

Learn about Railways at the
Rail Gallery, PGSC



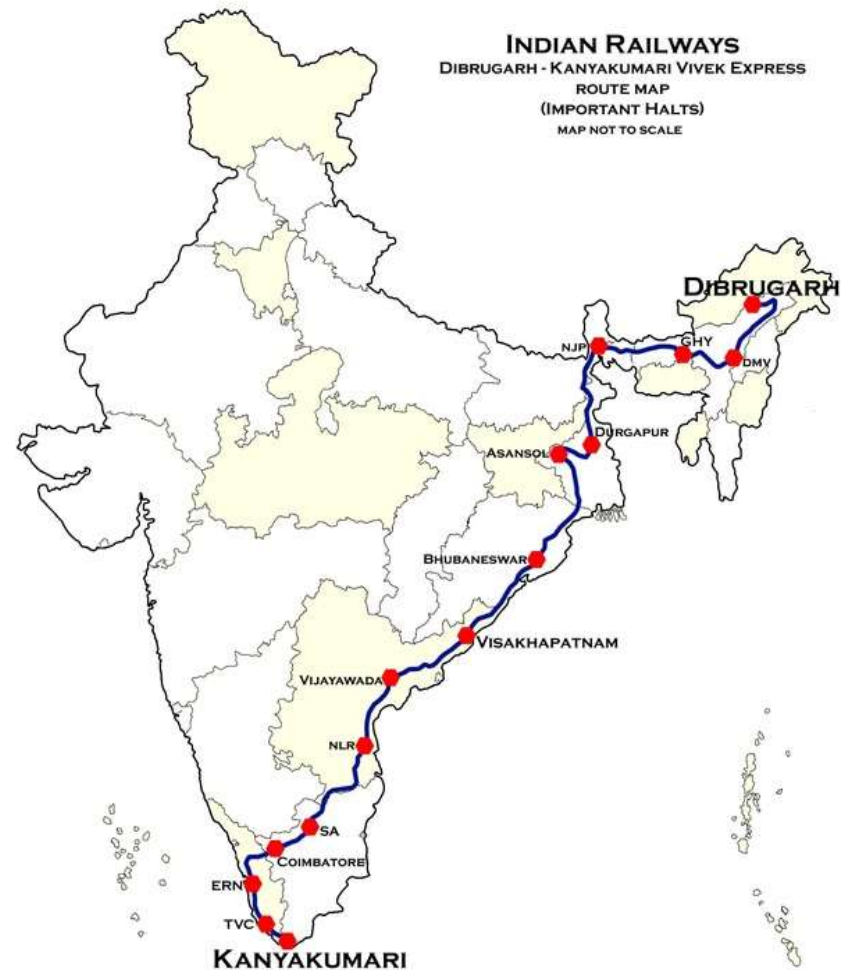
Puspha Gujral Science City

Sandeep Gautam, TA

The gallery exhibits various rail stems and rail tracks in India to showcase the technological development in Indian Railways with Dioramas of important rails



- ❑ Indian Railways : **World's largest railway networks** with 115,000 kms of tracks and a route of 65,000 kms.
- ❑ The full track length can circle the equator one-and-a-half times.
- ❑ The total distance covered daily equals three and a half times the distance to the moon.
- ❑ There are 7,500 railway stations



India's longest train route : Kanyakumari Vivek Express-

This weekly train (No. 15905/15906), is currently the longest train route in the Indian Subcontinent. It joins Dibrugarh in Assam, North-East India to Kanyakumari, Tamil Nadu which is the southernmost tip of Mainland India.

Indian Railways- Interesting Facts

❑ The first train in India :

Red Hill Railway, which ran from Red Hills to Chintadripet bridge in 1837 for transporting granite. Sir Arthur Cotton was credited with building the train

❑ First Railway Track for passenger train in India:

On 21 August 1847, The **Great Indian Peninsula Railway**, along with The East India Company, constructed a 56 km railway line connecting Bombay with Khandesh and Berar

❑ First Railway Station in India:

Bori Bunder, in Mumbai (later named Victoria Terminus, VT Station)

❑ First Passenger Train in India:

India's first passenger train started its service 166 years ago on 16 April 1853, covering a stretch of 33 km from **Mumbai to Thane**. The train carried 400 passengers

Indian Railways- Interesting Facts

❑ India's Fastest Train:

Currently **New Delhi-Bhopal Shatabdi** (max. speed of 150 kmph).

