

# Modern Transportation Museum (Osaka) and Umekoji Steam Locomotive Museum (Kyoto)

Minoru Moriya

## Introduction

The Modern Transportation Museum (MTM) and Umekoji Steam Locomotive Museum (USLM) are museums created in the era of Japanese National Railways (JNR) to publicize the technology and history of industry, especially railways. They were transferred to West Japan Railway Company (JR West) in 1987 when JNR was divided and privatized.

The operation and day-to-day management of the museums is the responsibility of the Transportation Culture Promotion Foundation. The company and foundation work in close cooperation so that the museums can fulfil their social mission.

The MTM and USLM also work in cooperation with other railway and science museums as well as history museums and the like. In 2000, they also concluded sister museum agreements with the National Railway Museum (NRM, see pp. 32) in the UK to share materials, accept staff for training, hold joint events, and work in partnership.

## Modern Transportation Museum

### History

Japan's second railway line opened in 1874 between Osaka and Kobe. It was later expanded to reach Kyoto. That area had long been a centre of government, culture, commerce, and transport, and today it is second only to the Tokyo area.

The MTM is under elevated tracks at Bentencho Station and its adjacent grounds on the JR West Osaka Loop Line, which plays an important role in Osaka's urban transport. Initially, the line was not a loop, but a plan for the construction of the section that includes Bentencho Station was formed with the rapid increase in transport demand. The loop line was subsequently completed in 1961. The predecessor of MTM, Kotsu Kagaku Kan, was opened by JNR in January of 1962 as part of projects to commemorate the opening of the Osaka Loop Line. It was



Appearance of the Modern Transportation Museum in 1962

(MTM)

constructed as the sister museum of the Transportation Museum in Tokyo (TMT, opened 1921, closed 2008). Unlike TMT, the Osaka museum focused on showcasing new railway technologies that were developing at a rapid pace and the latest equipment. It also invited participation by operators of other non-railway transport modes to enhance exhibits and feature transportation in general.

This year is auspicious as the 50th anniversary of the completion of the JR Osaka Loop Line. A special exhibition to commemorate the anniversary was held for about 70 days, and it is worth mentioning that during that period, visitors' ages were slightly older than usual.

The museum was transferred to JR West at the JNR division and privatization in April 1987. Efforts were made subsequently to expand exhibits on history and culture and to make collected and preserved materials more substantial. Work was also started to manage materials, documents, etc., by computer. In July 1990, the Japanese name was changed to Kotsu Kagaku Hakubutsukan (Modern Transportation Museum). While railway-related exhibits remain the centrepieces, the museum is active as one of Japan's prominent museums handling transportation in general. Exhibition rooms underwent complete renovation in



Indoor exhibition area

(MTM)



Model HO-scale railway diorama

(MTM)



Platform Plaza

(MTM)

1993, and in July 2002 materials from the second generation Kyoto Station (the current station is the fourth generation) were used to build the Platform Plaza outdoor exhibition, allowing rolling stock to be preserved in better condition and visitors to view exhibits with greater ease. Exhibition rooms are being gradually upgraded since 2005 to enhance the content of exhibits and maintain facilities.

### Overview

The exhibition space spans 11,700 m<sup>2</sup>, divided into an indoor exhibition area, outdoor exhibition area, and a second exhibition area. Exhibits include 20 pieces of railway rolling stock, 2 airplanes, 7 automobiles, and 13 other vehicles, including motorbikes. A variety of other real materials are also exhibited.

The indoor exhibition area has actual vehicles in exhibition rooms divided by theme. Many related materials, videos, and hands-on exhibits are also provided for visitors to learn about the history and makeup of transportation in a fun way. The diorama at the far end of the indoor exhibition area features an HO-scale (1/80) model railway that is one of the most popular exhibits in the museum. With running model shinkansen trains, sleeper cars, and other trains, it is a big hit with children and adults alike. The diorama show has curators manually operating a control panel and lighting while providing explanations backed with light music. They make subtle modifications to the running order of the trains and to the explanations and background music to provide excitement that is different to what is possible using computerized control. Special exhibitions on original themes

