

Supporting Metro Construction in Cities Around India

Japanese Engineers Promote Safety and Quality

The growth that followed India's economic liberalization starting in the 1990s was accompanied by the concentration of population and a rapid increase in the number of automobiles in the country's cities. Traffic congestion worsened, as did noise from cars, along with air pollution from exhausts. As the Indian government worked on urban transportation and environmental policies to address these social problems, a key project was the construction of a metro system in Delhi, where traffic jams had become chronic.

The Japanese government provided loans totaling JPY 374.8 billion (about USD 3.12 billion) to help cover the construction costs of some JPY 666.7 billion (about USD 5.56 billion) for the already-completed Delhi Mass Transport System (Delhi Metro) network. Additional lines are currently under construction, and Japan has continued to support Delhi Metro with the provision of advanced technologies in a broad range of areas, including construction, rolling stock, and operating systems.

The participation of Japanese engineers in the construction project produced dramatic improvements in awareness of safety-related practices among the local construction workers. For example, the wearing of helmets and safety shoes was made compulsory, and on-site materials were rigorously managed. Also, the strict enforcement of punctuality taught the workers the meaning of deadlines.

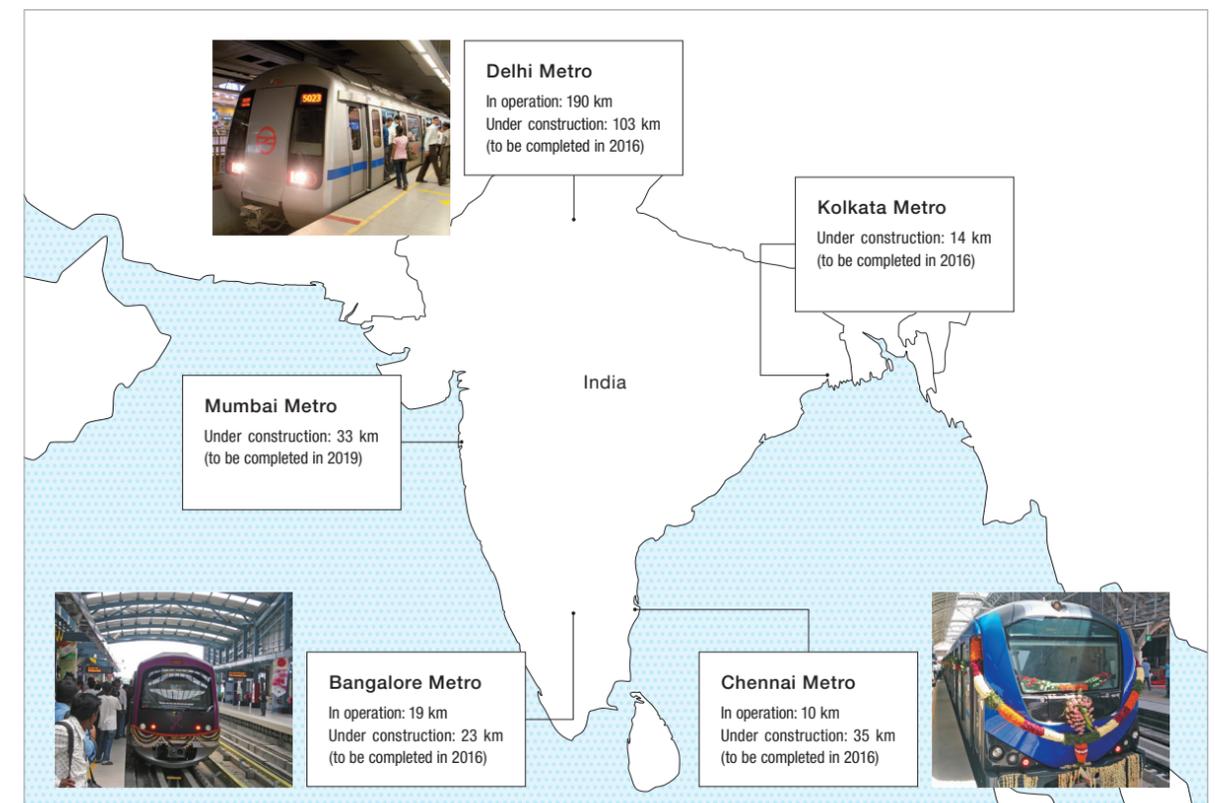
"Senior managers at India's metro corporations were impressed with the globally top-class capabilities of Japanese firms in the areas of process control, quality control, and safety management," says Reiko Abe, president of the Indian subsidiary of Oriental Consultants Global, who participated in the Delhi Metro project as a tunnel engineer. Abe also declares that Japanese engineers excel in coming up with timely proposals of options and approaches to deal with issues as they arise.

The first section of the Delhi Metro came into operation in 2002, and the entire planned network of 190 kilometers (about 120 miles) was completed in 2011. Ridership that year was about 1.8 million passengers per day, and as of 2014 the figure had risen to 2.5 million. Since the start of service, the metro system is said to have lessened the number of cars on the capital's roads by 120,000. The stations and cars are kept clean, and the platforms have lines drawn to indicate where passengers waiting to board are to queue up. With the help of directions from station employees, passengers have learned to wait in line at the indicated spots. Technology and know-how from Japan have been put to work from the construction stage through operation of the system. The trains run safely and on schedule, and people have come to think that taking the metro is the best option when they need to arrive on time.

To follow up on this success, the authorities have decided to build new lines extending 103 km (about 64 miles). Meanwhile, metro construction projects supported with both funding and technical cooperation from Japan are underway in other major cities—Mumbai, Kolkata, Chennai, and Bangalore—that have similar problems with traffic congestion.

Abe, who also participated in the Bangalore metro construction project, notes, "When I work at construction sites in India, I sense the high level of trust in Japanese technology." This trust has led to calls for further active involvement by Japanese companies in India's metro construction projects. And cooperation in these endeavors is helping to deepen the ties of friendship between India and Japan.

Japanese-assisted metro construction in India



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1. Reiko Abe (second from left) at a construction site for the Bangalore Metro. Abe, who was responsible for quality control, was the only woman among the 40,000-strong team of engineers and other workers involved in the project. (© Shuhei Fujita) 2. Inside a car of the Delhi Metro. Passengers appreciate the safety of the system, which women can confidently ride alone. (© JICA)

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