

Bridges in Osaka





"Obase", the oldest bridge in the Japanese history by the Nihonsyoki was presumably in Ikuno-ku Osaka. "Turu-no-hashimoto" written on a monument in Ikuno, Osaka is said to be the "Obase".

Contents

History of Bridges in Osaka	1
"The 808 Bridges of Naniwa"— Past and Present	2
Osaka during the Edo Period (1603 - 1868)	4
Citizens' Daily Lives and Bridges Depicted in Old Paintings	
Bridges in the Meiji Period (1870's)	6
First Iron Bridges	
Bridges Constructed in City Planning during the Taisho and Showa Periods(1912 ~1940)	8
Bridge Constructed after World War II up to the present	10
Bridges over the Ohkawa and Dohjima and Tosabori Rivers	14
The Monument of Bridge	16
Memories of lost bridges	

History of Bridges in Osaka

In 645, the Dynasty YAMATO transferred the capital to Osaka as new capital "NANIWANOMIYA". Nihon-shoki, the oldest historical book in Japan, tells that the "first bridge" had been in Osaka in early 5th century, before the capital transfer.

During the Edo Period (1603 - 1868), there were so many bridges in Naniwa (now Osaka) that citizens of the time used to say "Naniwa has 808 bridges." Of these, bridges administered by the Shogunate Government were called "Kogi-bashi (governmental bridge)," and those constructed and maintained by citizens were called "Machi-bashi (civil bridge)." Among well-known "Kogi-bashi" are the Korai Bridge and Naniwa's three major bridges, namely the Temma, Tenjin, and Naniwa Bridges. The majority of bridges in Naniwa, however, were constructed by citizens, mostly wealthy merchants. This fact reflects their economic power.

Traditional Japanese bridges were made of wood, except for a few stone arches. In the Meiji Period (1868 - 1912), however, imported iron began to replace wood and stone. The Korai Bridge, constructed in 1870, used wrought iron imported from Britain. In 1885, about 30 bridges in Osaka were washed away by flooding of Yodo River. This prompted the building of "flood-resistant" iron bridges.

The Osaka City's first Urban Plan Project then promoted rebuilding bridges in the City, replacing old bridges with modern ones whose elaborate designs improved the urban landscape. Technological innovation after World War II resulted in a series of even newer bridges, including the Kanzaki Bridge, constructed in 1953 using composite girders. Since then, the use of composite girders has become popular in various types of bridges, including grid girder, box girder, continuous girder, Gerber beam, and trussed Langer bridges. During the first half of the 1960's, steel deck began to replace conventional concrete slab. In the same period, construction of long span bridges began as a result of technological development. In such long span bridges, the superstructural elongation was enabled by use of continuous composite girder, box girder with steel deck, two-main girder, and cable-stayed bridge structures. Also, substructures were reinforced by use of PC piles, cast-in-place piles, steel pipe piles, and steel pipe sheet pile wells, all in foundations.

With regard to cable-stayed bridges, which are often regarded as typical modern bridges, the Toyosato Bridge, completed in 1970, marked the new epoch of long span bridges in Osaka. Having a 216-m center span, the Toyosato Bridge was one of Japan's longest bridges at the time. In 1975, the Kamome Bridge was completed in the Nanko district. The name "Kamome (sea gull)" well represents its elegant design. In 1988, the Sugaharashirokita Bridge was constructed over the Yodo River. This bridge was designed with particular attention to the preservation of ecosystems in the Yodo River.

During the 1970's, a series of long span bridges were constructed around Osaka Port, including the Senbonmatsu Bridge, opened in 1973. This bridge, employing a three-span continuous box girder structure with steel deck had Japan's longest span at the time. More recently, several more bridges were completed in the Osaka Bay area, such as Namihaya Bridge (a three-span continuous curved box girder bridge completed in 1995) and the Shinkizugawa Bridge (a balanced arch bridge completed in 1994).

The Konohana Bridge, completed in 1990, represents the climax of technological development. Although there are a few suspension bridges using diagonal cable hangers, the Konohana Bridge is the world's first three-span continuous mono-cable self-anchored suspension bridge, and is regarded as the symbol of Osaka Port. In the port area, large-scale reclamation projects are under way. As means to link newly developed artificial islands with downtown Osaka, several more bridges are under construction. These include the Tsuneyoshi Bridge (tentative name) to link Maishima Island with Tsuneyoshi, Konohana Ward; the Yumeshima-Maishima Bridge (tentative name), a floating swing bridge to link Yumeshima and Maishima Islands; and the Chitose Bridge (tentative name).