

# Wartime Railways and Transport Policies

Yasuo Wakuda

## Railways during Sino-Japanese Conflict

Japan came into full-scale conflict with China in 1937, but the two armies had been skirmishing in northeast China and the Shanghai area on and off since 1931. In 1932, Japan established the Manchuko puppet government, causing international criticism. In the following year, Japan withdrew from the League of Nations and became politically isolated from the rest of the world. The government was unable to control the military, and any criticism was violently suppressed. Soon, the country fell under the control of ultranationalist fanatics.

Despite the political instability, Japan's economy recovered from the depression in the mid-1930s and demand for transportation began to grow. There was significant technical progress and improvement in railway services, although the narrow-gauge track caused limitations. For many years, railway travellers in Japan had traveled first, second, or third class, but in 1934, first class was discontinued except on the Tokaido and Sanyo limited expresses (and a few other express services). This left a two-class system while most of the private railways were operating a single-class system.

Roads were still undeveloped but motor transport began to play some role. However, in 1934, there were still only 109,000 automobiles in Japan, a sharp contrast to the USA (23,827,000) and Germany (866,000). Car ownership (number of automobiles per head) in Japan was less than 1% of that in the United States, and slightly higher than 10% of that in Germany. Most automobiles were buses and taxis, and the growth of road transport businesses using these vehicles cast long shadows over short-distance railway transportation.

The primary countermeasures taken by railways included frequent operation of short trains by introducing gasoline rail-

cars, and establishment of their own bus services. Despite such efforts, many private rural lines were closed after losing the competition with automobiles. The total route length of private railways fell from 9730 km in 1930 to 8907 km in 1940. On the other hand, the Government Railways expanded their network from 14,575 km in 1930 to 18,400 km in 1940 by opening new lines and nationalizing some private railways.

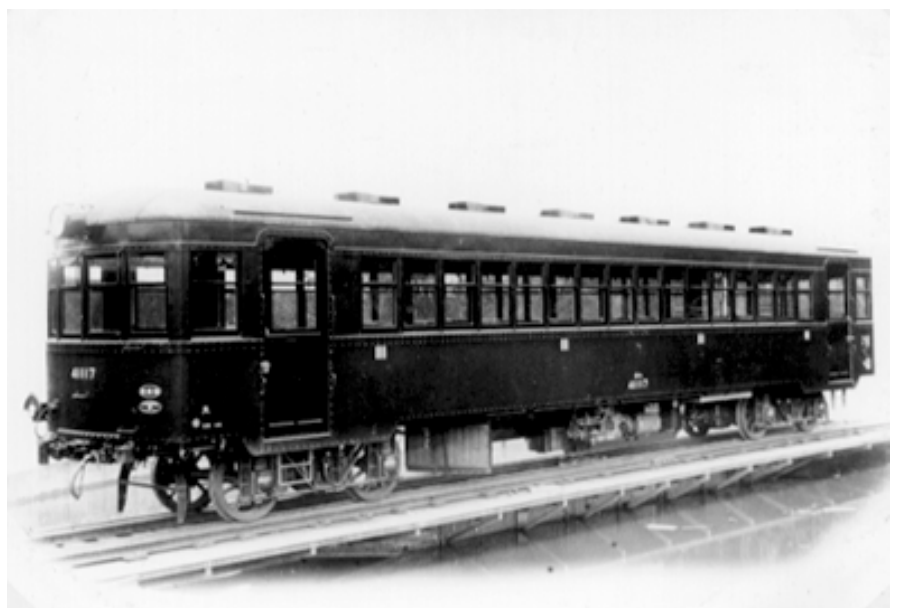
## Mobilizing for War

The Sino-Japanese war started in 1937 as an "incident," not a declared war, but it spread to many parts of China. As Japan's relations with other countries worsened, she tried to seek a better position by joining the Nazi Germany and fascist Italy Axis. Such behaviour destroyed relations with the USA and the UK. In 1941, Japan declared war against them, marking the beginning of World War II in the Pacific arena.

