

Mountain Railways of India



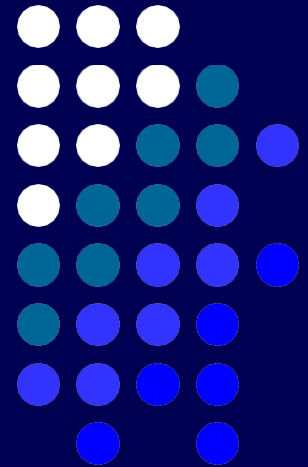
Presented By:

Group 2

M02 Abhinav Goyal

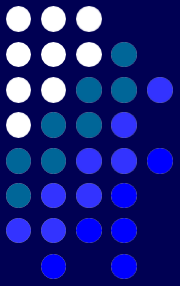
M04 Abhishek Singh

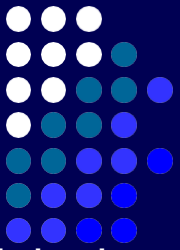
M06 Ajeet Singh



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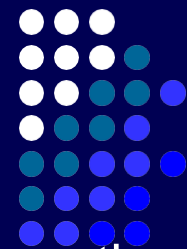




Introduction:

- The Mountain Railways of India refers to the following five railway lines built in the mountains of India during the British Raj:
 - Northern India (Himalayas) :
 - d) Darjeeling Himalayan Railway (1881)
 - e) Kalka – Shimla Railway (1898)
 - f) Kangra Railway Valley (1924)
 - Southern India (Western Ghats) :
 - i) Nilgiri Mountain Railway
 - j) Matheran Hill Railway
- The Darjeeling Himalayan Railway, the Nilgiri Mountain Railway and the Kalka-Shimla Railway have been collectively designated as a **UNESCO World Heritage Site** entitled “**Mountain Railways of India**”.

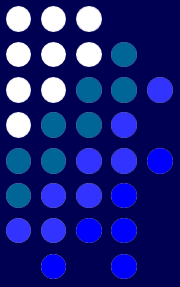
History of Mountain Railways in India:



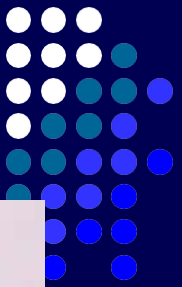
- Reason for building - the British Raj wanted to establish control over the mountainous ranges in India.
- The hill stations chosen for this purpose were:
 - Shimla - the then capital of British India
 - Darjeeling - known for its tea gardens and scenic view of the Himalayas
 - Kangra Valley in Himachal Pradesh
 - Ootacamund in the Nilgiri mountains of
 - Tamilnadu Matheran in the Western Ghats near Mumbai
- Development of the Hill Passenger Railway:
 - Tramway between Siliguri and Darjeeling - work started off in 1878 - completed in 1881.
 - Nilgiri Mountain Railway in South India - initially proposed in 1854 - work started in 1894 – completed in 1908
 - Kalka Shimla Railway link - commenced in 1898 to open up the remote hill regions to the rest of the country - inaugurated by the British Viceroy Lord Curzon in 1903
 - Matheran–Narela toy train - commissioned in 1907
 - Kangra line - built in 1929

World Heritage :

- Darjeeling Himalayan Railway
- Kalka – Shimla Railway
- Nilgiri Mountain Railway



