

Consolidating the Transportation System (1922–1937)

Policy

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The decade and a half from 1922 to 1937 is a period in which the programmes of building and refurbishing the nation's railroad and highway networks, its ports and harbours were carried over from the previous period. The urban areas made a particularly large, qualitative shift in transportation; the transportation system changed in line with the changes in urban structure.

At the same time, Japanese manufacturing, which had progressed so rapidly during the First World War, now began to concentrate in the four great industrial belts of Tokyo-Yokohama, Nagoya, Osaka-Kobe, and northern Kyushu, and the flow of passengers and goods gravitated towards the cities in these industrial regions. Consequently, the demand for transportation along the Tokaido and San'yo trunk lines increased. And, as transport capabilities improved, the steeply graded areas along these lines were eliminated.

While urban transit networks and trunk-line railroads strengthened during this period, motor vehicles were being used more nationwide. There was an increasing use of these vehicles to transport passengers and goods in small amounts to short-distance destinations. Some railroads were put out of business from the competition of the motor vehicle. But, although more roads were being built, particularly the national highways, very few of them were paved and coaches and rickshaws continued to play an important role in road transport.

Steamships continued to increase in use in ocean transport, as in the previous period, and more and more ships were being driven by diesel engines. Diesel-powered ships were advantageous in terms of fuel consumption, and the use of these engines spread even to small boats. The number of

Western-style sailing-ships equipped with diesel engines for auxiliary power was increasing, and the use of engine-powered sailing-vessels represented a new concept in coastal transport.

Despite the activity of motor vehicles in transporting small amounts of people and freight over short distances, the railroads were continuing to make the same kind of progress in domestic transportation that they had in the previous period and to firm up their position as the most important means of land transport. An independent domestic production technology had been created through the production of locomotives, and the period may even be called the golden age of railroads.

Amending the Railroad Construction Law and the "Build Now, Revise Later" Policy

Under Prime Minister Hara Takashi (a.k.a. Kei), a Seiyukai cabinet took the reins of government in September 1918 and made one of its most important policies the building of a transportation system in which bonds would be issued to provide a source of funds for expanding the rail network throughout the country.

The construction of new National Railway routes based on the regulations for light railroads (1910) rather than the Railway Construction Law (1892) had been proceeding gradually every year since 1911. Diet members who belonged to the party in power held the rights to construct railroads, and they did so with no long-term view on construction planning. Parliamentary Vice-Minister for Railroads Ishimaru Shigeyoshi proposed to Prime Minister Hara that it would be wise to enact a law on railroad construction based on a long-term plan rather than having the opposition vote against railroad construction whenever a proposal for an annual addition of new track was put forward. This suggestion set the enactment of a new railroad construction law into motion.

In January 1921, the government put forth a draft for a railroad construction law to the Diet Committee on Railways. The proposal was passed as is and sent in February to the forty-fourth session of the Imperial Diet. But the bill was shelved in the House of Peers and not passed in that year. It was proposed again to the forty-fifth session of the Imperial Diet, passed through both houses in April 1922, and was enacted on 11 April. The official name of the bill was the *Tetsudo Fusetsu Ho* (Railroad Construction Law), although to distinguish it from the law of the same name passed in 1892, it was commonly called the *Kaisei Tetsudo Fusetsu Ho* (Revised Railroad Construction Law).

While the old law was aimed mainly at building a network of trunk lines, the Revised Railroad Construction Law was directed more at expanding the network of feeder railroad lines. At the time the revised law was enacted it contained 149 proposals (for a total of 178 lines) and an expansion of 10,216 km for the entire nation, but most of the distribution, as figure 1