The Japanese economy came under wartime controls; the introduction of the Na-

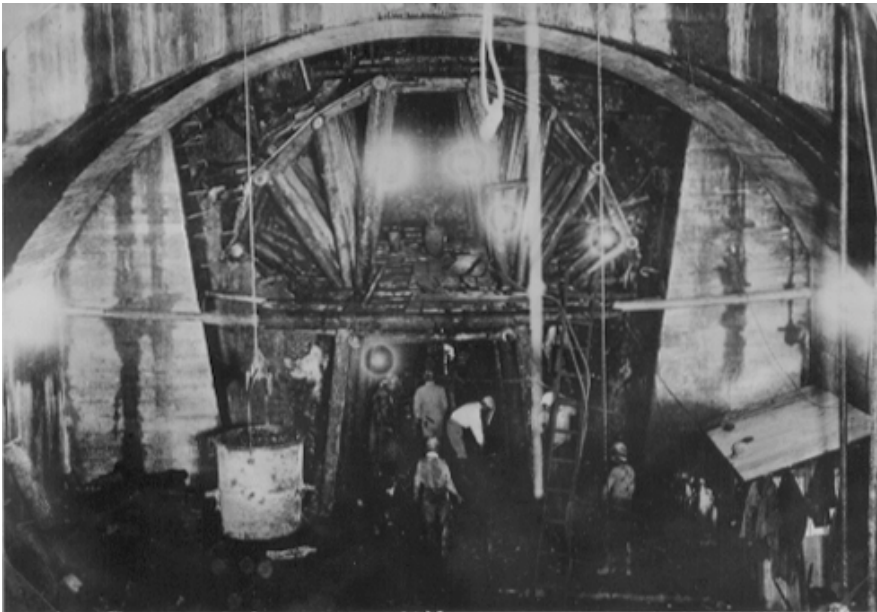
tional Mobilization Law in 1938 reorganized all industry for wartime production. Transportation demand for the war efforts increased and Government and private railways had to increase their capacities while suffering from shortage of materials. Rationing by coupon system was introduced in 1938 for petrol which was nearly all imported. From 1941, petrol could not be used for civilian motor vehicles, which had to depend on substitute fuels (charcoal, etc.). Bus routes running alongside railways were closed, and railways also found it hard to operate internal-combustion railcars.

The competition of railways and automobiles, a serious problem in the mid-1930s, was no longer pressing. However, the Land Transportation Coordination Law was introduced in 1938 to prevent redundant and wasteful investment for urban transport in metropolitan areas. In the greater Tokyo area, buses and trams in the centre came under the municipal government; the newly-established Teito Rapid Transit Authority started to operate underground railways, and private railways and buses in the suburbs were grouped into



Kiha-41000 Gasoline Railcar

(Transportation Museum)



Construction of Kanmon Undersea Tunnel

(Transportation Museum)

four companies by legislation. The law failed to implement complete integration of urban transport, overground and underground. The suburban EMU services of the Government Railways were left out. Similar integration was implemented for private railways and buses in several areas other than Tokyo.

An urgent need at that time was to strengthen the transport link to the Asian continent. A decision was made in 1939 to build a new standard-gauge railway called the "New Trunk Line" (shinkansen) from Tokyo to Shimonoseki at the western tip of Honshu island. Construction had just started when the entire project was suspended by the war. It was more than 25 years later, in 1964, that JNR actually started shinkansen services using some land purchased much earlier for the proposed "Bullet Train" right-of-way.

### Railway Transportation in the War

Mainland Japan did not immediately become a battleground. However, after Pearl Harbor, the country's land transport systems were put under emergency controls. In addition to the reinforcement of regulated transportation, a new policy was introduced by which coal and other

coastal cargo shipments were to be sent by rail. This became a reality when Japan's first undersea tunnel, the Kanmon Tunnel, was completed connecting the islands of Honshu and Kyushu. Until then, the two islands were connected by ferry for both passengers and freight. But the ferry capacity had become saturated and construction of the undersea tunnel (two single lines) was started in 1936. One of the two tunnels was completed in 1942 and started serving freight trains in July, and passenger trains in November. The new tunnel played an important role in sending coal from Kyushu to Osaka and other industrial areas. The second tunnel was completed in September 1944 and the section became double-tracked.

Transportation between Honshu and Hokkaido, another coal producing area, had to rely on the ferry connecting Aomori and Hakodate. Many new train ferries were built for this route. At the same time, improvement of trunk lines in northern Honshu and Hokkaido, such as easement of gradients and installation of passing loops on the single-track sections, was urged.

