Trains Carrying Something Special: Private Railways and Tourism Transport around Tokyo

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Tokyo is located on the Kanto Plain, Japan's largest area of flat land. Going in almost any direction counter-clockwise from the north you run into mountains at between 80 and 100 km from central Tokyo. The mountains are precipitous, presenting a scenic obstruction to overland travel. However, they are blessed with the hot springs that Japanese love so much. Early foreign residents, particularly those from Europe, were quick to discover the best spots to get away from the hot and humid summer climate of the lowlands, constructing summer residences in the mountains. Japanese were soon following that example, laying the seeds for modern tourist spots close to Tokyo. The proliferation of railways made the distance of about 100 km from Tokyo easily accessible and the transport capacity of railways made movement of large numbers of passengers to such places possible. Railways stimulated the formation of tourist spots for the masses, providing the means for the short-stay holidays characterizing Japanese travel. Day trips were possible, or one could spend the night and relax in a hot spring. Hakone and Nikko are typical examples.

This article covers the four popular tourist spots of Hakone, Nikko, the base of Mt Fuji, and the east coast of the Izu peninsula, along with the development of the private railway operators serving these areas: Odakyu Electric Railway, Tobu Railway, Fuji Kyuko, and Izukyu. For the most part, I will describe how these operators entered the markets for individual tourist spots, making various efforts to transport tourists as part of their traditional railway businesses. I will explain these efforts depicting the locations in the context of the history of the development of Japanese railways. The article uses the current names of operators, stations, etc., to avoid undue detail about historical changes.

Hakone and Odakyu Electric Railway: *Romance Car* Running on Dual Gauge

Odakyu Electric Railway (Odakyu) is a 1067-mm gauge electric railway running 82.5 km from Shinjuku in Tokyo to Odawara in Kanagawa. It started operation to Odawara—the gateway to Hakone—in 1927. Odakyu is famous above all for its *Romance Car* limited express, the symbol of Hakone tourism. The name is a Japanese-English term referring to the cars with two-person reversible transverse seating nicknamed 'romance seats.' While not an Odakyu invention, *Romance Car* has come to be accepted as the Odakyu symbol with the company trademarking the name in the 1990s.

A horse-drawn tramway opened in 1888 from Kozu on the Tokaido line to Hakone-Yumoto through Odawara. Hakone-Yumoto had traditionally been the gateway to Hakone, and Yumoto itself is a hot-spring area. The horse-drawn tramway was electrified in 1900 and electric tram operations began on a track gauge of 1372 mm. The horse-drawn tramway was the third or fourth of its kind in Japan, and the electric tramway was the fourth, giving it a pioneering status within Japan. The tramway's operator developed into today's Hakone Tozan Railway. The company was established and funded in Odawara and with railway business at its core expanded into new businesses, such as construction of real estate and tourism facilities along the line. Furthermore, it formed a plan to construct a mountain railway from the terminus of the electrified tramway at Hakone-Yumoto. Upon comparing the various mountain railways in Switzerland, the rack-and-pinion system was abandoned, and an adhesion system was adopted. Learning from the achievements in sharp-gradient adhesion operation of the Bernina Railway, an adhesion railway opened in 1919 with a 1435-mm gauge for the 8.9 km between Hakone-Yumoto and Gora, a catenary power feed, a maximum grade of 80‰ with three switchbacks to alleviate higher grades, and a minimum curve radius of 30 m. Special cars were fitted with multiple sets of special brakes and other equipment to deal with the steep sections. The same system continues in use, having undergone multiple improvements over the years. This unique mountain railway is an important tourism resource itself. Furthermore, the electric tramway between Odawara and Hakone-Yumoto underwent complete renovation, transforming into a 1435-mm electric railway with through services starting between Odawara and Gora in 1935.

Odakyu is a Tokyo-based railway operator that acquired business area locations, such as the area around Odawara not served by the Tokyo suburban railway system in the 1910s. It is a Tokyo company with no relation to Hakone Tozan Railway. Because the southern terminus was in

Odakyu Series SE3000, holding 1957 world speed record of 145 km/h for narrow-gauge train (Odakyu Electric Railway)

Odawara, the company aimed to penetrate the Hakone tourism sector by running a railway to Hakone. However, such a development would have competed with Hakone Tozan Railway's upgrading of the tramway route to a railway between Odawara and Hakone-Yumoto, so the Odakyu plan was not implemented. Instead, Odakyu actively cooperated with Hakone Tozan Railway, working to get tourists to Hakone by jointly managing Odawara Station and gaining a foothold in Hakone tourism.