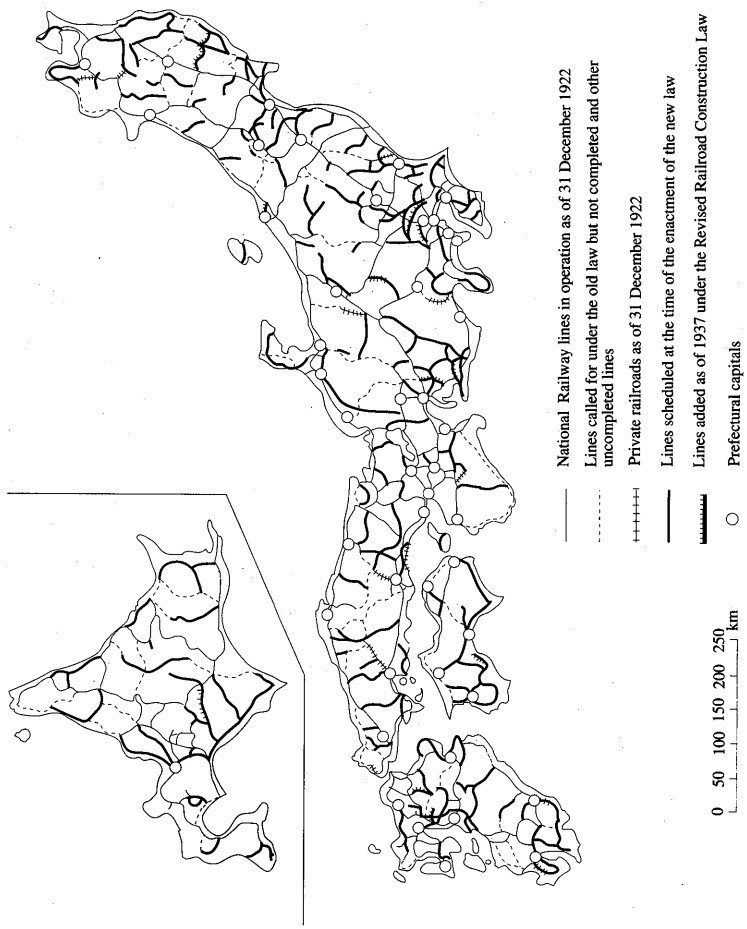


Fig. 1. Lines scheduled by the Revised Railroad Construction Law
Source: Harada Katsumasa and Aoki Eiichi, *Nihon no tetsudō - 100 nen no ayumi kara* (Japanese railways - 100 years), p. 152.

shows, was in local railroads. Furthermore, the lines that were scheduled were closely connected with services in the electoral districts of Diet representatives belonging to Seiyukai, the party in power.

Another distinguishing feature of the revised law was that it set up no regulations for the sequence in which new lines would be constructed, when construction would start, and how much money would be budgeted for them. The old law contained separate articles for proposed lines and for lines slated for construction. Once the decision to build had been made, it was necessary to revise the law for each of the track zones. But the new law contained no such provisions, and construction could begin with just a decision on the budget and suitability of construction. Thus, a law had been created that was easily manipulated by the government and the government party. Critics consequently claimed that "a real profit with a legal basis can be made simply by scheduling a line and doing nothing more than declaring how much the funds will be, when construction will start, and how long it will last."¹ The decision of when and where a line would be built was controlled by the political parties and thus became one of the perquisites of the politicians. Journalists of the day lampooned the policy as a "my needs only" policy.

This focus on building local lines, relying on a limited budget, meant that the construction of new local lines became more important than improving the trunk lines. This describes the "build now, revise later" policy. The Seiyukai was the body promoting this concept in the Imperial Diet, and they argued that even though these lines were uneconomical, it was the duty of the National Railways to build them for the benefit of regional development. The opposition maintained, however, that if improvements were not made in the trunk railroads, transportation on those railroads would come to a standstill in the near future. Further, the construction of uneconomical local railroads would put the operations of the National Railways in jeopardy in the future, consequently, a much larger allowance of funds should go into improving the trunk and urban railroads. This was called the "revise now, build later" policy. This policy was advocated by the Kenseikai, which later became the Minseito. Depending on which cabinet was in power, one or the other of these policies would be pushed. And even though this party called itself Minseito, "government for all the people," it was partial to its rural electorate, and as long as that was the case, it could not be nonchalant about the construction of local railroads. Thus, we would probably have to say that the actual policy was built on a doctrine of equal push for improvement and construction.

Metropolitan Structure and Changes in Transportation

It was during the Russo-Japanese War that Japan's population began a marked concentration in the urban areas. Led by the progress in heavy industry, the Japanese economy grew rapidly during the First World War; a manifestation of this growth was the formation of four major industrial

belts, the Keihin, Chukyo, Hanshin, and northern Kyushu regions, and this development added to the severity of urban population concentration. One of the factors in the development of the great metropolises was the absorption of a large number of factory workers into the cities of Tokyo and Osaka, which were themselves major industrial cities. But these cities were also the focus for the absorption of a supervisory core, the major offices of the central government bureaucracy and the headquarters of the big corporations. They were central points in which various commercial, financial, cultural, and service functions gathered. These factors worked to expand the metropolises and change their social structure. This was especially true in the 1920s, when secondary and higher education came into its own with the universities, the high schools, and vocational schools, whose graduates, entering the bureaucratic and professional occupations, concentrated in the cities and began to form a new middle class.

