Poon

This steel structure, spanning 160m between two 65m tall towers, is the only physical link between Getxo on one side and Portugalete on the other side of Nervion River, about 10 km north of Bilbao, a Spanish town on the coast of Bay of Biscay.

I had traveled by Bilbao's metro system to Getxo just to admire this unique structure.

Designed by Alberto de Palacio (1856-1939) with the assistance of Ferdinand Arnodin (a disciple of Eiffel, the engineer who designed the Eiffel Tower of Paris), this bridge, known as Puente de Vizcaya, was constructed in 1890 and opened to traffic on 28.07.1893.

This is the oldest transporter bridge in the world and is the only one that is still functioning. I subsequently came across another transporter bridge in Buenos Aires, the capital of Argentina, but it was not functioning.

The bridge's main, lattice girders are supported by 4 suspension cables on each side from the towers. Rails are attached to the soffit of the girders, from which hang 18 cables that support the moving platform or gondola. The gondola is 15m long x 10m wide and weighs 22 tonnes empty and 50 tonnes fully loaded. The traction system is fully electrical. It used to be run by steam.

The gondola has 2 side cabins that can take in about 20 passengers each. The central deck between the 2 side cabins can carry 6 cars and 5 motorcycles or one big bus.

The side cabins offer good views of the river and the buildings on both banks.

On Getxo side, I paid 4 euros to take a lift up to the bridge deck. The panoramic views from up there were spectacular. I walked over to Portugalete and got down to the ground by another lift.

After a sumptious lunch in Portugalete, I paid 0.25 euros to get back to Getxo by the gondola. I crossed the river in about 5 minutes. The ride was surprisingly smooth and stable. I did not feel any sway at all. This is due to the way the 18 cables suspending the gondola have been arranged.

There are some good reasons why a bridge of such a unique design has been adopted here. The bridge is situated near the mouth of Nervion River. A little upstream of the bridge is a wharf. Ships with high masts ply in and out between the wharf and the sea. A low level bridge is therefore out of the question. A high level bridge, on the other hand, would have required very long approaches which are not possible considering all the buildings on both sides of the river, hence the present unique solution to the problem.

After more than a century of faithful service, the one and only functional transporter bridge in the world still serves the people of Getxo and Purtugalete well, judging from the short queques of vehicles and pedestrians on both sides of the river waiting to board the shuttering gondola. ■