Darjeeling Himalayan Railway



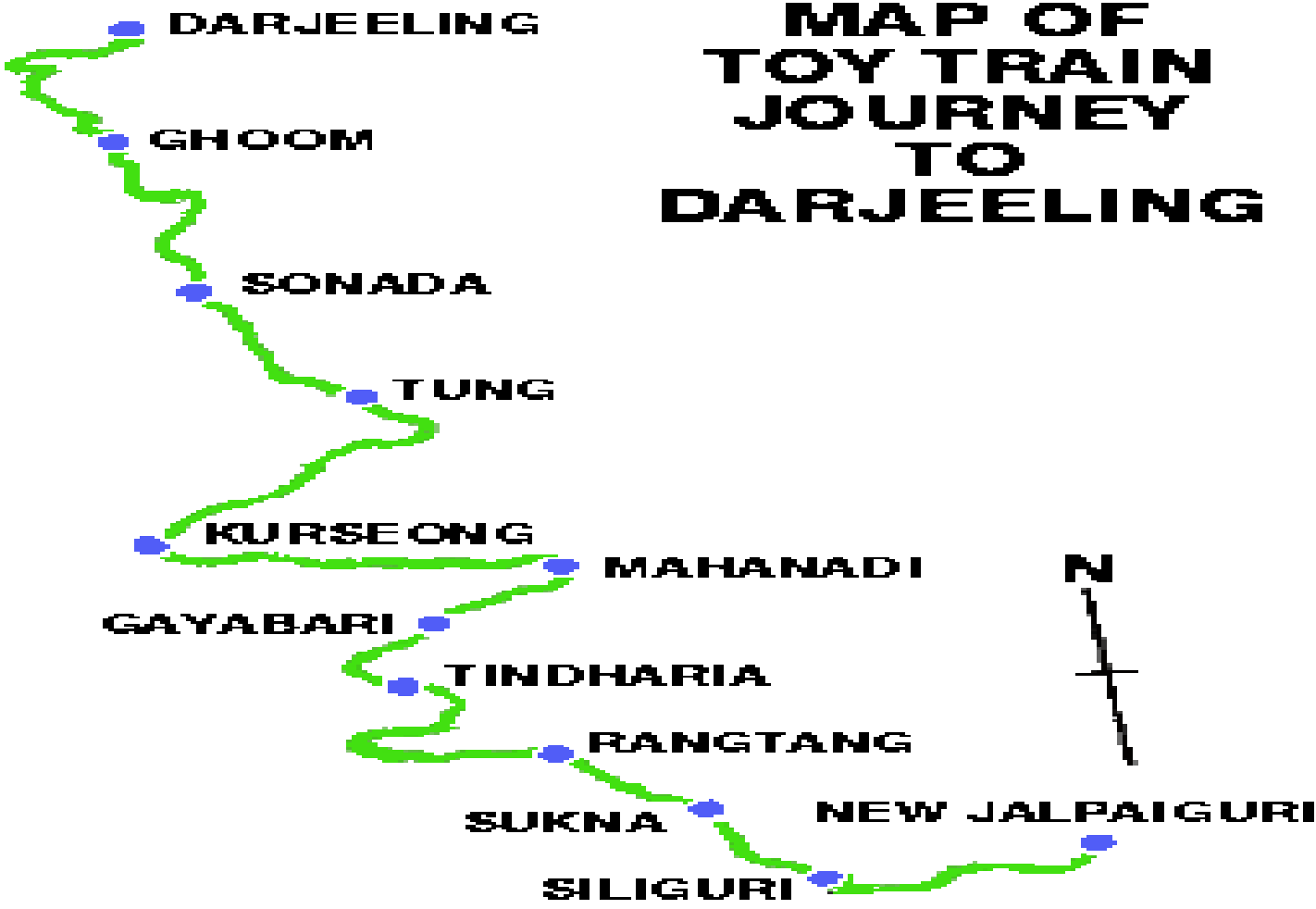
Darjeeling Himalayan RAILWAY

Overview

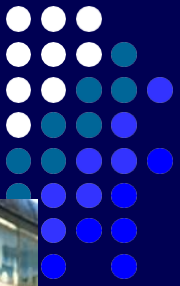


- The **Darjeeling Himalayan Railway**, nicknamed the "Toy Train", is a 2 ft (610 mm) narrow-gauge railway from New Jalpaiguri (6 km from Siliguri) to Darjeeling in West Bengal, run by the Indian Railways. It was built between 1878 and 1881 and is about 86 kilometers long.
- The elevation level is from about 100 m (328 ft) at Siliguri to about 2,200 meters (7,218 ft) at Darjeeling.
- It is still powered by steam locomotives. Modern diesel engines are used for Darjeeling's mail train.
- Since 5 December 1999 the train has been a **World Heritage List** as listed by UNESCO.