**Table 1 Rolling Stock Exhibits at Modern Transportation Museum**

Name	Number	Year manufactured or year production started	Characteristics
<b>Rolling stock</b>			
☆ Model 7100 Steam Locomotive <i>Yoshitsune</i>	7105	1880	American-built steam locomotive used in Hokkaido
☆ Model 1800 Steam Locomotive	1801	1881	Steam locomotive for steep gradients between Kyoto and Otsu
☆ Model 230 Steam Locomotive	233	1903	First domestically mass-produced steam locomotive
San Francisco Cable Car		1908	Donated by San Francisco to sister city Osaka
☆ Model EF52 Electric Locomotive	EF521	1928	Japan's first domestically produced heavy electric locomotive
<i>SUSHI</i> 28 Dining Car	<i>SUSHI</i> 28301	1933	Dining car on secondary lines, modified by combining dining car and second-class carriage
Model D51 Steam Locomotive	D512	1936	Freight steam locomotive with production run of 1115 units
<i>MARONEFU</i> 59 Sleeper	<i>MARONEFU</i> 591	1938	Sleeper for distinguished guests and imperial family
Model C62 Steam Locomotive	C6226	1948	One of Japan's prominent passenger steam locomotives that hauled <i>Tsubame</i> limited express
<i>KUHA</i> 86 EMU Carriage	<i>KUHA</i> 860001	1950	JNR's first long-distance EMU
<i>MOHA</i> 80 EMU Carriage	<i>MOHA</i> 80001	1950	Series 80 EMU
Model DF50 Diesel Locomotive		1957	First heavy mass-produced diesel locomotive
<i>KIHA</i> 81 DMU	<i>KIHA</i> 813	1960	First limited express DMU in Japan
☆ Series 0 Shinkansen	21-1	1964	Lead car of Series 0 shinkansen at Tokyo end
☆ Series 0 Shinkansen	22-1	1964	Lead car of Series 0 shinkansen at Osaka end
☆ Series 0 Shinkansen	16-1	1964	First green car of Series 0 shinkansen
☆ Series 0 Shinkansen	35-1	1964	First dining car of Series 0 shinkansen
Model DD13 Diesel Locomotive	DD13638	1967	First diesel locomotive for shunting
<i>NASHI</i> 20 Dining Car	<i>NASHI</i> 2224	1970	Dining car for limited express sleeper trains
Model DD54 Diesel Locomotive	DF5433	1971	Mid-sized diesel locomotive using German technology
ML-500 Linear Motor Car	ML-500	1977	Magnetically levitated linear motor car that set new speed record of 517 km/h in 1979
<b>Aircraft</b>			
Kawasaki KAL-1 small airplane		1953	First postwar small airplane built after aircraft manufacture resumed
Aero Commander 680F small airplane		1961	American business plane used for newspaper reporting
<b>Automobiles</b>			
Benz Patent Motorwagen			Replica of world's first gasoline automobile
Datsun Type 13 Roadster		1934	Domestic car manufactured in early Showa era (1926–89)
Datsun Type 13 Sedan		1937	Domestic car manufactured in early Showa era
Daihatsu Midget MPA		1959	Three-wheeled mini truck
Mitsubishi 500A11		1961	Car that pioneered boom in private vehicles in Japan
Hillman Minx PH400		1961	Car assembled in Japan with assistance of British automaker Hillman
Subaru 360DX		1968	Japan's first authentic compact car, first manufactured in late 1950s
JNR Tomei Expressway Bus	744-9901	1969	JNR's first highway bus in service on Tomei Expressway
<b>Motorcycles and Bicycles</b>			
FN		Late Taisho (1912–26) through early Showa era	First motorized bicycle in Japan, manufactured by Fabrique Nationale of Belgium
Diamond Free		1953	Most powerful motorcycle engine of time, performed in various races
Jupiter Bike Star		1954	Hit motorcycle engine praised for high performance
Meguro Rex Y-2		1957	Mid-sized motorcycle with 250 cc economy and 500 cc luxury variants
Mitsubishi Silver Pigeon		1960	Export-designed scooter with body of domestic scooter fitted with larger engine
Honda Dream 300 CP77		1961	Motorcycle for various uses such as police, emergency services, and reporting thanks to excellent high-speed performance and stability
Little Honda		1966	Easy-to-start and operate motorcycle with world's first OHC engine
Michaux Bicycle		1860-70	Early model from when bicycles first introduced to Japan
Ordinary bicycle			Popular 'penny-farthing' bicycle from 1880s with large front wheel and small back wheel
Rickshaw			Luxury rickshaw produced in Meiji era (1868–1912) or later
Silver Cross Bicycle		1947	Popular bicycle designed with Mitsubishi aircraft technology that attracted attention for innovative structure and design
Cycle Rickshaw		About 1948	Cycle rickshaw used for business purposes in Osaka, combining bicycle with canopied seat
Noritsu Ladies' Bicycle		1955	Luxury bicycle for ladies, for easy riding by women wearing skirt

\* At April 2011 \* ☆: Railway memorial

are held by curators twice each year in the special exhibit room and auditorium. Lively events are also held in busy periods to provide opportunities for hands-on experiences and learning.