Hakone Tozan Railway made pioneering business developments following its establishment, but fell on hard times due to the capital burden of business expansion. It eventually had to rely on outside funding. The details of how the situation developed are omitted here, but Hakone Tozan Railway was reborn as an Odakyu subsidiary in 1948. Hakone Tozan Railway—a major player in tourism development with local capital—falling under control of Odakyu opened the door to capital from Tokyo. From that point on, Hakone tourism was developed by Odakyu. Recovery from war damage and overuse was not complete, but Odakyu quickly took action to run through services to Hakone.

Through service was accomplished in a quite original manner; Hakone Tozan Railway's line between Odawara and Hakone-Yumoto was converted to dual-gauge 1435 and 1067-mm track, allowing Odakyu trains to run directly to Hakone-Yumoto. The catenary of Hakone Tozan Railway at the time was 600 V, so the voltage was raised to the 1500 V used by Odakyu and the Hakone Tozan Railway trains were converted to dual voltage.

Dual-gauge track of 1435 and 1067 mm has appeared at key stages in the history of Japan's railways. One was the technical feasibility study for converting Japanese National Railways (JNR, formed in 1949) to standard gauge. The plan was for gradual transition from 1067 to 1435 mm, and part of the Yokohama Line in suburban Tokyo was converted to dual gauge in 1917. Steam locomotives and other rolling stock converted to standard gauge were proved in commercial service, and tests were conducted on dual-gauge track and turnouts. Dual gauge also reappeared in 1992 to

handle freight trains when broadening the conventional Ou Line to standard gauge to allow through operation of Yamagata Shinkansen trains from Fukushima on the Tohoku Shinkansen. Odakyu made great use of JNR experience with the Yokohama Line in its construction of the Hakone dual-gauge track. Subsequently, when the dual-gauge track was being planned for the Yamagata Shinkansen, the Odakyu experience was used as a reference. Although there was a long time lag between the two events, the history of 1435/1067-mm dual-gauge technology was handed on. Hakone's dual-gauge track and complex dual-gauge turnouts in particular are a popular attraction for railway enthusiasts in Hakone.

Odakyu started limited express service to Hakone on the dual-gauge track in 1950 when the *Romance Car* name came into first use. In other words, the dual-gauge track and *Romance Car* are tied closely to Odakyu's through service to Hakone.

The company started limited expresses to carry tourists to Hakone in 1948, the year it regained independence from Tokyo Express Electric Railway, a wartime conglomerate composed of today's Tokyu, Keikyu, Keio and Odakyu railways. It started with special cars for general operation, and commissioned trains exclusively for limited-express use in 1949. The limited expresses introduced a drink and snack service whereby orders were brought to a passenger's seat, giving it the nickname 'moving coffee shop.' That service was inherited by the *Romance Car* and was a long cherished and famous aspect of the trip. The 3000 series Super Express of 1957 was a particularly impressive presence among the *Romance Car* train sets. It featured an aerodynamic design created with an eye to maximizing high-speed operation, state-of-the-art control and motors, and articulated bogies for curves. While on loan to JNR, it attained the world speed record for a narrow-gauge train at the time of 145 km/h. The 3000 series was a milestone in the history of Japan's electric train technology development. The 3100 series New Super Express that debuted in 1963 was extremely popular because the driver's cab was on a second floor, allowing passenger observation seats at the train front. From their launch until today, *Romance Car* designs have so many unique features that they cannot all be described here, but each is designed to attract passengers. The dual-gauge track between Odawara and Hakone-Yumoto was converted to 1067-mm-only track in 2006 to increase transport capacity for Odakyu stock. Dual gauge remains on the section between Hakone Tozan Railway depot and Hakone-Yumoto Station. However, although the distinctive dual-gauge section was lost, the *Romance Car* continues carrying thousands of tourists to Hakone.

