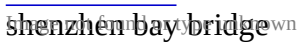
This is a new section of the Public-Private Partnership Resource Center website and is currently in draft form. Your feedback is welcome: If you would like to comment on the content of this section of the website or if you have suggestions for links or materials that could be included please contact us at ppp@worldbank.org.

Photo Credit




# Hangzhou Bay Bridge, China

Download Chatbot

***On this page:*** *Challenging Case: Hangzhou Bay Bridge, China. Find more at the Municipal Public-Private Partnership Framework - Project Summaries section for brief summaries of around 100 projects from around the world, examples of successes and challenges, as well as innovative ideas on solutions, or visit the Guidelines on Innovative Revenues for Infrastructure section.*

---

**Project Summary:**

**Background**

To showcase China's growing economic prowess and further stimulate growth, Ningbo and Jiaxing municipal governments decided to pursue the construction of a trans-sea bridge connecting the two municipalities in 1993. The trans-sea bridge was expected to help boost economic development in the Yangtze River Delta, known as the Golden Industrial Triangle.

**Project Structure**

In 2001, after nearly a decade spent completing feasibility studies and designing the bridge, the Ningbo and Jiaxing municipal governments and 17 private enterprises jointly set up a project company called Ningbo Hangzhou Bay Bridge Development Co. Ltd. The project company was tasked to build the bridge under a Build-Operate-Transfer (BOT) scheme with a concession term of 30 years. The project company would be responsible for delivering and managing the bridge over the life of the project, including preparation, financing, construction, operation, maintenance, and transfer; as well as overseeing and coordinating related projects and ancillary facilities. The project company invested RMB 11.8 billion (USD 1.42 billion) in the project, of which RMB 149 million (USD 18 million) was provided by the 17 private enterprises.

The primary revenue source for the project was expected to be toll fees. Additional income would come from hotels, restaurants, gas stations, and a viewing tower located on a platform in the middle of the bridge. Based on the feasibility studies, the project was expected to recover the capital cost in 15 years with a return on investment (ROI) of 12.58 percent (including construction period).

**Lessons Learned**

completed in June 2007. Following a series of trials and evaluations, the bridge opened in 2008 as one of the longest trans-sea bridges in the world, with a length of 36 km. It shortened the travel distance between the two municipalities from 400 km to 180 km, or from a four-hour drive to only two hours. In 2013, however, the project was struggling and in debt RMB 85 million (USD 13.71 million), due in part to the following:

i. The government decided to build a bridge near the Hangzhou Bay Bridge with a toll price that was half that charged at the Hangzhou Bay Bridge – resulting in a decrease in traffic on the Hangzhou Bay Bridge;

ii. An updated study completed in 2011 readjusted the ROI to under four percent and forecast that total costs would not be recovered over the 30- year concession period;

iii. In light of the above, the private partners, which initially owned 80 percent of shares in the project company, quit the project, which resulted in a capital shortage; and

iv. After the private companies' divestment, the public sector became the majority shareholder (85 percent), such that the risks that had been assumed by the private sector were transferred back to the government.

The platform in the middle of the bridge that offered hotels, restaurants, and viewing deck was ultimately closed down due to the high losses associated with it, amounting to RMB 50 to 60 per year, to reduce costs.

This project provides the following lessons:

- Practitioners need to consider all potential risks throughout the whole project life and ensure a fair allocation of risks between the public and private partners during the contract negotiations. In this project, nearly all of the risks were transferred to the private partners. When these risks proved unmanageable and losses continued to mount, the private partners abandoned the project, thereby transferring all of the risk back to the public authority.

- PPPs entail a long-term agreement, over the course of which both parties need to be able and properly incentivized to work together to ensure the project's success. This may include reasonable accommodations, alterations in the scope or design of the project, and not taking actions that would threaten the project's viability. In this case, the government failed in to support the project by ensuring the project's exclusivity – instead constructing another, competing bridge nearby.[1]

*Footnote 1: Case source(s): https://www.eng. mcmaster.ca/sites/ default/files/uploads/ case_study_on_p3_ failures_in_china_ report-likun_wang.pdf Accessed on May 25, 2019.*

*https://books.google. co.id/books?id=1u 2QcFznqxQC&pg=P A295&lpg=PA295&dq =hangzhou+bay+ bridge+zhejiang+ province+PPP& source=bl&ots=QURAk p8Lsv&sig=ACfU3U21 BtCatudemU4Kuxr RG4Dwoi_Szw&hl= en&sa=X&ved=2ahUKE wihjOX-4rPiAhVT6X MBHX_7CdQQ6AEw EXoECAsQAQ#v= onepage&q= hangzhou%20bay%20 bridge%20zhejiang%20 province%20PPP&f= false Accessed on May 25, 2019.*

*https://www. researchgate.net/ publication/260267511_ Public-Private_ Partnerships_in_ China's_Infrastructure_ Development_Lessons_ Learnt Accessed on May 25, 2019.*

*https://siteselection. com/ssinsider/snapshot/ sf030818.htm Accessed on May 25, 2019.*

**Related Content**

- **Selected World Bank Tools**

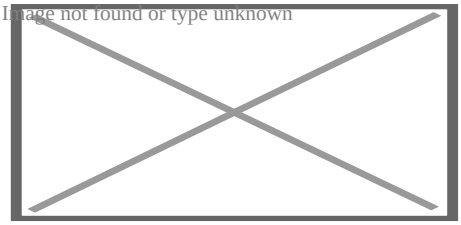
**Additional Resources**

- Climate-Smart PPPs
- Finance Structures for PPP

**Partner Resources**

Find more @ Global Platform for Sustainable Cities

Image not found or type unknown



*The Guidelines on Innovative Revenues for Infrastructure (IRI) is intended to be a living document and will be reviewed at regular intervals. They have not been prepared with any specific transaction in mind and are meant to serve only as general guidance. It is therefore critical that the Guidelines be reviewed and adapted for specific transactions.*

*To find more, visit the Innovative Revenues for Infrastructure section and the Content Outline, or Download the Full Report. For feedback on the content of this section of the website or suggestions for links or materials that could be included, please contact the Public-Private Partnership Resource Center at ppp@worldbank.org.*

Image not found or type unknown

