



## SOUTHERN RAILWAY

### **NILGIRI MOUNTAIN RAILWAY – WHERE HISTORY AND HERITAGE WALK HAND IN HAND**

#### **Tracing the roots of the Railway....**

It was in 1602 when Jacome Ferrieri, a Syrian Christian priest first stumbled upon the wild forest areas of the Nilgiri Mountains. It was the first time that the beauty of the blue mountains was discovered by the outside world. But the tiresome climb to the mountains prevented people from visiting it till mid 1800s. It was left to the then District Engineer of Nilgiris, Mr.J.L.L.Morant, to conceptualise a mountain Railway.

It was in 1854 when proposals were first mooted by the British to build a railway up the hills from Mettupalayam. After several proposals and attempts by various companies to start the line, it was finally left to M.Riggenback, the Swiss inventor of the Rigi system, who gave final shape to Nilgiri Mountain Railway in 1880s. Work on the Mettupalayam – Coonoor line started in 1891. By the time the section from Mettupalayam to Coonoor was officially opened by the Governor of Madras on August 11, 1898, the line had already changed hands thrice, each time a new company being formed due to the liquidation of the earlier one. The Mettupalayam – Coonoor section was thrown open to public traffic on June 15, 1899 and on January 1, 1903 the line was taken over by the Indian Government. The Coonoor – Fernhill section was opened on 15-9-1908, and the Coonoor - Ooty section was opened on 15-10-1908.

#### **Geography of the Nilgiri Mountain Railway line**

Situated between 8° 5' North and 13° 35' North and between 76° 15' East and 80° 20' East, the Nilgiri Mountain Railway is a 45.88 kms. stretch from Mettupalayam to Udhagamandalam. Udhagamandalam which is also known as Ooty is at an elevation of 2200 metres above Mean Sea Level. Coonoor which is between Mettupalayam and Udhagamandalam, is 6000 feet above the Sea at the South East Corner of the Nilgiri Plateau, and at the head of the principal pass from the plains. The 45.88 kms. long Railway line from Mettupalayam to Udhagamandalam lies partly in Coimbatore District and partly in Nilgiri District of Tamil Nadu, on the eastern slopes of the Western Ghats. The line passes through eight stations namely Mettupalayam, Hillgrove, Coonoor, Wellington, Aravankadu, Ketti, Lovedale and Udhagamandalam.

#### **Unique features of Nilgiri Mountain Railway**

The Nilgiri Mountain Railway is among the oldest and steepest rack and adhesion technological wonders of the world. The gradient of 1 in 12.28 between Mettupalayam and Coonoor is the steepest in Asia. In just 45 kms, the section has 208 curves, 16 tunnels and 250 bridges.

The uniqueness of Nilgiri Mountain Railway is the “**ABT**” or Alternate Biting Teeth of the Rack and Pinion System that is able to hold the entire train at such steep gradients. The Alternate Biting System, commonly known as ‘**rack and pinion**’ rail system that is in vogue at the Nilgiri Mountain Railway, consists of two rack bars in between two conventional rails, in an out of step manner with each other, on which the pinions of the locos & coaches ‘**climb**’ in a similar manner as a person climbing a ladder using his feet alternately. This unique climbing system has been the marvel of Railway Engineering in India.

Against the normal convention of the engine leading the train, here, the engine pushes the train from behind when ascending the mountains and is in front while downhill, thereby resisting the train’s down hill roll in a controlled manner. The steep incline’s gravitational pull is almost nullified in the rack and pinion section between Kallar and Coonoor, where the controlled speed of the train is very much evident whether the train is moving up or down. Steam powered locomotives have given the Nilgiri Mountain Railway the pride and prestige of a mountain Railway throughout the last century with its smoke bellowing journeys up and down the hills. The Mountain Railway has thus become the common heritage symbol of the magnificent Nilgiri Mountains, the “**Queen**” of Hill Stations.

### **Locomotives and the system of working**

X class locomotives from Switzerland are in use presently on the section between Mettupalayam and Coonoor. These are compound locomotives having four cylinders instead of the conventional two. The main cylinders use high-pressure steam to drive the wheels of the loco whereas the smaller cylinders use low-pressure steam to drive the rack system. The youngest X class loco is over 50 years old and the oldest is over 80 years old. These steam locomotives are maintained at the Coonoor Loco Shed and at the Mettupalayam shed.

The Trains on the Nilgiri Mountain Railway are operated on Absolute Block System with Neale’s tablet token instruments. The maximum permissible speed between Mettupalayam – Kallar and Coonoor – Udthagamandalam is 30 KMPH. And the maximum speed between Kallar – Coonoor is 13 KMPH. The Hillgrove – Kallar section is a Critical Block section and the Ruling gradient is 1 in 12.5. Watering facility for engines is available at Kallar, Hillgrove, Coonoor, Aravankadu, Ketti, Lovedale and Udthagamandalam. Apart from Mettupalayam, Coonoor and Udthagamandalam, the other stations are having low level or rail level platform. There are 13 Level Crossing gates in the section, out of which 5 are unmanned Level Crossings and the Rest are manned Level Crossings.