❑ India's Slowest Train :

Mettupalayam Ooty Nilgiri Passenger train (speed of 10 kmph)

❑ Longest Railway Platform in India:

The platform at **Gorakhpur Railway Station** in UP is the world's longest station, measuring a whopping 1,366.3 m (4483 ft).

❑ Longest Station Name in India:

'Sri Venkatanarasimharajuvariipeta' in Andhra Pradesh (32 alphabets)

❑ Shortest Station Name in India:

'Ib' Railway station in Odisha

❑ The New Delhi Railway Station is in the **Guinness Book of Records** for **world's largest Route Relay Interlocking System.**

❑ First Electric Train in India:

Ran on 3 February 1925, between Bombay Victoria Terminus and Kurla Harbour

❑ First Bullet Train in India:

Expected to be launched in 2022 by the National High-Speed Rail Corporation Limited from Mumbai to Ahmedabad

Indian Railways- Interesting Facts

- ❑ India is home to 8 Railway Museums – at Delhi, Pune, Kanpur, Mysore, Kolkata, Chennai, Ghum and Tiruchirappalli.
- ❑ Delhi Rail museum is the largest rail museum in Asia.
- ❑ The Fairy Queen, the world's oldest working locomotive is the main tourist attraction at Delhi museum.

Bholu

the guard elephant

is the mascot of the Indian Railways. Bholu was designed in 2002 at 150th anniversary of the Indian Railways



Indian Railways- Interesting Facts

- ❑ The Indian Railways launched **Science Express**, a mobile science exhibition, in 2007 with the Department of Science & Technology, Govt of India, for children and public.

It travelled across India to create awareness on

- ❑ Micro & Macro Cosmos
- ❑ Biodiversity
- ❑ Climate change
- ❑ An awareness campaign train on World AIDS Day, December 1, 2007, was also launched, called the **Red Ribbon Express**.
- ❑ India is building the **world's highest railway bridge over Chenab**. It will dwarf the Eiffel Tower.

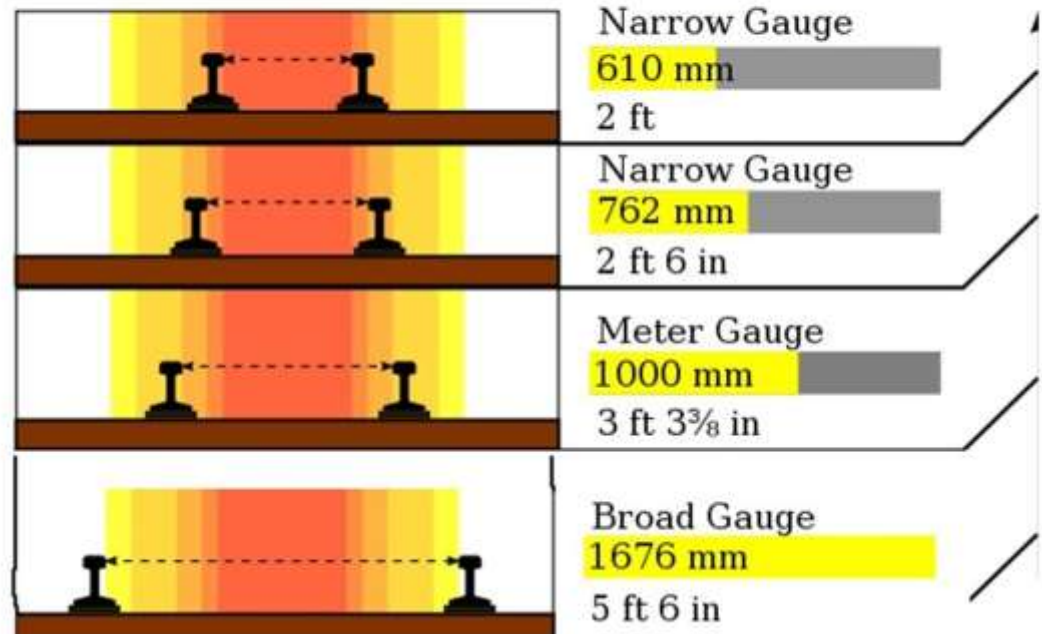


Track gauge in India

Indian Railways currently has four different gauges:

- ❑ **Two Narrow gauges**
 - 2 ft 6 in (762 mm)
 - 2 ft (610 mm).
- ❑ **Metre gauge:** 1,000 mm (3 ft 3 3/8 in)
- ❑ **Broad gauge:** 1,676 mm (5 ft 6 in)

TYPES OF GAUGES IN INDIA



Important Persons in Railway operations



STATION MASTER

The **station master** is in charge of a railway station. The term originated in United Kingdom but is now largely historical . The contemporary term now used is **station manager**.