Rental office space was already being created in the 1910s in Marunouchi, Tokyo's central business district, nicknamed "itcho Rondon" (one-block London), and this area was taking on the core supervisory functions for the Japanese economy. Areas like Ginza and Nihombashi were being transformed into modern commercial districts. Although in the past people lived near their jobs and could walk to work, the development of rental office districts and modern commercial areas encouraged a separation between place of work and place of residence, and the distance between the two grew greater and greater. The development of residential areas along the major streets fanning out from the centre of the city was already apparent in the 1910s. The distribution of population was extending beyond Tokyo's jurisdiction and into the surrounding county region.

The Great Kanto Earthquake of 1 September 1923 destroyed the centre of the city and became a factor in moving the population farther out into the suburban regions. The development of residential areas in Ebara and Toyotama districts to the west and south-west of the city was particularly dramatic.

The result of this rapid movement into the county areas surrounding the city was a call from both city bureaucrats and citizens alike for the city to annex these areas and to bring them under its administrative purview. In 1932, 82 towns and villages in the districts of Ebara, Toyotama, Kita Toshima, Minami Adachi, and Minami Katsushika were annexed by the city of Tokyo and formed into 20 new wards. Tokyo also annexed two towns in Kita Tama District in 1936 that eventually formed part of Setagaya Ward.

In Osaka, too, the population expanded into the surrounding areas and the city subsequently expanded its boundaries for administrative purposes.

With the expansion of the cities into the surrounding environs, a demand for transportation to carry people between their homes and their jobs in the centre of the city was created. People were living at too great a distance to commute on foot, and the transportation demand was too great to solve by horse-drawn cart or tram. Consequently, new modes of transport and improvements in the existing urban transit network were needed. As a result,

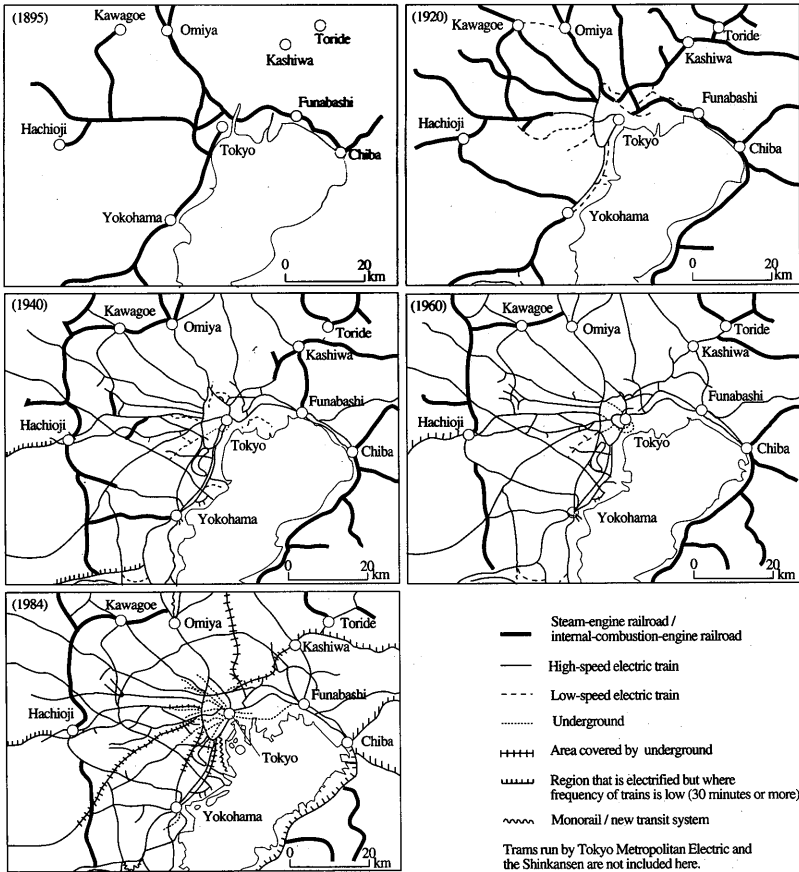


Fig. 2. Development of the transport network in the Tokyo region (1895–1984)

the passenger transport network in the Keihin (Tokyo-Yokohama) and Keihanshin (Kyoto-Osaka-Kobe) areas was revised into a system built around high-speed electric trains (rapid transit), relegating the steam-powered trains and trams to a secondary role (see fig. 2).

At the same time, the newly appearing bus was actively integrated into the urban transit system, its superior mobility put to good use, and the transportation network rapidly expanded. Buses were quickly put to use in the publicly operated transit systems to meet the burgeoning demand for transport in the city centre.