### **Development of various stations of NMR**

The stations served by the Nilgiri Mountain Railway have their own distinctive histories.

Mettupalayam, was a small village in the 1850s and it gained importance as a rail head after the British laid a Broad gauge line from Coimbatore to Mettupalayam in 1873. All the carriages and Wagons of NMR are maintained at the Carriage and Wagon Depot at Mettupalayam.

Coonoor town is built on one of the best geographical locations in the Nilgiri Mountains. Surrounded by hills, Coonoor possesses a cool and equitable climate. After being a terminus for the Nilgiri Mountain Railway for nine years, Coonoor’s importance still remains as one of the best stations on the line.

Udhagamandalam is also known as Ootacamund or Ooty. Ootacamund is derived from the word Utaka – Mand, a mand or a collection of quaint huts of the original aboriginal todas. Ooty, being the highest point of the line, is the most sought after destination for tourists.

Railway Stations on the Nilgiri Mountain Railway are provided with waiting rooms for the passengers. Cafeterias have also been provided to serve tea/snacks and meals to the users at some stations. Retiring Rooms are available at Udhagamandalam, Lovedale, and Coonoor. Dormitories are available at Udhagamandalam, Aravankadu and Wellington.

For a ringside view of the beauty of Nilgiris.....

The magnificent view offered by the Nilgiri Mountain Railways for the train passenger is unmatched, as the train route careens through the edge of the hill offering the view of the valley below, and at times riding high on the plateau, offering a view on either side.

Nilgiri Mountain Railway presents a rich unspoilt natural beauty of tropical fauna and flora along the railway line. The Mountain Railway, has in fact, brought the culture of the ancient tribes, todas, irulas, and others to the limelight. The wildlife of the Nilgiri Mountains has become world famous today and the Railways has had its share of bringing world attention to the mountains by getting the NMR listed as a World Heritage Site. The authenticity and integrity of this line as originally commissioned in June 1899 has been preserved to a large extent.

At a time when the entire Indian Railways are progressively modernizing the tracks, signals and the Rolling stock, Nilgiri Mountain Railway is an exception where the authenticity and antiquity of this century old mountain railway is sought to be preserved, where Heritage and History walk hand in hand with the Rail traveler, and where Southern Railway in general, and Salem Division in particular, would like to enlist your support in all the measures taken to preserve the heritage of this unique railway despite the harsh glare of modern technology. In case you would like to enlist your support, kindly log on to [www.southernrailway.gov.in](http://www.southernrailway.gov.in) for more information or write to [nilgirimountainrailway@gmail.com](mailto:nilgirimountainrailway@gmail.com) to post in your comments/suggestions on Nilgiri Mountain Railway.

3580	18	Hillgrove
4612	21	Runnymede
5070	25	Kater Road
5218	28	Coonoor
5804	29	Wellington
6144	32	Aravankadu
6864	36	Ketti
7694	42	Lovedale
7228	46	Udhagamandalam

**Train Timings of Passenger Train services between Mettupalayam – Udhagamandalam – Mettupalayam.**

				kms		Stations	kms						
<del>56141</del> 666	<del>56136</del> 662	<del>56130</del> 670 56143	<del>56136</del> 664 56138						667	<del>669</del>	<del>667</del>	<del>665</del>	
↓	↓	↓	↓	↓	↑	↑	↑	↑	↑	↑	↑	↑	
	07.10			0	Mettupalayam	46							17.35
	08.46			18	Hillgrove	28							<del>18.35</del>
07.45	10.40	<del>13.35</del> 12.30	16.30	28	Coonor	18	10.25	13.20	16.15	19.10			
07.53	10.48	13.43	16.38	29	Wellington	17	10.04	13.04	15.52	18.49			
08.05	11.00	13.54	16.49	32	Aravankadu	14	09.55	12.55	15.42	18.40			
08.26	11.21	14.12	17.08	38	Ketti	8	09.39	12.39	15.25	18.24			
08.45	11.40	14.31	17.26	42	Lovedale	4	09.26	12.26	15.11	18.11			
09.05	12.00	<del>14.50</del> 13.50	17.45	46	Udhagamandalam	0	09.15	12.15	<del>15.00</del> 14.00	18.00			

The stations/distance/and height table furnished below gives one a general idea of the steep incline of the mountain Railways :

Station	Distance (in Kms)	Height in Feet
Mettupalayam	0	1069
Kallar	8	1260
Adderly	13	2398
Hillgrove	18	3580
Runneymede	21	4612
Kateri Road	25	5070
Coonor	28	5616
Wellington	29	5804
Aravankadu	32	6144
Ketti	38	6864
Lovedale	42	7694
Udhagamandalam	46	7228

Issued by Salem Division, Southern Railway.

Printed at : Southern Railway Printing Press, Royapuram, Chennai-600 013.