MAP OF TOY TRAIN JOURNEY TO DARJEELING

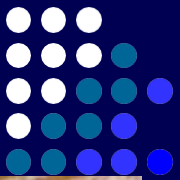


Darjeeling Himalayan Railway

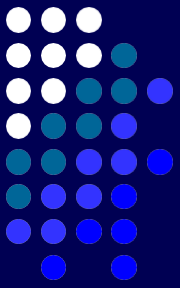


Darjeeling Himalayan Railway

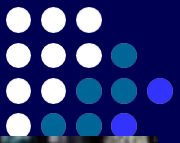
Interiors of the Toy Train



Darjeeling Himalayan Railways

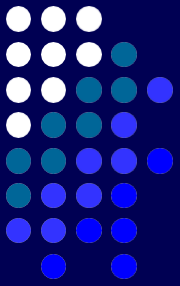


Kalka – Shimla Railway



Kalka – Shimla Railway:

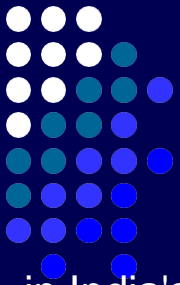
Overview



- The **Kalka-Shimla Railway** is a 2 ft 6 in (762 mm) narrow gauge railway in North-West India travelling along a mostly mountainous route from Kalka to Shimla.
- It is known for breathtaking views of the hills and surrounding villages.
- On July 7, 2008, the Kalka-Shimla Railway was included in the UNESCO **World Heritage List** as part of the World Heritage Site Mountain Railways of India.

Kalka – Shimla Railway:

Route

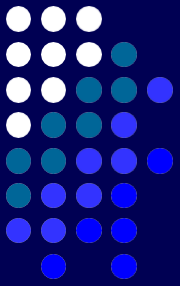


- Stations:

Kalka and Shimla are located just north of Chandigarh, in India's mountainous northern state of Himachal Pradesh. The captivating train route connects both places. The route offers a panoramic feast of the picturesque Himalayas from the Shivalik foot hills at Kalka to several important points such as:

- Dharampur
 - Solan
 - Kandaghat
 - Taradevi
 - Barog
 - Salogra
 - Summerhill
 - Shimla at an altitude of 2,076 meters (6,811 ft).
- It runs for 96 kilometers though 20 railway stations, 102 tunnels, 800 bridges, and an incredible 900 curves. The train's speed is greatly restricted by the steep gradient that it has to climb, but this allows for plenty of fascinating sightseeing along the way.

Kalka – Shimla Railway:

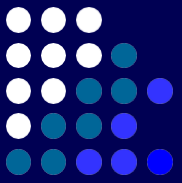


- Tunnels

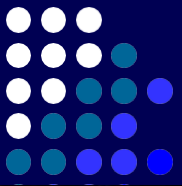
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- The Kalka Shimla Railway runs through 103 tunnels (one is not in use; so only 102 in service). The longest tunnel is at Barog, and is named after the engineer in charge of construction. The tunnel is 1143.61-metre-long.
 - Besides the Barog tunnel, other 3 big tunnels on this route are Koti - 2,276 feet, Taradevi - 1,615 feet and Tunnel no. 103 - 1,135 feet.
- The rail track rises from Kalka at 640m to the freezing zones of Shimla at 2,060 m.

Kalka Shimla Toy Train:



Kalka Shimla Toy Train: Crossing over a bridge:



Kalka – Shimla Railway:

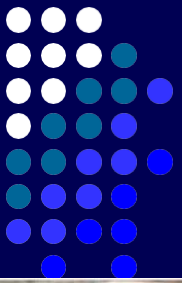
Services



There are three main tourist train services that run on the Kalka Shimla railway. These are:

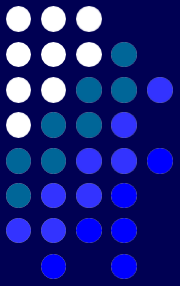
- **Shivalik Deluxe Express** - a premium express train with carpet, wide glass windows that open, cushioned seats, and relaxing music. It fits 120 passengers. Food is provided.
- **Himalayan Queen** - a standard toy train service, with bench seats. Food isn't provided but can be purchased at the 10 or so stations that it stops at along the way.
- **Rail Motor Car** - uniquely resembles a bus from the time of the Second World War. It's got a transparent roof, and fits only 14 passengers. It's also an express service, with food provided.

Kalka – Shimla Toy Train Shivalik Express & Shivalik Palace...