New production of rolling stock centered on freight locomotives and freight cars to increase the country's freight transport capacity. The Government Railways' stan-



(Transportation Museum)

#### ■ Kaichiro Nezu (1860-1940)

Kaichiro Nezu played a leading role in the field of private railways after main-line companies were nationalized. He was the president of Tobu Railway in Tokyo and the chairman of Nankai Railway in Osaka. He was called the "Railway King" because of his connections with many railway companies throughout Japan. After the opening of Tobu Railway in 1899 using steam locomotives, Nezu completed its network connecting Tokyo with several cities about 100-km north of Tokyo and it was electrified in the 1920s. The new line opened in 1929 between Tokyo and Nikko, was a typical inter-urban route patronized by many tourists, both domestic and foreign. After his death, his son (Kaichiro Jr.) succeeded as president in 1941 and is still with the company (as Chairman). At the time of the transport coordination in the early 1940s, Tobu consolidated several railway and bus companies in the areas northeast of Tokyo. Today, the company plays a major role in transporting commuters to Tokyo.

standard freight locomotive, the D51 class 2-8-2 tender, had been introduced in 1936. This class continued to be built during the war to a wartime austerity design using substitute materials. A total of 1115 units were built, marking the largest number of steam locomotives of a single class in Japan. A new and more powerful model, the D52 class 2-8-2 tender, was introduced in 1943 based on an even more austere design.



High-sided Six-wheel Open Toki-900 Wagon

(Transportation Museum)

Standard freight cars built in the wartime were the high-sided six-wheel open wagon of the Toki-900 type. It was designed to implement a bogie-class payload with minimum construction material while reducing overall length. In addition, a special measure called "extra-tonnage" was introduced for existing freight cars, allowing temporary overloading of the original payload.

While every effort was made to strengthen the country's freight transport capacity, passenger travel was suppressed by every means. The number of passenger trains was reduced in 1942 and ticket issuing was restricted in 1944. On the other hand, the need to "evacuate" school children from cities to the countryside grew. Less-busy lines, government or private, were closed while some double-track sections were made single-track; the surplus materials from them were used elsewhere at home or in Japanese-occupied areas.

Many private railways were purchased by the Government Railways in 1943 and 1944 for pure wartime needs. Some of the purchased lines were located in coal-mining, cement-producing or other areas in high demand for military purposes. Some were port railways located in ports of military significance. Shortcut lines were also purchased when they were needed to

supplement trunk-line networks. By 1945, the total route length of the Government Railways had increased to 19,620 km, while that of the private railways had decreased to only 7522 km.

Transportation had been under the control of two ministries: The Ministry of Railways in charge of railway operation, and supervision of private railways and land transportation, and the Ministry of Com-

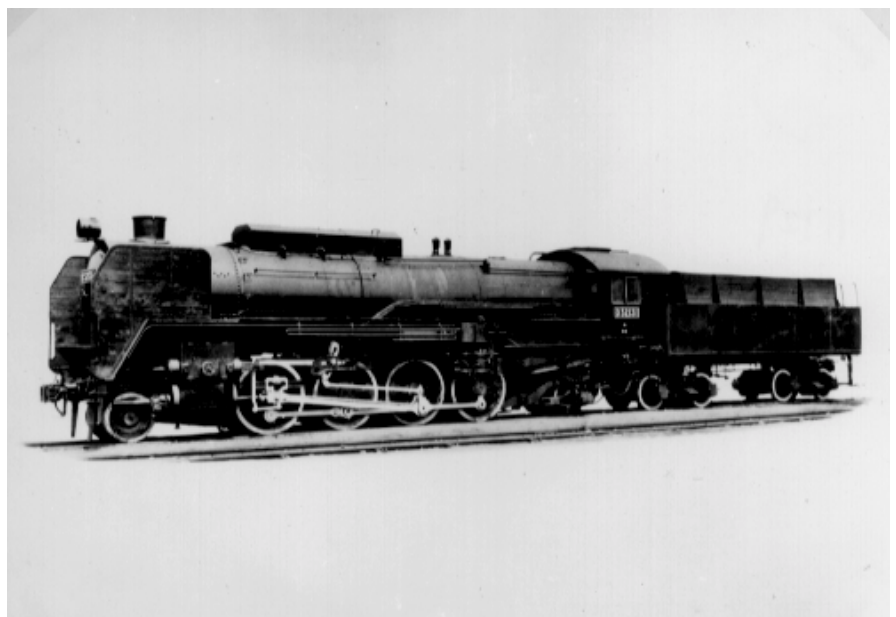
munications in charge of communications, shipping and civil aviation. In November 1943, the Ministry of Transport and Communications was established as part of the wartime government aimed at unification of land and sea transportation. The Communication Agency of the new ministry became independent in May 1945, after which the Ministry of Transport and Communications was reorganized as the Ministry of Transport. Although the name is the same as today's Ministry of Transport, the Ministry at that time also operated the Government Railways directly. The General Railway Bureau of the Ministry served this special role.

