RAILWAY CONVENTION COMMITTEE
(1999)

(THIRTEENTH LOK SABHA)

FOURTH REPORT

ON

DEVELOPMENT OF ALTERNATIVE ROUTES FOR DECONGESTING EXISTING ROUTE

LOK SABHA SECRETARIAT
NEW DELHI

December, 2001 / Agrahayana 1923 (S)

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RAILWAY CONVENTION COMMITTEE
(1999)

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SECRETARIAT

1.	Shri John Joseph	Additional Secretary
2.	Shri R.C. Gupta	Director
3.	Smt. Abha Singh Yaduvanshi	Assistant Director

INTRODUCTION

1. I, the Chairperson, Railway Convention Committee (1999) having been authorized by the Committee to submit the Report of their behalf, present this Fourth Report on the subject **'Development of Alternative Routes for Decongesting Existing Routes' .**

2. The Committee found that the Golden Quadrilateral connecting the four metropolitan cities of Mumbai, Delhi, Kolkata and Chennai and the two diagonals are totally saturated. In addition to these routes, there are other freight and passenger intensive sections where there is saturation as far as line capacity utilization is concerned. Keeping in view the above facts, the Committee have expressed their firm view that the Ministry of Railways will have to decongest existing routes by creation of additional capacity by gauge conversion, doubling or laying multiples lines, new alignments, electrification, upgrading standard of signalling and interlocking, splitting long block sections, automatic signalling, introducing air brakes, increasing average speed, creating speed differentials, procuring higher capacity wagons/coaches, adding more wagons/coaches per train, procuring high horsepower locomotives and developing alternative railway terminals/station facilities. They have recommended that a well defined plan should be formulated for this purpose.

3. The Committee are perturbed to find that the Ministry of Railways have been taking up new projects without completing the ongoing projects and that there is a huge shelf of projects costing about Rs. 35,000 crore. The Committee have, therefore, recommended that the existing projects should be reviewed critically and prioritized after realistic assessment in terms of their state of

completion, financial viability and corresponding funding to obtain the optimum utilization of scarce funds. They have also emphasised that the priorities once fixed should not be changed except in national interest or on strategic considerations. The Committee have also stressed that projects which are unviable but socially desirable may be taken up only when matching funds are assured both by the Planning Commission and the Ministry of Finance.

4. The Committee are disturbed to find that at the time of introduction of Project Unigauge, conversion of Metre Gauge and Narrow Gauge lines was done without going into their financial viability or operating priority. They have also found that small patches have been left out while converting Metre Gauge lines into Broad Gauge lines. It had led to non-utilisation of these lines. They have, therefore, recommended that the gauge conversion works should be taken up in those areas where small patches have been left incomplete leading to non-utilisation of the entire line at the earliest.

5. The Committee have strongly recommended that henceforth a temporary ban should be imposed on fresh projects, including the expansion of existing projects, in the name of material modification.

6. The Committee took evidence of the Representatives of the Ministry of Railways on 30th October, 2000. The Committee wish to express their thanks to the Ministry of Railways for placing before the Committee detailed notes on the subject and for furnishing whatever information that was needed in connection with the examination of the subject. They also appreciate the frankness with which the officials shared their views, perceptions and constraints with the Committee. This has enabled the Committee to come to right conclusions in the matter.

7. The Report was considered and adopted by the Committee at their sitting held on 14-12-2001. The Minutes of the sitting of the Committee held on 30-10-2001 and 14-12-2001 form part-II of the Report. The observations and recommendations have been printed in think type at the end of the Report.

New Delhi;
December 18 , 2001
Agrahayana 27,1923 (Saka)

BHAVNABEN CHIKHALIA
Chairperson
Railway Convention Committee

REPORT

DEVELOPMENT OF ALTERNATIVE ROUTES FOR DECONGESTING EXISTING ROUTES

INTRODUCTORY

THE INDIAN RAILWAY SYSTEM

1. The Railways are an integral part of our socio-economic life. The first train in India steamed out from Bombay's Boribunder to Thane covering a distance of 34 kms on the 16th April, 1853. Over 147 years old now, with a route network of nearly 62, 759 kms, the Indian railway system is the principal mode of transport in the country and the world's second largest under one management. Indian Railways has adapted to the changing needs of travel and transport in the country. It has also absorbed advancements in the technology and kept itself in tune with the requirements of moving large volume of passenger and freight traffic. In 1999-2000, Indian Railways carried 12.53 million passengers per day and lifted more than a million tonne of freight traffic daily. However, most of traffic is carried by the Railways on its golden quadrilateral and its diagonals. In addition to these routes there are other freight and passenger intensive sections where there is saturation as far as line capacity utilization is concerned.