Nikko and Tobu Railway: Spectacular Competition

Tobu Railway is an operator with a long history, opening its first railway in 1899. Based in Tokyo, it has Japan's second longest total length of electrified lines today with 460 km of 1067-mm gauge track, mostly in the northern Kanto Plain. The popular tourist spot at Nikko is in Tobu's business area but Tobu did not open a line to Nikko until 1929.

Tobu's original business area of northern Kanto was a blank spot for railways until the 1890s. The original plan to build a rail route directly linking the area with Tokyo was completed by 1910 and Tobu was a stable and conservative manager of medium-distance passenger and freight transport. However, it later transformed into a company making active investment in areas such as electrification in the late 1920s. The expansion of urban Tokyo after WWI brought change to Tobu's position. As part of the business development, it opened the 80-km Tobu Nikko Line to Nikko in one phase. A rail route to Nikko had already been completed in 1890 when the Nikko Line branch from the Tohoku main line opened in 1885. That route was operated by the government railways predecessor to JNR (formed in 1949), and the distance was about 120 km. Nikko's modern tourism development was spurred by the line opening. Additionally, an electric tramway was built on the road from JNR's Nikko Station. Tobu Railway was an outside latecomer to Nikko tourism, and its route ran parallel to that of JNR.

In 1950, JNR started rapid service passenger trains to Nikko. In response, Tobu built limited-express trains with all reversible transverse seating in 1951. When JNR developed a new diesel railcar for the Nikko route, Tobu Railway built a new limited express with motors in all cars to reach higher speeds and gain the advantage over JNR. However, JNR responded with the *Kiha* 55 series Nikko Diesel Railcar the same year as a semi-express, dramatically improving service. With the completion of electrification to Nikko, semi-expresses were switched to 157 series EMU, nicknamed 'Nikko Electric Trains' in 1959. They were as fast as Tobu's limited expresses and Tobu responded by commissioning the 1720 series *Deluxe Romance Car* limited-express EMU in 1960. The competition between these two operators over 10 years was both fierce and spectacular.

The JNR *Kiha* 55 series was JNR's first diesel railcar for rapid trains. Its development was hurried and its purpose was to improve service on the Nikko route where there were still non-electrified sections, so it was called the 'Nikko Diesel Railcar'. JNR's standard diesel railcars were mass-produced in 1953 and were used widely for local transport. However, research continued on rolling stock for rapid trains while experimenting on using two engines for steep grades and working to reduce weight and providing passenger

services at the same level as other types of passenger cars. The *Kiha* 55 was the result of these efforts. As soon as the advanced prototype was completed it was introduced on Nikko semi-express trains. With two engines per car, it achieved high-speed performance, sweeping aside the conventional image of diesel railcars in terms of passenger services and proving that diesel railcars could operate as rapid trains. Semi-expresses using the *Kiha* 55 ran on non-electrified sections across Japan and this semi-express network would form the model for the later JNR/JR nationwide limited express network. In that context, the *Kiha* 55 brought a historic breakthrough.

The JNR 157 series EMU inherited the Nikko semi-express runs from the *Kiha* 55. It was called the 'Nikko Electric Train' because it was built expressly for that service. By the late 1950s, JNR had completed the EMU series for specific purposes, such as limited express, express, and semi-express, along with long-distance, medium-distance, and commuter EMUs. However, the 157 series EMU was an exception. It was built especially for the Nikko semi-express, and its passenger service facilities were on a par with those of limited expresses because the Tobu 1720 series had facilities exceeding JNR's at the time. This demonstrates how JNR focused its rolling-stock development on competition with Tobu in transport to Nikko.

The rival to JNR's 157 series EMU was Tobu's 1720 series *Deluxe Romance Car*. In terms of performance it was a typical high-speed rapid train in the same class as the JNR 151 series EMU for limited expresses and the Odakyu 3000 series EMU for the *Super Express*. While the design lines of the lead car of the JNR 151 series were popular, the 1720 series design was said to be modelled after the Nissan Cedric automobile. Seats were a multi-position locking reclining design of the same comfort level as those used in first class on JNR trains at the time; the salon had revolving sofas and a jukebox. Female attendants were all fluent in English, showing a strong awareness of the importance of attracting foreign tourists.