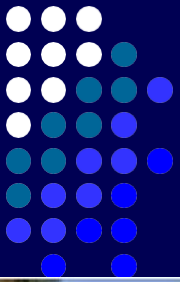


Kalka – Shimla Toy Train

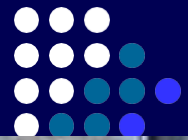
Himalayan queen is one of the nice trains on the narrow gauge track...



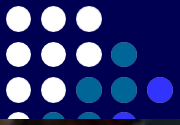
Kalka – Shimla Toy Train Deluxe Rail-Car

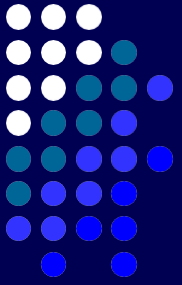


Kalka- Shimla Shivalik Deluxe Express:

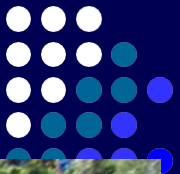


Kalka- Shimla Himalayan Queen:



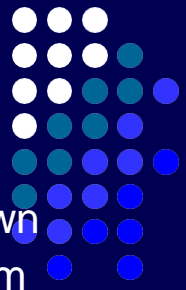


Nilgiri Mountain Railway



Nilgiri Mountain Railway:

Overview



- The **Nilgiri Mountain Railway (NMR)** connects the town of Mettupalayam with the hill station of Udagamandalam (Ootacamund or Ooty), in the Nilgiri Hills of southern India.
- It is the only rack railway in India and uses the Abt (alternate biting) rack and pinion system.
- Established in the early 19th century by the British as the summer headquarters of the Chennai government, Ooty is now a tourist place for visitors to escape the summer heat.
- The historic railway line was completed in 1899, 45 years after the first plans were drawn up.
- The Nilgiri Mountain Railway was inscribed as **World Heritage Site** by UNESCO in July 2005.

Nilgiri Mountain

Railway:

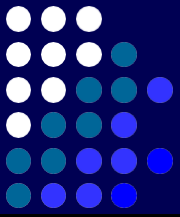
Route



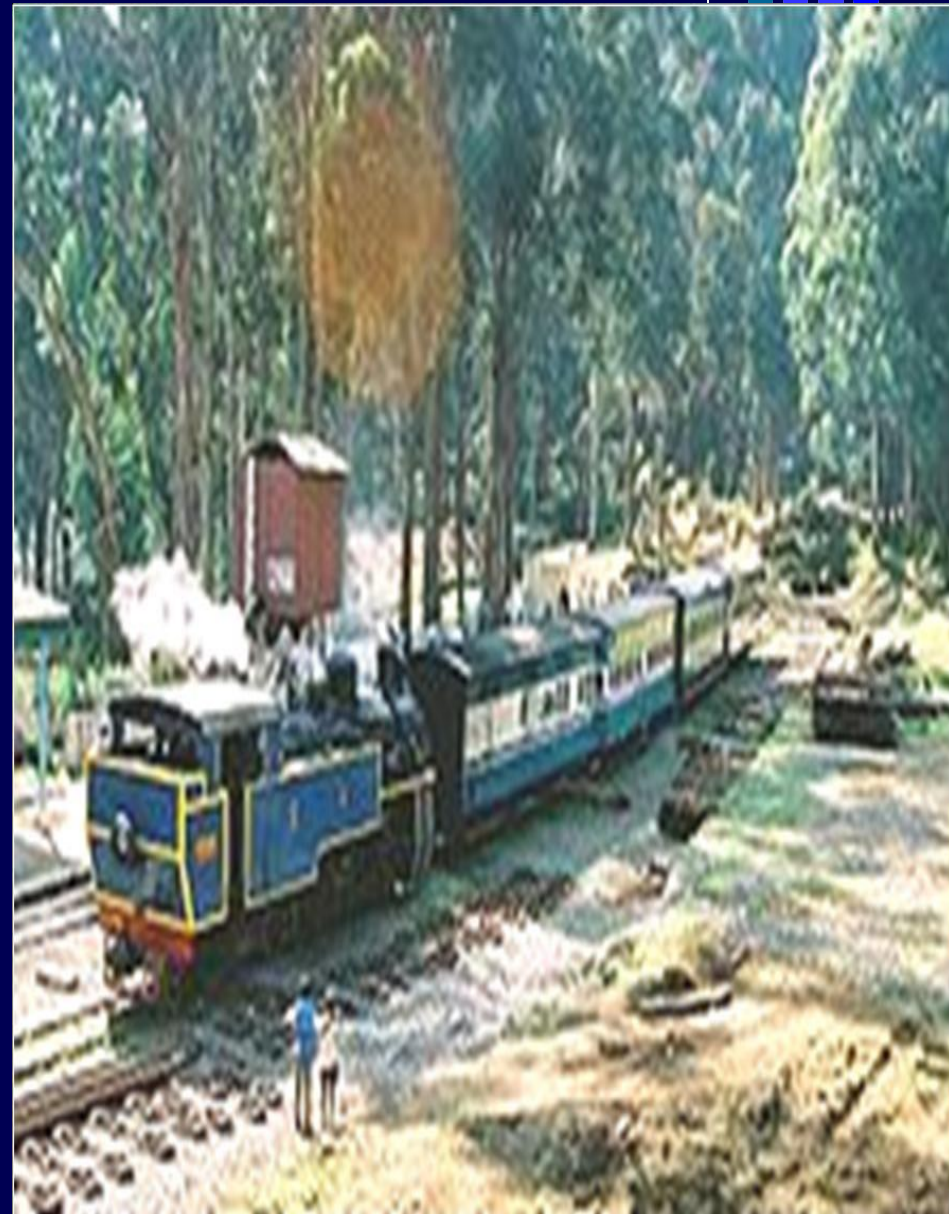
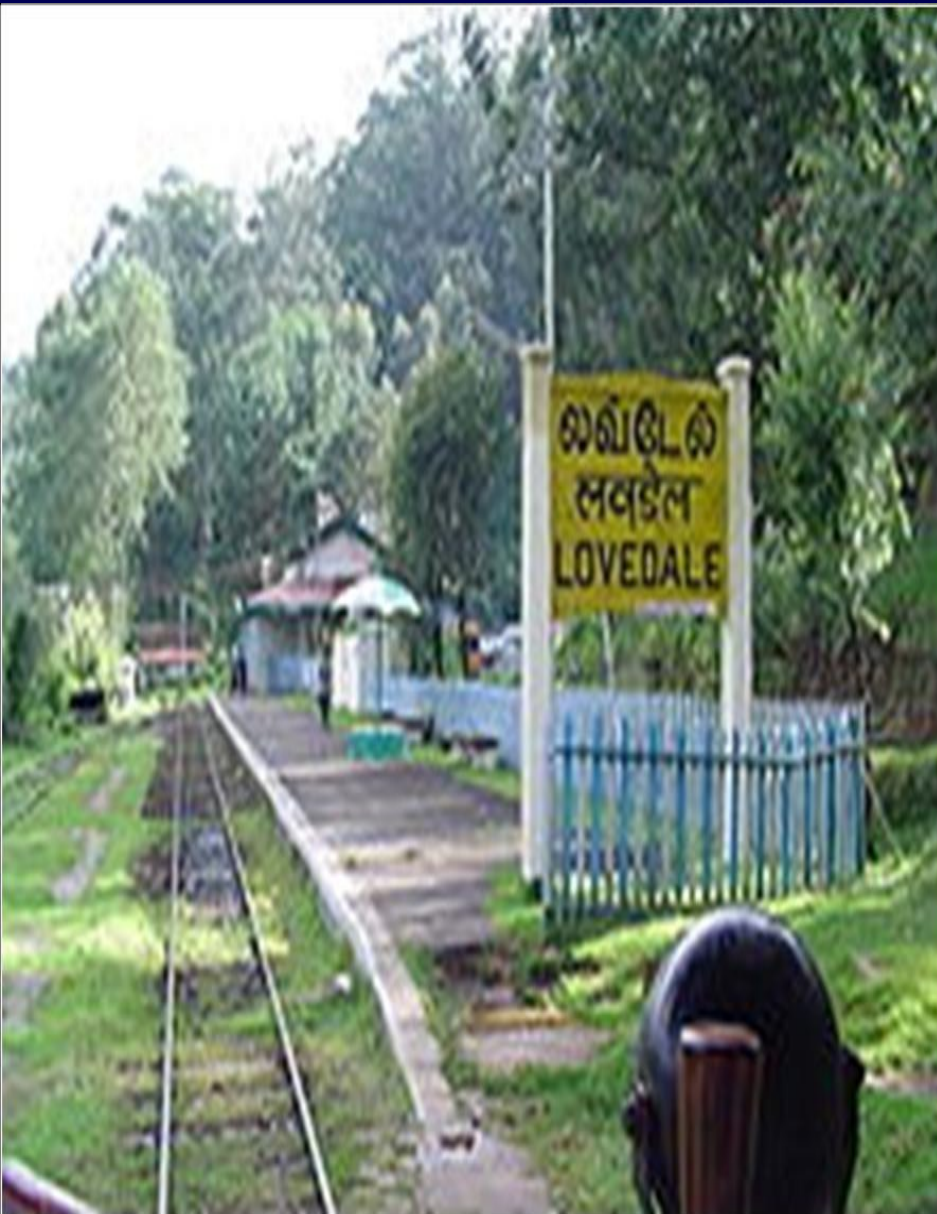
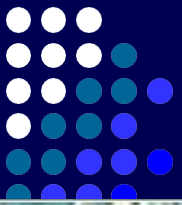
- The 'Nilgiri Passenger' train covers a distance of 26 mi (41.8 km), travels through 208 curves, 16 tunnels, and 250 bridges. The uphill journey takes around 290 minutes (4.8 hours), and the downhill journey takes 215 minutes (3.6 hours). It has the steepest track in Asia with a maximum gradient of 8.33%.
- Mettupalayam - 0 km, 1,069 ft (325.8 m) above sea level - Junction with the 5 ft 6 in (1,676 mm) (Indian Gauge) line from Coimbatore. Passengers cross the platform to board the Nilgiri Passenger train (NMR). There is a small locomotive shed here and also the carriage workshops for the line.
- Leaving Mettupalayam, the line is adhesion worked and actually drops for a short distance before crossing the Bhavani River, after which it starts to climb gently.
- Kallar - 8 km, 1,260 ft (384 m) - Closed as a passenger station, this is where the rack rail begins. As the train leaves the station, the gradient is 1 in 12 (8.33%).