(A) GROWTH OF NETWORK

2. Indian Railway's route length stretches to 62,759 kms in 1999-2000 as compared to 53,596 km in 1950-51 with running track of 81,252 kms as against 59,315kms over the same period. Total track including yards, siding etc. stands at 107, 969 kms as against 77,609 kms in 1950-51.

(i) Railway Track

3. The Indian Railways developed as a multi-gauge system with several agencies taking up construction and operations of the railways network in the earlier years. In the southern region and to the north of the River Ganga, meter gauge was preferred, as the area was largely agricultural, with little prospect for

industrial growth at that time. This was also true of certain tracks in Rajasthan and Gujarat. Several princely States which decided to build and run their own railways opted for metre and narrow gauges, which were comparatively more economical. Wherever routes were expected to develop as trunk lines or serve strategic purposes, broad gauge was adopted. The multi-gauge network, causing problems of break of gauge and transhipment, is thus rooted in history.

Gauge-wise break up as on 31st March, 2000 are as follows :

Gauge	Route kms	Running Track kms	Total Track kms
Broad Gauge (1676 mm)	44,383	62,441	85,532
Metre Gauge (1000 mm)	15,013	15,411	18,674
Narrow Gauge (762 mm/610 mm)	3,363	3,400	3,763
Total	62,759	81,252	107,969

Broad Gauge, although forming 70.7% of the route, generated 98.8% of the freight output (NTKms) and 92.5% of the passenger output (PKms) Metre Gauge, with 23.9% of the route, generated 1.2% of freight output and 7.3% of the passenger output.

(ii) ROUTE LENGTH

4. Route length as on 31.3.2000 in each gauge indicating double / multiple line, single line and electrified route, is as follows:

Gauge	Single line		Total	Double/multiple line		Total	Grand Total
	Elect rified	Non-electri fied		Elect rified	Non - electri fied		
Broad (1676)	3,020	25,741	28,761	11,077	4,545	15,622	44,383
Metre (1000 mm)	104	14,825	14,929	60	24	84	15,013

Narrow (762/610 mm)	-	3,363	3,363	-	-	-	3,363
Total	3,124	43,929	47,053	11,137	4,569	15,706	62,759

Almost all the double/multiple track sections and electrified routes are Broad Gauge. Metre and Narrow Gauges are mostly single line and non-electrified. From 1950-51 to 1999-2000, traffic density (million GTKms. per running track km.) has increased from 4.29 to 15.35 on BG.

(B) GROWTH OF PASSENGER AND FREIGHT TRAFFIC

(a) Passenger Traffic

5. Indian Railways serves as the principal mode of passenger transport in the country. During 1999-2000, the number of passengers carried was 4,585 million as against 4,411 million in 1998-99 an increase of 3.9%. Passenger kilometres, which is the product of the number of passengers carried and average distance traversed, was 431 billion, up by 6.7% from the level of 404 billion in the previous year. Passenger earnings also increased by Rs. 1,028.9 crores (about 12%) as compared to 1998-99.

(b) Freight Traffic

6. Indian Railways loaded 456.42 million tonnes of revenue earning traffic in 1999-00 generating 305.20 billion NTKms of freight output. Overall loading and freight output, inclusive of non-revenue earning traffic, was 478.18 million tonnes with 308.04 billion NTKms.

The followings table shows the growth in freight traffic in 1999-00 as compared to 1950-51:

Revenue earning freight traffic

Year	Tonnes (Million)	Index (1950-51 tonne =	Net kms (Million)	Index (1950-51 = 100)	Lead (kms)	Index (1950-51 = 100)

		100)				
1950-51	73.2	100.0	37,565	100.0	513	100.0
1999-00	456.42	623.5	305,201	812.5	669	130.4

The Railways' attempts to improve their share of freight traffic are facing serious challenge on account of recent increases in freight rates in respect of certain important commodities which have led to diversion of traffic from rail to road.