The competition between Tobu and JNR ended with an overwhelming victory for Tobu. While JNR had a huge advantage in terms of rolling-stock production, customer service was poor. In the long history of JNR, customer service was always noted as an area that needed improvement but no action was ever taken. Tobu had been known for being

Tobu's Series 1720 used for express services for Nikko and Kinugawa areas (Y. Hanaue, Tobu Museum of Transport)

a conservative and steady company. It was termed a 'mini JNR' for many reasons and high service levels were not a company characteristic. As time progressed, JNR eventually suspended operation of rapid trains to Nikko. Conservative Tobu continued using the 1720 series until the 1980s and the resulting decline in service levels was received poorly.

In 2006, Tobu and JR East announced joint operation of a through service by both companies between Tokyo and Nikko, astounding those who knew of the history of the competition for the Nikko route. Limited express trains between JR East's Shinjuku Station and Tobu Railway's Nikko Station would cross between the two companies' lines at Kurihashi Station where the JR East and Tobu routes intersect. Nikko's popularity as a tourist destination has been sliding and the share of access by railway has definitely declined. While there was no room for competition, the start of a joint through service was unexpected. So now Tobu's marquee 100 series *Spacia* departs daily from JR East's Shinjuku Station with the largest passenger flow in Japan and located near JR East's head office. The era of competition has passed and the new joint through service may lead to a revival of the Nikko route.

Mt Fuji and Fuji Kyuko: Rare Carriages of Small Private Railway on JNR Rails

Fuji Kyuko got its start in Yamanashi Prefecture in 1929 with a 23.6-km 1067-mm gauge electric railway from Otsuki on the Chuo Line to Fuji-Yoshida. Situated at the northern base of Mt Fuji, the Fuji Kyuko Line is a mountain railway with an almost continuous climbing grade of 20‰. The trip from Tokyo via the Chuo Line and Fuji Kyuko Line is about 100 km altogether. Development of the base area of the north side of Mt Fuji was first proposed in 1917 by the governor of Yamanashi, with leadership to be provided by regional government. Laying track for an electric railway from Otsuki on the Chuo Line was included in the plan. The start was a regional development measure using tourism as a means for promoting, rather than being prompted by, tourism demand. The governor called for the cooperation of prominent entrepreneurs from Yamanashi in advance of this project, and Fuji Kyuko took the lead in that process. Led by Mitsuo Horiuchi, an active manager who was also a politician, Fuji Kyuko has been a constant key player mainly in tourism development at the base of the north side of Mt Fuji.

A characteristic of Fuji Kyuko's railway business has been a constant focus on tourists from Tokyo since the 1934 start of the *Fuji Mountain Climbing Train* where Japanese government railways' passenger carriages hauled by electric locomotives ran through on to the Fuji Kyuko track from Otsuki Station on the Chuo Line, making tourism from Tokyo very convenient. However, service was suspended for a time during WWII.

The Japanese government railways grew enormously with the 1906/9 nationalization; its rolling stock and facilities were expanded and enhanced, distancing it from the private railway operators. This gap made through services between government and private railways procedurally and physically difficult, especially for the carriages of local small- and medium-sized private railways. In 1932, a group of private railway operators requested the formation of a system for handling through passenger services between government and private railways. Government railways' officials accepted the proposal partly because they were facing a drop in passengers during the 1930s depression era. Fuji Kyuko had applied to produce a 30-tonne four-axle electric locomotive and passenger cars of the same type as standard government railways' passenger cars, but failed due to issues in procuring funding. Looking at events in chronological order, we see that Fuji Kyuko with its active management functioned as a key player in through services between private railways and JNR. We can also speculate that government railways/JNR through services were achieved by these activities. Due to limited ability to invest in facilities Fuji Kyuko was forced to rely on government railways/JNR through services.

In 1962, Fuji Kyuko achieved through service to JNR using its own rolling stock, allowing seamless transport between Shinjuku in Tokyo and the terminus at Kawaguchiko. This service was operated as a rapid train coupled to JNR's *Alps* express, which started service in 1961 as the premier service on the Chuo Line. The operation was quite unique. The entire Fuji Kyuko section was electrified, but the *Alps* long-distance express used diesel railcars because it operated across non-electrified sections. To couple with the *Alps*, Fuji Kyuko built diesel railcars of the same type as those used by JNR. The company also needed to train diesel drivers as well as diesel maintenance staff and facilities.

