

Railways in Japan

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History

- ① Meiji Restoration, first railway, 30 years after
- ② Nationalization (1906)
- ③ Japanese National Railways (1949-1987)
- ④ Privatization (1987-today)



Figure: Japanexperterna.se, CC BY-SA 3.0

Meiji Restoration, first railway, 30 years after

- ❶ The impact of model railroads
- ❷ Some concepts in *hans*, but nothing before Meiji
- ❸ The first railway opened on September 12, 1872, between Shimbashi and Yokohama
- ❹ Between 1886 and 1889 – *Tōkaidō-honsen*
- ❺ 1892 – *Tetsudō Fusetsu-hō*, Railway Construction Act, the end of Japanese Railway Mania



Figure: Sushiya, Wikicommons, CC BY 3.0

Nationalization (1906)

- ① 1906-1907 –Nationalization of 17 private railways (5 big, 11 smaller, military reasons)
- ② 1927 –the opening of the first line of today Tokyo metro – Ginza line

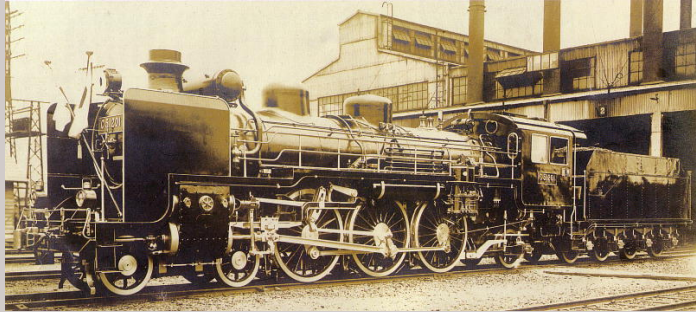


Figure: Wikicommons, public domain

Japanese National Railways (1949-1987)

- ❶ 1949 –from Tetsudō-shō to JNR
- ❷ Electrification, the popularization of EMUs and DMUs
- ❸ 1964 –Tōkaidō Shinkansen
- ❹ 1980 –JNR Reconstruction Act, Japanese beeching axe

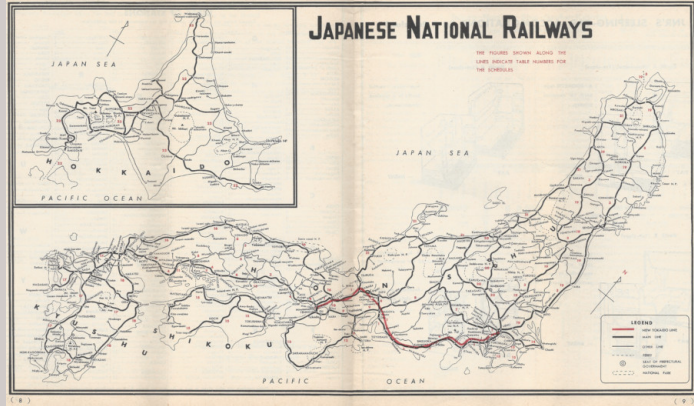


Figure: Wikicommons, public domain

Privatization (1987-today)

- ❶ 1987 –privatization of JNR, JR Group is formed instead
- ❷ 1988 –Seikan Tunnel (connection between Honshū and Hokkaidō)
- ❸ 1988 –Great Seto Bridge (Honshū and Shikoku)
- ❹ 2005 –Linimo, the first maglev metro in Japan
- ❺ 20XX –SCMaglev, Shinkansen of our times

JR Group: JR Hokkaido, JR East (TYO: 9020), JR Central (TYO: 9022), JR West (TYO: 9021), JR Shikoku, JR Kyushu (TYO: 9142), JR Freight, (RTRI, JR System)

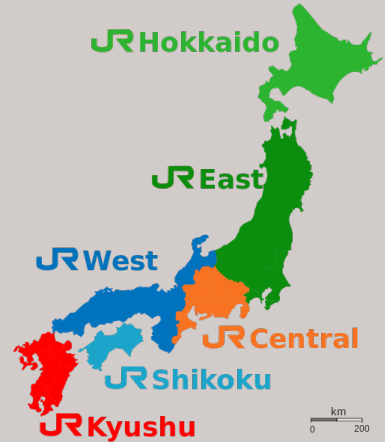


Figure: Vladsinger, Wikicommons, CC BY-SA 3.0

Gauge

Regular loading gauge is 4.1 m high, 3 m wide. There are 4 major gauge standards throughout the country:

- 1067 mm, 22301 km, passenger and freight
- 1435 mm, 4251 km, Shinkansen and subway
- 1372 mm, 96 km, Keiō-sen and trams
- 762 mm, 48 km, regional



Figure: Bakkai, Wikicommons, CC BY-SA 3.0

Power supply

日本の電力網と電力会社の管轄
Electricity grid and companies in Japan

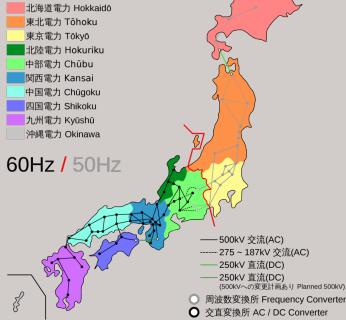


Figure: Callum Aitchison, Wikicommons, public domain

Railway Electrification Systems in Japan

Shinkansen exclusive-use lines at 25 kV not shown
Not all lines shown

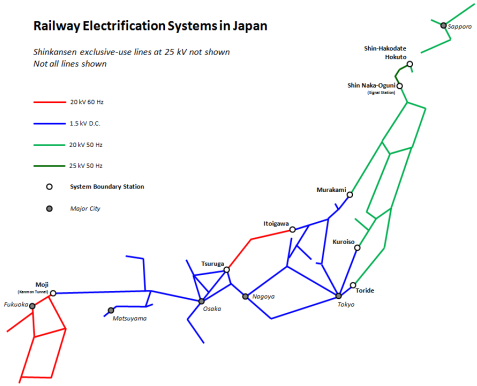


Figure: Lexcie, Wikicommons, CC BY-SA 3.0

Classification

Trains operated by JR Group are mostly divided into several categories:

- Local (kakueki-teisha), stops at every station
- Rapid (kaisoku), stops at some stations, no price difference (e.g. Regional-Express in Germany)
- Express (kyukou), stops at some stations, additional fee
- Limited Express (tokkyu), stops at major stations, additional fee
- Shinkansen, separate tracks, platforms, sometimes even stations, additional fee

Technically speaking, railways are classified as, well, railways (鉄道, tetsudō) or trams (軌道, kidō), including trolleybuses.

Ticketing system

- ① Paper ticket or local smart card
- ② Regular (ordinary) car, Green Car, GranClass
- ③ Very extensive use of ticket gates
- ④ Paid fare = Joshaken (base fare, distance based) + Tokkyuken (supplement fare for Shinkansen and Tokkyu, distance based) + Kyukoken (supplement fare for Kyukou, distance based) + Gurinken (for Green Car, distance based) + Shiteiken (seat reservation, season based) + Shindaiken (for a bed in a night train)
- ⑤ Nyujoken, for entering the platform without taking a train

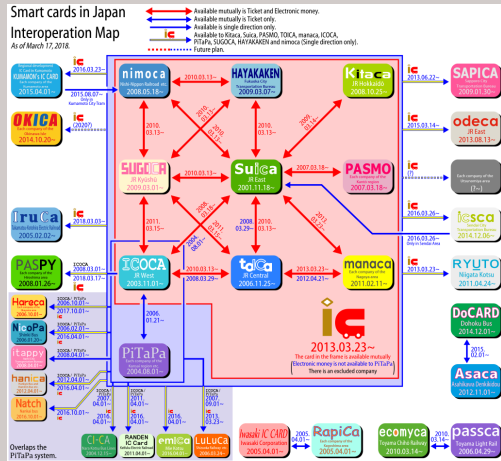


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Various names: lines, trains



- ① In general, the lines are not numbered, but named (e.g. Yamanote-sen, Nambu-sen, Tsukuba Ekusupuresu, Tōkaidō Shinkansen, Shōnan-Shinjuku Line)
- ② Sometimes the name of the line is used, sometimes the name of the company, sometime physical lines and service lines are named differently
- ③ Names are created by the city, town or region name, the course of the line or some mix of all of them
- ④ Services are sometimes numbered as well (e.g. のぞみ, Hikari and Kodama, all of which are services within Tōkaidō Shinkansen line)

Line numbers

- ① Lines are mostly named, not numbered, however, sometimes they are, mostly in urban areas
- ② Recently station numbering systems have been introduced, using symbols, roman letters and arabic numbers Japanese (and also some Korean, Chinese and even Washington Metro) railway operators want to make the journey easier for the people who don't know the local writing systems.



Figure: Wikicommons, public domain

Metro systems

- 1 Publicly owned subways (e.g. Kobe, Toei (Tokyo))
- 2 Privately owned subways (e.g. Tokyo, Minatomirai Line (Yokohama))
- 3 Some of them operating in parallel (Tokyo Metro, Toei Subway, JR East metropolitan network)
- 4 Smaller private railways (e.g. Shin-Keisei (Chiba), Kashima Rinkai Railway (Ibaraki))

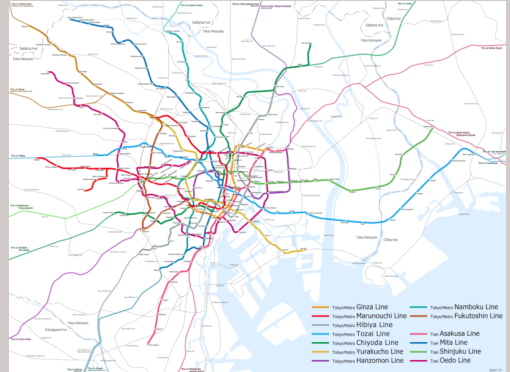


Figure: Hisagi, Wikicommons, CC BY-SA 3.0

Japan Rail Pass

- ① Almost all trains, buses and ferries operated by JR Group
- ② ¥15k –¥90k (115€ –700€)
- ③ You buy it **before** you arrive
- ④ You need a valid, non-japanese passport, *Temporary Visitor* entry status (basically a tourist visa) or proof that despite having a Japanese passport you live abroad
- ⑤ Some trains requires additional (free) reservation, some need additional fees. Sleeping compartments, some ferries and two Shinkansen connections (*Nozomi* and *Mizuho* are not covered)
- ⑥ Can be bought for the whole country or just for one region (divided by regional companies)

That's all folks!

Sources:

- ① About JAPAN RAIL PASS, accessed 2019-07-14
- ② Japanese regular train prices, Japan Guide, accessed 2019-07-14
- ③ History of rail transport in Japan, accessed 2019-07-14
- ④ Rail transport in Japan, accessed 2019-07-14

For more information I recommend
Seat61's guide



Figure: Sakoppi, Wikicommons, CC BY 3.0