

the total extension of this system including above 6 lines has amounted to around 100km. Besides, the additional line of 14.4km in Sendai is under construction. The subway line, whose construction cost per kilometer is less than twenty billion yen, has come into existence.

The management of subway business has been placed in such severe situation that its income cannot cover its operation cost. However, it may be said that the management of the subways in Tokyo Metropolis has been in a situation such that its operation cost and its capital cost have been able to pay by its income.

Table 1 Outline of Japanese subway

March 31, 2009

City	Population	Company etc.	Lines	Business mile (km)	Riderhip per day and 1000 person	Number of vehicles	Gauge (mm)	Traction voltage	Power collection system
Tokyo	8,843	Tokyo Metro Co., Ltd.	9	195.1	6,361	2,665	1,435/1,067	DC:600V/1,500V	Third rail /overhead contact wire
		Tokyo Metropolitan Government Bureau of Transportation	4	109.0	2,337	1,086	1,435/1,372/1,067	DC:1,500V	Overhead contact wire
Yokohama	3,681	Yokohama City Transportation Bureau	2	53.4	542	282	1,435	DC:600V/1,500V	Third rail/overhead contact wire
Osaka	2,668	Osaka Municipal Transportation Bureau	8	129.9	2,335	1,280	1,435	DC:750V/1,500V	Third rail/overhead contact wire
Nagoya	2,259	Nagoya City Transportation Bureau	5	89.1	1,171	762	1,435/1,067	DC:600V/1,500V	Third rail/overhead contact wire
Sapporo	1,896	Sapporo Municipal Transportation Bureau	3	48.0	572	382	(Rubber tire type vehicle-center guide rail)	DC:750V/1,500V	Third rail/overhead contact wire
Kobe	1,538	Kobe City Transportation Bureau	2	30.6	309	208	1,435	DC:1,500V	Overhead contact wire
Kyoto	1,464	Kyoto City Transportation Bureau	2	31.2	328	222	1,435	DC:1,500V	Overhead contact wire
Fukuoka	1,461	Fukuoka Transportation Bureau	3	29.8	345	212	1,435/1,067	DC:1,500V	Overhead contact wire
Sendai	1,037	Sendai Transportation Bureau	1	14.8	155	84	1,067	DC:1,500V	Overhead contact wire
	24,847		39	730.9	14,455	7,183			

To the Readers



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In a move toward more sustainable society with a backdrop of the rapid increase in population and the global warming, expectations for environmentally friendly railways, which produce far less CO₂ gas emissions per passenger compared with all other means of transportation, are rising around the world. It would be no exaggeration to say that railways, which integrate diverse technologies including not only those of only moving vehicles and railway tracks but those of all the other facilities around them, are a thing that brings profound influence

to society and the economy.

The technological development surrounding railways on the premise of ensuring safety has greatly improved the speed and comfort for passengers and cargoes in long distance transport as well as the convenience for both purchasing tickets and using railway stations (including shopping in railway stations).

The Shinkansen lines, which have been succeeded to construct along the country since the Tokaido Shinkansen began service between Tokyo and Osaka in 1964, are going to be connected from the northern part of Honshu through to the southern part of Kyushu in the spring 2011. The extension of high-speed railway networks reduces time and distance between major cities along the routes, and the social benefits of which are hard to quantify including in tourism and business.

I hope our readers will continue to have a keen interest in how the Japanese railways will change in all fields, through the information provided by the JRE magazines.

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