Despite the development of high-speed electric train networks in the suburbs of the great cities, the major means of public transportation in the city centres remained the tram. This was due to thinking that was strong in

Tokyo, Osaka, and elsewhere, that transportation within the city must be city-owned and -operated, although it was in reality difficult for reasons of cost to construct standard above-ground railroads on city streets. The underground railway was consequently relied on as a means to overcome these difficulties, and it was during this period that the underground railway emerged. The first underground in Tokyo came about in December 1927 with the beginning of operation by a private railroad company called the Tokyo Chikatetsudo (Tokyo Underground Railway); the first underground in Osaka appeared in May 1933, and was operated by the city of Osaka. Nevertheless, the underground system was very limited in scope and as of 1945, at the end of World War II, Tokyo had only 14.3 km of track and Osaka only 8.8.

The amassing of manufacturing industries and people in the metropolises created a huge consumer area and an increase in the delivery and distribution of goods that, in turn, demanded improvements in the freight transport network. For example, most cargo distributed in Tokyo was carried on coastal shipping routes, but the rapid growth of rail transport increased the amount of freight arriving by rail, and in the latter half of the 1920s, the levels had far surpassed the amount coming by ship. In Osaka, coastal transport retained its importance; nevertheless, the increase in rail transport was remarkable, and consequently improvements in railroad freight depots and freight-marshalling yards were carried over from the previous period, and the scale of improvements enlarged tremendously. The various functions of the large urban terminals were scattered in terms of location, and many freight depots arose specializing in freight handling.

Common to all the freight depots were their river- or canal-side docking facilities for incoming barges. Most of the cargo transported by road at this time was carried, as in times past, in coaches or drays, vehicles not suited to long-distance, heavy hauling. Heavy freight jobs within the city were handled by barge, and for this reason, the rapid building of canals within cities continued from the previous period. It was also for this reason that factories were built along the banks of the canals and rivers.

Competition between the Motor Vehicle and the Railroad

Motor vehicles were imported into Japan at the beginning of the twentieth century, but it was not until the 1920s that they began to operate throughout the country and emerged as a powerful mode of public transportation.

Most buses, in 1920s Japan, the chassis and engines for which were imported from the United States, could carry 5 to 15 passengers. The Ford Model-T was the leader in the field, and most bus owner-operators were small businesses with not more than five vehicles and had previously operated horse-drawn coaches. Inferior road conditions and lack of pavement notwithstanding, the bus companies gradually expanded their net of scheduled service in the metropolises and outlying cities and gave the railroads some sharp competition. Buses operated with greater frequency than the

trains, and their larger number of stops in many more locations was a convenience to the customer that posed a major threat to the railroads and even drove a number of small urban railway companies out of business.

When the railroads began operating gasoline-powered trains, it allowed them to increase the frequency of train operations. They also began operating buses in the areas served by their trains as another means of competing with the bus companies. To beat the competition, many railroad companies sought to build a monopoly, for example, by amalgamating with the bus operators or buying them out.

But the train's monopoly over freight transport was rapidly loosening; lorries were moving in, taking over much of the short-distance freight hauling that had been within the exclusive province of the railroads.

The increase in buses and lorries not only made for greater competition with the railroads, it also led to a scramble between the bus and lorry operators for freight and passengers. The government official charged with supervising motor vehicle transit and transportation at the time was the minister of communications, but the regulatory agency was not clearly defined, and companies starting out in the bus business actually had to get permission from the prefectural governor. As motor vehicle transportation developed, the prerogatives of supervision had to be more clearly delineated, and there arose a conflict between the Home Ministry, which claimed that it should control motor vehicles because it was in charge of roads, and the Communications Ministry, which claimed the privilege because it had always been in charge of motor vehicles. The view that eventually won out was the one that contended that control of all land transportation, including railroads, should be integrated under one body. Thus, the right of supervision went to the Railway Ministry. In November 1928, a Bureau of Motor Vehicles was set up within the Railway Ministry, and it was placed in charge of motorized transportation.

In October 1933, the Motor Vehicle Transportation Law was enacted to integrate all laws related to motor vehicle operations. Potential operators of scheduled bus routes had to apply to the Railway Ministry for permission before they could go into business.

At this time, interest in motor vehicle operations was increasing in the Railway Ministry, the operator of the National Railways, and a move was under way to better use motor vehicles as an auxiliary system of transportation to the railroads.