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### From War to Defeat

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Mainland Japan was first attacked by the Allies in April 1942. Tokyo, Nagoya, Kobe and other cities were raided by B25 bombers from an aircraft carrier. By June 1944, the northern part of Kyushu was bombed by B29s from continental China. Then, in



D52 Class Steam Locomotive (Wartime design)

(Transportation Museum)



Tokyo Station after Bombing

(Transportation Museum)

November 1944, B29s from the Marianas began raiding various parts of the country. 1945 saw aerial strafing and naval bombardment.

Large and medium-sized cities were worst hit by air raids which caused severe damage to government and private suburban lines and trams. The atomic bombs on Hiroshima and Nagasaki in 1945 almost destroyed the government railway lines and trams in both cities. Ferries were hit both by air raids and by torpedoes and mines. Both the Kanpu (Shimonoseki-Busan) and the Seikan (Aomori-Hakodate) lines had been almost completely stopped at the war's end.

No ground battles were fought in any of the four main islands, although Okinawa, a group of islands in southwest Japan, was the site of severe battles. There was a prefectural, 762-mm gauge railway on Okinawa's main island, but it was destroyed by air raids. The railway seems to have been stopped when the US troops landed in April 1945 and there is no railway in Okinawa today long after the island's return to Japan by the occupation forces.

The railways that survived the war were badly damaged and almost totally unmaintained due to material and manpower shortages. All the facilities were in

poor condition due to wartime abuse. Rail accidents such as collisions and derailments were common between 1943 and 1945. Many of the station employees and train crews were women substituting for men mobilized for military service or transferred overseas.

Despite all adversities, many trains were kept running even on 15 August, 1945, the day when Japan surrendered. In a way, the continued train services were a sign of hope for many people dispirited by the defeat.



(Transportation Museum)

#### ■ Noritsugu Hayakawa (1881-1942)

The first underground railway in Asia was opened in Tokyo in 1927. The construction project was envisaged by Noritsugu Hayakawa, who first worked under Kaichiro Nezu. He was impressed by the development of underground railways during his European tour in the 1910s. Upon returning to Japan, he began persuading others about the need for it in Tokyo and the technical feasibility. He made superhuman efforts to collect sufficient capital and to obtain a license to build the first line. The first railway between Asakusa and Shimbashi was completed in 1934 by Tokyo Underground Railway Co. where Hayakawa served as senior managing director. However, the extension from Shimbashi to Shibuya was built by another company, Tokyo Rapid Transit Co., which caused a conflict. Hayakawa later became the president of Tokyo Underground Railway Co., but was forced to resign in 1940 as the result of disagreements and the death of Nezu, who always supported him. The two companies soon merged to become the publicly-owned Teito Rapid Transit Authority as the result of transport coordination, and the entire section is called the Ginza Line today. Passengers can see a bust of Hayakawa, the pioneer of Japanese underground railways, at Ginza Station.



#### Yasuo Wakuda

Mr Wakuda graduated from the University of Tokyo, Faculty of Law, in 1957 and worked for the Ministry of Transport until 1984; he served as a board member of the Japan Non-Government Railways Association, and the Japan Railway Construction Public Corporation, and as president of the Japan Transport Economics Research Centre. He is currently the Executive Vice-chairman of Japan Air Charter Co. As a specialist in the history of railways, he is author of *100 Years of Japanese Private Railways through Men and Events*, *Private Railways of Japan-Their Networks and Fleets*, and other works.