However, it is common in India He is responsible for station management which includes security of passengers, availability of passengers' basic amenities at the station premises



Train guard

The passenger train guard, generally called a mail guard, is completely responsible for the train, its schedule, and safety of passengers and the locomotive pilot. ... The pilot is not allowed to move the train without a signal from the guard, as the guard is in charge of the train.



TT & Token Master

In railway signalling, a **token** is a physical object which a train driver is required to have or see before entering onto a particular section of single track. The token is clearly endorsed with the names of the section it belongs to. A token system is more commonly used for single lines because of the greater risk of collision in the event of a mistake being made by a signaller or traincrew, than on double lines.



India Fastest Train: Vande Bharat Express/Train 18



It is the latest Indian semi-high speed intercity train with speeds of 180 km/h, the highest speed train in India, in the trials but restricted to the speed to 130km/h presently.

The train's first trial run occurred on 29 October 2018 in Chennai, focusing on crew orientation and testing the train's brakes, with further testing scheduled to be done in Delhi and Rajasthan.

Some Important Trains of the World

- ❑ 20th Century Limited, USA; New York to Chicago
- ❑ Trans-Siberian Express, Russia : Vladivostok to Moscow
- ❑ **Orient Express**, France : Paris and Istanbul (now shortened)
- ❑ Flying Scotsman, Great Britain : London and Edinburgh
- ❑ Blue Train, S. Africa : Cape Town to Pretoria
- ❑ Bullet Train , Japan (also known Shinkansen); Tokyo to Nagoya
- ❑ TGV (*Train a Grande Vitesse*, translated to “high-speed train”):
Paris to many cities
- ❑ Eurostar : London to Paris (passing through 50.5-km long
underground/ under water tunnel through English Chanel
- ❑ Maharaja Express and Palace on Wheels, India

Indian Railways- Interesting Facts



❑ The Maharaja's Express

❑ Palace on Wheels

- India's two most expensive luxury trains
- Also most expensive in Asia.
- Travel to prominent tourist destinations in northern India
- Cost per night per passenger
 - \$ 1000 (Rs. 70,000 approx.) for deluxe cabin.
 - For presidential suite \$ 2,500 (Rs. 1.75 lac approx.)



Dioramas of Trains in Science City

Japan Rail Bullet Train

The Shinkansen, colloquially known in English as the bullet train, is a network of high-speed railway lines in Japan. It was built to connect distant Japanese regions with Tokyo, the capital, in order to aid economic growth and development.



Shanghai Maglev train

- A magnetic levitation train (maglev) line that operates in Shanghai.
- Third commercially operated maglev line in history (after the British Birmingham Maglev and the German M-Bahn),
- First commercial high-speed maglev with cruising speed of 431 km/h (268 mph).
- The fastest commercial electric train in the world.
- Operations began in December 31, 2002,
- **Operator(s):-Shanghai Maglev Transportation Development Co., Ltd.**



KALKA-SHIMLA HERITAGE RAIL

- ❑ The **Kalka–Shimla railway** is a 2 ft 6 in (762 mm) narrow-gauge railway which traverses a mostly mountainous route from Kalka to Shimla.
- ❑ Built under the direction of Herbert Septimus Harington between 1898 and 1903 to connect Shimla, the summer capital of India during the British Raj, with the rest of the Indian rail system.
- ❑ Passes through 102 tunnels
- ❑ Known for dramatic views of the hills and surrounding villages.
- ❑ A single bogey Toy Train is also operational, known as Rail Car