The main feature of the outdoor exhibition area is the Platform Plaza that displays rolling stock from the early days of Japanese railways through the 1950s. The roof of the second-generation Kyoto Station No. 1 platform along with actual over-bridge columns, benches, washbasins, and more, are on the platform, giving visitors an almost time-traveller feeling.

The second exhibition area is connected to the indoor exhibition area by a passageway. It exhibits three diesel locomotives, track maintenance equipment, signals, and other items.

A library and reference room is also available to guests. It is open to the public on weekends, and on weekdays assistance is provided to researchers by allowing materials to be referenced, questions answered, and items loaned out. A separate archive also holds a variety of other non-exhibited materials.

### **Education/promotion activities and passing down of transportation culture**

Various education and promotion activities are conducted periodically at the museum. Visitors cannot get on most of the vehicles exhibited at the museum for preservation reasons, but at periodic Museum Hands-on Tours, visitors have the rare opportunity to actually tour inside vehicles. Curators give explanations during the tours, and a variety of methods are implemented to deepen visitors' knowledge and interest. Additionally, Museum Seminars offer a variety of learning opportunities at the museum as well as through cooperation with other facilities such as tours of train depots and ships in an effort to promote knowledge of transportation.

Modern industry has come to be appreciated as history in Japan. Transportation is an important foundation upon which modern social activities and industry are formed. The railway sector in particular receives much focus. The museum collects and studies railway-related materials with the assistance of JR West. It also collects a broad range of

materials related to transportation in general, even to the point of actively accepting donations from the public. Curators organize and classify collected materials so they can be utilized appropriately, putting them on exhibit or preserving them. In order to make the best use of materials, they are sometimes repaired or restored depending on condition. Digitalization technologies, which have developed rapidly in the past few years, are also used. Intellectual property rights, such as copyright are dealt with appropriately.

The MTM is also a member of the Japanese Association of Museums and Japanese Council of Science Museums. Transportation culture is broadly propagated by this membership and cooperation with other museums and borrowing and lending of materials. The Museum works further to increase the railway fan base to pass down railway culture to the next generation.

## **Umekoji Steam Locomotive Museum**

### **History**

Japan's first railway opened between Shimbashi and Yokohama in 1872. To commemorate the 100th anniversary of railways in Japan, JNR opened the Umekoji Steam Locomotive Museum in October 1972 as a museum specializing in steam locomotives. Steam locomotives that had hauled Japan into the modern era were disappearing at that time, and the museum received much attention at its opening for assembling some of the best-known steam locomotives in Japan at the Umekoji depot, which was still an active depot.

When JNR was divided and privatized, USLM was transferred to JR West along with MTM. In 1994, a steam



Umekoji Steam Locomotive Museum Exhibition Hall (former Niijo Station)

(TCPF)