The JNR diesel railcar for the express was the *Kiha* 58 series, which started production in 1961. It earned a historic place in JNR's postwar rolling stock and operating history as the long-lived successor to the Nikko *Kiha* 55 series. It was a rapid diesel railcar featuring upgraded performance and service levels and greatly improved services on JNR non-electrified sections. Although the *Kiha* 58 lost its role as the premier railcar with the development of diesel railcars for limited expresses in the late 1960s, it was superior in terms of performance stability and was used for a variety of roles right into the 1990s, becoming a familiar face to railway users across Japan. The *Kiha* 58 handled long-train-set operations on trunk lines, but was also designed to be compatible with multilayer transport for detailed services where trains could be split into as few as two cars and operated through to branch lines. With Fuji Kyuko participating in this JNR

Fujikyu's Series *Kiha* 58 diesel railcar running between Fujikyu Highland Station and Kawaguchiko Station (Fuji Kyuko)

diesel railcar express system, the company solved the issue of through services to Tokyo using its own rolling stock. However, JNR regulations on livery were strictly applied to the Fuji Kyuko *Kiha* 58, so general users could not differentiate it from JNR rolling stock. Although Fuji Kyuko stock was standing at Shinjuku Station in central Tokyo, it had no promotional effect on the general public for the company.

Fuji Kyuko produced two *Kiha* 58 series cars in 1961, and these were used for through services as a two-car train set. A third car was produced in 1963 so a back-up would be available at any time. A 33% back-up rate was excessive, but Fuji Kyuko had to avoid disruption of operations from problems such as maintenance of diesel railcars, which it was not really accustomed to operating, at all costs on the JNR line. To make constant operation of three cars as two more efficient, the final car had a driver's cab on both ends. It was the only mass-produced *Kiha* 58 with a driver's cab at both ends, gaining it the attention of rolling stock fans.

JNR investment in facilities proceeded further and express-train operations changed gradually to EMUs with the expansion of electrified sections. With full Chuo Line electrification, the problem arose of operating diesel railcar express trains in time slots not suitable for through services. Fuji Kyuko through service was finally discontinued in 1975 and the company did not build through-service EMUs, because its investment capacity could not keep pace with rapid developments in modern traction. JNR modernization involved operating diesel cars temporarily on non-electrified sections, streamlining operations and improving services, and then moving on to the next section requiring electrification. The issue of capital investment capacity occurred again here.

Through service to Tokyo continued with JNR, but the service was completely with JNR/JR rolling stock. Today, rapid trains on the Chuo Line are mostly limited expresses with fixed train sets, making through service with Fuji Kyuko rolling stock difficult. However, the company's recent strategy to attract passengers is to operate limited expresses on its own line connecting with Chuo Line limited expresses at Otsuki. The *Fujisan Limited Express* (started operation in 2002) and the *Mt Fuji Mountain Climbing Train* (started operation in 2009—see pp 26 to 29) are both popular distinctive passenger services. Fuji Kyuko is also a major bus operator with an overwhelming share of passengers using expressway buses to access the area, but it is definitely taking an active role in attracting tourists to use the railway.

Izukyu's Alfa Resort 21 runs between Atami and Izukyu Shimoda during the week, and Izukyu Shimoda and Tokyo in the weekend (Izukyu Corporation)

Izu and Izu Kyuko Line: Designing Rail Transport as Something Special

The Izu Kyuko Line operated by Izukyu Corporation, is a single-track 45.7-km electric railway running from the JNR/JR Ito Station on the Ito Line to Izukyu-Shimoda. It has a gauge of 1067 mm. Operation started in 1961, making it a newcomer in regional railways. Ito is the terminus of the Ito Line, which is a feeder for the Tokaido main line, starting at Tokaido-Atami. The town is 121.5 km from Tokyo and the Izu Kyuko Line is effectively an extension of the Ito Line, running down the east coast of the Izu peninsula in Shizuoka Prefecture. The area is famous nationwide as a quality hot-spring region, and the terminus at Shimoda has long been a famous hot-spring resort.