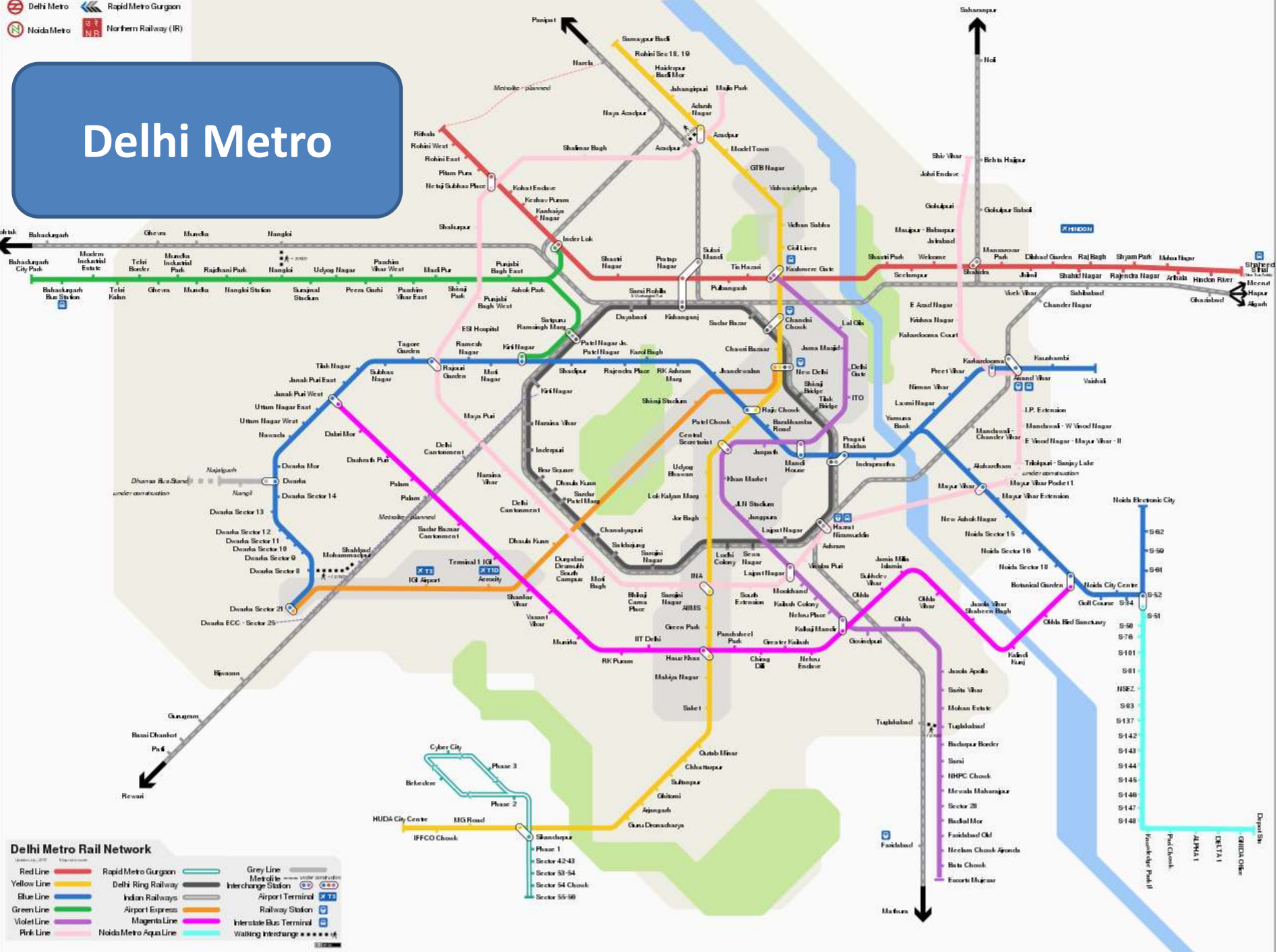


DELHI METRO

- ❑ The concept of a mass rapid transit for New Delhi emerged from a traffic and travel characteristics study which was carried out in the city in 1969
- ❑ In 1984, the Urban Arts Commission came up with the proposal for multi-modal transport system to augment the city's existing suburban railway and road transport networks.
- ❑ Presently it is the most popular means of public transport in National Capital region with 12 existing and proposed routes



Delhi Metro



Delhi Metro Rail Network

| | | | |
|--|-----------------------|--|-------------------------|
| | Rapid Metro Gurgaon | | Grey Line |
| | Delhi Ring Railway | | Metro Line |
| | Indian Railways | | Interchange Station |
| | Airport Express | | Airport Terminal |
| | Magenta Line | | Railway Station |
| | Noida Metro Aqua Line | | Interstate Bus Terminal |
| | | | Walking Interchange |

Legend for station types:

 Under construction

 Closed

THANKS



PUSHPA GUJRAL SCIENCE CITY,
KAPURTHALA