**Table 2 Rolling Stock Exhibits at Umekoji Steam Locomotive Museum**

Model	Number	Year Manufactured	Characteristics
1070	1080	1901	Steam tank locomotive modified from early Meiji-era 6200 passenger tender locomotive used on local lines
9600	9633	1914	First domestically built freight steam locomotive from Taisho era
☆ 8620	8630	1914	First domestically built passenger steam locomotive from Taisho era
D50	D50140	1926	Late Taisho-era freight steam locomotive with greater output than 9600
C51	C51239	1927	Passenger steam locomotive mass-produced in Taisho and Showa era and hauled imperial trains on more than 100 occasions
C53	C5345	1928	Only three-cylinder passenger steam locomotive remaining in Japan
C55	C551	1935	Mid-sized passenger locomotive—improved version of C51
C11	C1164	1935	Typical tank steam locomotive from early Showa era
D51	D511	1936	One of Japan's prominent freight steam locomotives—1115 units built
☆ C57	C571	1937	Mid-sized passenger steam locomotive, nicknamed <i>The Lady</i>
C58	C581	1938	Passenger and freight steam locomotive serving local lines
☆ D51	D51200	1938	Standard D51 steam locomotive boasting most units built
☆ C56	C56160	1939	Locomotive nicknamed <i>The Pony</i> used mainly on local lines
☆ B20	B2010	1946	Small yard shunting tank locomotive restored to operation to commemorate 30th anniversary of museum
C59	C59164	1946	Passenger steam locomotive manufactured as successor to C53
D52	D52468	1946	Largest Japanese freight steam locomotive, with traction exceeding D51
☆ C61	C612	1948	Passenger steam locomotive combining D51 boiler and C57 underbody
C62	C621	1948	One of Japan's most prominent passenger steam locomotives combining D52 boiler and C59 underbody
☆ C62	C622	1948	One of Japan's most prominent passenger steam locomotives hauling <i>Tsubame</i> limited expresses, bearing swallow (tsubame) emblem on deflector

\* As of April 2011 \* ☆: Preserved in operating condition



Fan-shaped locomotive shed

(USLM)



SL STEAM Locomotive

(USLM)

locomotive that until then had only been run for exhibitions was nicknamed *SL STEAM* and started carrying museum visitors as passengers. Major renovations were conducted in 1997, including relocating the stationhouse from Nijo Station on the San'in Line for use as an exhibition hall.

### Overview

The USLM is in Kyoto, which has a long history as Japan's ancient capital. It is adjacent to Umekoji Park, about a 20-minute walk from Kyoto Station. Its major features are an exhibition hall and fan-shaped locomotive shed. It also has a steam locomotive exhibition line, coal and water bunkers, and drainage facilities.

The exhibition hall was once the stationhouse of Nijo Station on the San'in Line and was partially renovated and relocated to the museum. Originally constructed in 1904, the stationhouse is a stately Japanese-style construction with a tiled roof and served as the head office of Kyoto Railway Company, which built the original San'in Line. It operates as Japan's only museum dedicated to steam locomotives, introducing their history and how they run. Valuable materials on inspection and repair tools, items carried by engineers, materials related to Imperial trains, and more are also exhibited. Special exhibitions are held periodically.

The shed was built in 1914 as a facility for Umekoji depot, making it the oldest existing reinforced concrete structure in Japan. It is an impressive building holding 20 lines, and it served as a key locomotive depot for the Tokaido main line during the heyday of steam locomotives. Today, it houses 19 steam locomotives, including those preserved in working order. Along with the ceiling crane used for repair work, service lines, and other equipment, it was designated an important cultural property by the Japanese government in 2004.

The 19 preserved steam locomotives cover 17 types.

They include some of the most important models of steam locomotives in Japan, the only domestically manufactured three-cylinder locomotive, and locomotives imported in the early days of Japanese railways. The locomotives along with the shed, turntable, installed lines, training tools, log books, and former Nijo stationhouse were together designated by JR West as the quasi-railway memorial 'Umekoji Steam Locomotives and Related Facilities'. Seven of the 19 locomotives at Umekoji are in working order. Steam locomotive inspection, maintenance, operation, and exhibition are all conducted here, making this facility the only one of its kind in the world and gaining much praise in Japan and from abroad. Of the seven locomotives in working order, two can run on commercial lines, operating as *SL Yamaguchi* and *SL Kita Biwako*. The *SL STEAM* also gives daily rides, allowing visitors to experience historical materials and an actual running steam locomotive.

### Education/promotion activities

The USLM carries out a variety of activities as a museum dedicated to steam locomotives to promote understanding of locomotives that played an important role in modern Japan and their technologies. Along with exhibiting materials, it holds events where people can experience 'living technology' and holds SL Museum Talk seminars linking steam locomotive history with the era.

### Plan for new museum construction

In February 2009, JR West announced a plan to build a new museum on land adjacent to USLM. Specifics are under consideration, but a final decision has yet to be reached at May 2011. Many people are now eagerly awaiting the decision. ■



**Minoru Moriya**

Minoru Moriya is Director of the Modern Transportation Museum and Umekoji Steam Locomotive Museum, as well as Vice President of the Transportation Culture Promotion Foundation.