Nilgiri Mountain Railway

Rack and Pinion System



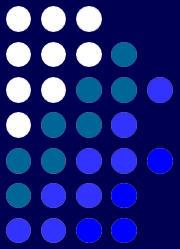
Nilgiri Mountain Railway



Nilgiri Mountain

Railway:

Services

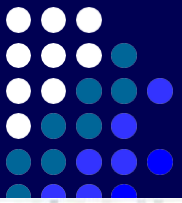


- One toy train operates along the Nilgiri Mountain Railway from Mettupalayam to Ooty. The engine is an 'X' Class steam locomotive, made in Switzerland. It pulls quaint blue and cream wooden carriages with large windows.
- The engine is commonly changed for a diesel powered one at Coonoor, to provide greater traction for the steep climb up to Ooty.

Another interesting thing associated with the Nilgiri Railway is that the youngest X class loco is over 50 years old and the oldest is 80 years old!

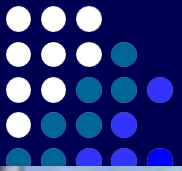
Nilgiri Mountain Railway

Steam Locomotive

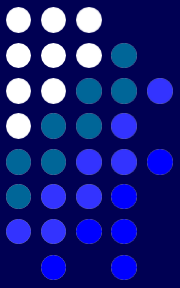


Nilgiri Mountain Railway

Coonoor Station



Fast Facts:



The World Heritage UNESCO recognition to three of the five Mountain Railways of India has been stated as for being "outstanding examples of

bold, ingenious engineering solutions for the problem of establishing an effective rail link through a rugged, mountainous terrain". The Darjeeling Himalayan Railway was recognized first in 1999, the Nilgiri Mountain Railway followed suite as an extension to the site in 2005, and in 2008 the Kalka–Shimla Railway was further added as an extension; and the three together have been titled as Mountain Railways of India under Criteria : ii, iv under the region in the Asia-Pacific. The claims of the Matheran Railway, the fourth hill line, is pending acceptance by the international body.