Although the east coast of the Izu peninsula has long been known as a tourist spot famous for its hot springs and is relatively close to Tokyo, it lagged behind in railway construction due to the difficult terrain. The Tokaido main line was built as a roundabout route crossing the mountains, and part of the new route through the Tanna Tunnel started operation to the famous hot spring area of Atami in 1925. The 1922 Railway Construction Act envisaged a line circling the Izu peninsula including a route from Atami to Ito and Shimoda assuming that a new Tokaido main line would be built. A decision was reached on construction of the Atami to Ito section in 1926 and the Ito to Shimoda section in 1927, but only the route from Atami to Ito was opened in 1938. In 1954, the government indicated that it had no intention of constructing the latter section. As a result, Izukyu entered

the market for this section. Movements to restore the missing links in the legally mandated formation of a nationwide JNR network continued until the 1980s, and part was realized within the JNR network. However, there were few instances of construction by purely private railways.

Izukyu was a wholly owned subsidiary of Tokyu Corporation (Tokyu), and construction of the Izu Kyuko Line was managed directly by Tokyu using Tokyu capital, human resources, and technologies. Tokyu planned entry to the Izu market in 1953, due partly to the return of company leader Keita Goto who had been purged after WWII. He led an aggressive and extensive business expansion and the company applied for a licence to lay track between Ito and Shimoda in 1956; construction started in 1959 and was difficult because the route features mountains reaching right to the sea. As a result, 31 tunnels totalling 17.8 km were required on 45.7 km of line. With the poor geological stability, the tunnel construction required a high level of technical expertise and the line has experienced major damage from earthquakes ever since. Tokyu went forward without asking the local community to bear any financial burdens but the investment proved a strain on the Tokyu management.

The Izukyu licence conditions were to complete construction quickly; have facilities meeting JNR standards; accept JNR through services if requested; and accept buyout if required by the government. Accepting private capital to complete the nationwide railway network as well as buyout if deemed necessary was a characteristic policy of JNR dating back to the establishment of railways in Japan.

With the opening of the Izu Kyuko Line, the east coast of the Izu peninsula was transformed overnight into a popular tourist spot; inn owners said they simply needed to open their doors for customers to flow in. Soon after the start of the Izu Kyuko Line, JNR started operating express through services from Tokyo. These were eventually upgraded to limited express services with more runs. The Tokaido Shinkansen opened in 1964 and a shinkansen station was opened at Atami, cutting the time it took to reach Izu. However, demand for through services from the conventional Tokaido main line did not decrease, so services using the conventional line continued to be upgraded, making it the main Izu east coast route today. This clearly demonstrates the popularity of the 'You are in something special once you board the train!' concept employed in developing the new rolling stock. In other words, although the trip may take a little longer, stepping onto the special train going straight to the tourist destination is a special experience because unlike day-to-day commuting, riding a special to a hot spring is like a party even before leaving Tokyo Station.

Izukyu's de-facto founder, Keita Goto, aspired to operate direct services from Tokyo using the company's own rolling stock, saying, 'As someone who has long been involved in railways, having our rolling stock depart from Tokyo Station is my ambition.' Although Tokyo Station has a symbolic place in Japanese railways, the privately owned Izukyu rolling stock would not appear at Tokyo Station until much later in 1988 after JNR was privatized in 1987.

Izukyu commissioned the *Resort 21* 2100 series EMU for through service from Tokyo. The design concept was 'a train to enjoy riding.' Seating is arranged as long seats facing large windows on the ocean side and two-person box seats on the mountain side. The Izukyu Line runs along the coast, so people who want to enjoy the scenery can face the ocean; seats on the mountain side are used to enjoy conversations or for resting. Observation seats behind the driver's cab give passengers the driver's view of the track. While it is not clear if this layout had any impact on the decision, Izukyu started using women drivers in 1993 and watching the drivers was one enjoyment of the ride. In fact, it helped introduction of women drivers on all Japanese railways. Also, to overcome the problem of the many long tunnels, later *Resort 21* trains had optical fibres in the ceiling to mimic a star-filled sky when passing through tunnels.

Following the creation of JR East, the company started *Super View Odoriko* services with popular full observation seating in 1990. After the JNR privatization, rail travel to Atami was either via JR East's conventional Tokaido main line or JR Central's Tokaido Shinkansen. This competition, helped spur operation upgrades on the conventional Tokaido main line and upgraded direct trains continue carrying passengers on 'something special' trains to Izu. ■

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