

RAILWAY ELECTRIFICATION

HISTORY & PRESENT STATUS

Electric traction was first introduced on 3rd February' 1925 on the then Great Indian Peninsular Railway (GIPR) between Bombay VT to Kurla Harbour (16 Route kilometers) on 1500 V DC system. It was further extended up to Igatpuri & Pune. On BB & CI Railway (now Western Railway), the first electric train on 1500 V DC was introduced in 1928 between Colaba & Andheri. Same success story was replicated again between Madras Beach & Tambaram section on 15.11.1931. During pre-independence period, electrification remained confined to 388 Route kilometers and it is only in the post independence period that further electrification was taken up. Electrification of Howrah-Burdwan section was taken up on 3000 V DC during the first five year plan & the same was completed in 1958. Changing times and a series of events led Indian Railways to switch over to 25 kV AC electrification; the first section being Raj Kharswan- Dongaposi of South Eastern Railway in the year 1960. Howrah-Burdwan of Eastern Railway & Madras Beach-Tambaram section of Southern Railway were subsequently converted to 25 kV AC by the year 1968. Similarly challenging task of conversion from DC to AC has been successfully completed on 05.02.2012 on the entire Western Railway portion and, on 9/10.04.2016 on entire Central Railway.

Since then there has been no looking back and Indian Railways have slowly but steadily electrified its routes. By March 2016, electrification on Indian Railways has been extended to 27999 RKMs which includes 28 RKMs of Kolkata Metro. This constitutes 42.40% of the total Railway Network and 47.60% of the BG system respectively.

PROGRESS (1925-2016)

Plan period wise progress of electrification

Plan Period		RKM Electrified	RKM Cumulative
Pre-Independence 1925-1947		388	388
1 st Plan 1951-56		141	529
2 nd Plan 1956-61		216	745
3 rd Plan		1678	2423
Annual Plan 1966-69		814	3237
4 th Plan 1969-74		953	4190
5 th Plan 1974-78		533	4723
Inter Plan 1978-80		195	4918
6 th Plan 1980-85		1522	6440
7 th Plan 1985-90		2812	9252
Inter Plan 1990-92		1557	10809
8 th Plan 1992-97		2708	13517
9 th Plan 1997-02		2484	16001
10 th Plan 2002-07		1810	17811
11 th Plan 2007-12		4556	22224
12 th Plan	1 st year 2012-13	1317	23541
	2 nd year 2013-14	1350	24891
	3 rd year 2014-15	1375	26269
	4 th year 2015-16	1730	27999*
	5 th year 2016-17	Target-2000	-

* 168 RKM MG electrified line dismantled and 25 RKM & 3 RKM of Kolkata Metro Railway included in 11th Plan & 12th Plan respectively.

With the progressive electrification, metro cities of **Delhi, Mumbai** and **Kolkata** have already been interconnected with electric traction, besides also connecting **Chennai to Delhi**. Even **Mumbai - Chennai** route is partially electrified which includes Guntakal-Pune on which electrification work is in progress which when completed will bridge the remaining gap.

Proportion of traffic as on 31.3.2015 on various modes of rail transport as per Indian Railways Year Book 2014-15 are as under: -

As per year Book 2014-15 (As on 31.03.15)		
	Electric	Diesel
Goods	64.80%	35.20%
Coaching	51.30%	48.60%