One manifestation of the Railway Ministry's interest in motor vehicles was its operation of its own bus line. In accordance with the Revised Railroad Construction Law of 1922, most of the construction of planned lines was to occur in areas with little population and low industrial activity, though it was thought these lines would be unprofitable. As Kinoshita Yoshio had pointed out,² there were many people who believed that bus routes represented a more rational means of serving these areas than branch railroad lines, but not until December 1930 was this thinking reflected in action. In this year, ministry-operated motor vehicles first

started running along the scheduled lines between Okazaki and Tajimi and between Seto Kinembashi and Kozoji; these routes represented the first for the later-formed National Railway Buses. However, the people living along these routes, or at least their local governments, did not consider the Railway Ministry's buses as a substitute for trains, rather as an interim means of transportation until the railroads were completed.

Another manifestation of the ministry's interest in motor vehicle transport was its active use of lorries to carry goods to and from railroad terminal points. Up to that time, it had been the freight owner's responsibility to get cargo to and from the terminal points. But a *takuatsukai* (door-to-door service) system was started in October 1935, by which the customer would request that goods be picked up and delivered and the railway would carry out the order. The door-to-door system was an expanded and strengthened version of a system of special small-lot consignment. The use of one-ton containers began in 1931 as a means of making the loading and unloading of small-lot consignment freight more efficient, a system highly appreciated by the goods' owners. Sometime later, smaller, more convenient 150 kg containers were put into use. All of these measures were to compete with the newly developing lorry transport.

Tourism Development and Transportation

Also during this period, tourist spots and sightseeing locations began to be developed throughout the nation, a development that had a major impact on transportation.

Most recreation in Japan before this consisted of visits to temples and shrines and taking to the waters at hot springs. But around this time, people began to partake more and more of outdoor recreation; this was particularly so among the urban middle class. Sports that had been pastimes of only the very rich – mountain-climbing, hiking, skiing, skating, and others – began to seep down into the lower classes during the 1920s.

At the same time a movement started for a national park system that would preserve important natural scenic locations and historical and cultural sites. It culminated in the passage of the National Parks Law in 1931. The Setonaikai, Unzen, and Kirishima areas were the first three to be designated as national parks, in 1934, and by 1937, the Nikko, Fuji-Hakone, Akan, and Daisetsusan regions became national parks. The Japanese national park system is modeled after the US park system and was designed to be a system similar to its model that creates not just repositories of scenery and cultural assets but places where many people can come to appreciate natural beauty. Regions with beautiful scenery and important cultural assets such as the national parks and other areas also required transportation and lodging.

A policy was also followed that was intended to draw overseas tourists to Japan and aid in the acquisition of foreign currency. This policy was behind the Railway Ministry's setting up of a new International Tourism Bureau in 1930.

With these factors as background, all areas of Japan developed tourism and the private transit corporations played an important part in providing the way to the tourist destinations. Transportation companies in these areas promoted tourism, well aware of how important tourists were in creating transit demand. Many private railroad companies spread their networks and facilities out into areas where the best scenic spots and cultural assets were located and adopted operational guidelines that sought to monopolize all train and bus routes in these regions. These were features of the rapid progress made in laying railroads to connect urban areas with scenic locations. Two important examples of urban private railroads in this connection are the Tobu Railway, which developed the Nikko-Kinugawa region, and the Keihan Electric Railway, which developed the area around the shores of Lake Biwa. Similar actions were taken by private railways not located in the major urban areas, such as the Nagano Electric Railway's development of Shiga Highlands and the Fuji-Sanroku Electric Railway's development of the region extending out from the north face of Mount Fuji.

The National Railways was also interested in tourist transportation and began operating through trains between the cities and the resort areas, even selling discount tickets to promote their services.

Notes

1. Nakagawa Seisa, *Teikoku Tetsudō seisaku ron* (Imperial Railroad policy) (Tetsudo Shunju Sha, 1928), p. 34.
2. Kinoshita Yoshio, *Kokuyū Tetsudō no shōrai* (The future of the National Railways) (Tetsudo Jiho Kyoku, 1924).

Railroads

Eiichi Aoki

Developing an Independent Rolling-stock Technology

The National Railways had started, in 1909, standardizing and domestically producing steam locomotives and was gradually moving ahead in this area during the period under study. However, the vastly increasing demand for transportation during the period required the design and construction of larger and more powerful locomotives as well as of larger passenger coaches. Plans were also moving ahead to standardize steam locomotives for use in many different applications, and engines were being developed for the very diverse types of railroading peculiar to Japan. Locomotives powered by electric motor and by internal-combustion engines were also being domestically produced and standardized during this period. The body construction of freight and passenger cars and electric and petrol-burning cars was being changed over from all-wood construction to one in which body frame and exterior walls were of steel and the inside walls of wood.