PLAN OUTLAY

7. Indian Railways draw up their Five Year Railway Plans, in consonance with the National Five Year Plans, in consultation with the Planning Commission. While the Railways had projected IX plan size of Rs.65,000 crore with a view to achieve 5% growth in rail transport during the plan period, the plan size approved by the Planning Commission was only Rs.45,413 crore at 1996-97 prices. The Railways had sought a budgetary support of Rs.19,500 crore and a subsidy of Rs. 9,750 crore for public service obligations totalling Rs.29,250 crore, constituting 45% of the projected plan size of Rs.65,000 crore. Against this, the total budgetary support approved has been only Rs.11,791 crore which is about 25% of the approved plan size of Rs.45,413 crore.

8. The Ministry of Railways have stated that less allocation will have an adverse affect on the Railways' ability to meet the targets set by themselves for the 9th Plan, as also in correcting the imbalance in the modal split between the less energy efficient, less ecologically friendly and less safe mode of road transport vis-à-vis the more energy efficient, more eco-friendly and safer rail transport. It is worth mentioning in this context that as against a modal split of 89:11 for freight and 80:20 for passenger traffic in favour of the Railways in the `50s, the present position is 40:60 for freight and 20:80 for passenger for rail and road respectively. The adverse trend has to be corrected in the interest of the overall healthy development of the economy which cannot be achieved with the present size of the plan and the levels of the budgetary support.

(C) <u>LOSS OF MARKET SHARE AND TRAFFIC FLOW IMBALANCE</u>

9. The railway network today which operates on three gauges the broad, the metre and the narrow – suffers from inherent imbalance in traffic flows.

Inadequate investment in Railways has resulted in limiting the growth of freight traffic in alignment with the growth rate of Gross Domestic Product (GDP) of the national economy. International experience indicates that rail freight should grow at faster rate than the GDP. The recommended coefficient of transport capacity of GDP growth for freight traffic is 1.5 and for passenger traffic is 1.8. In India, corresponding figures for both segments of traffic have been less than 1.0. This has had the inevitable result of a shift in both passenger and freight traffic from rail to road, as can be seen from the Table below :

Year	Freight		Passenger	
	Rail	Road	Rail	Road
1950-51	89%	11%	80%	20%
1996-97	40%	60%	20%	80%

10. The Ministry of Railways have stated that Railways are six times as energy efficient as roads and four times more economical in land use apart from being environment friendly. However, the investment has, in the context of transport infrastructure, chosen an energy intensive, high cost route by not enabling adequate growth of rail infrastructure and thereby diverting freight and passenger traffic to road.

(D) NEED FOR DEVELOPMENT OF ALTERNATIVE ROUTES

11. Indian Railways having a vast network totaling about 62,000 route kilometers, carry most of the traffic on its golden quadrilateral and its diagonals. The broad gauge network, though forming 70.7% of the route kilometers, carries 98.8% of the freight and 92.5% of the passenger traffic of Indian Railways. The golden quadrilateral connecting the four metropolitan cities of Mumbai, Delhi, Kolkata and Chennai, and the two diagonals, comprise 25% of the total broad gauge route Km (or 15.8% of total network); but carries in excess of 56% of the total freight transport output and 47% of passenger traffic. This high density network is today totally saturated and needs massive doses of investment in its basic infrastructure particularly because future growth is also projected by industry, trade and business interests along these very corridors. In additional to these routes there are other freight and passenger intensive sections where there is saturation as far as line capacity utilization is concerned.

12. Elaborating upon the need for development of alternative routes the Ministry of Railways have stated in their Memorandum that Indian Railways were required to carry about 25% additional goods traffic during the 8th Five Year Plan. A similar increase was also anticipated in the 9th Five Year Plan. Thus, the Railways was required to carry an additional 180 million tonnes of traffic in 10 years against 338 million tonnes loaded in 1991-92. It was realised that while on the one hand there was urgent need for generating additional capacity, the vast MG/NG system continued to run in more and more losses carrying less and less traffic with each passing year, on the other hand the diagonals and the quadrilaterals on the Indian Railways system which carried the bulk of the traffic are under severe strain, and unless relief was provided by developing alternative routes, investments on the existing BG routes would bring only disproportionately low returns. It was realised that the railways would have to go in for massive doublings/additional lines to provide the required capacity.

(E) CRITERIA TO DECLARE LINE(S) SATURATED

13. When asked about the criteria laid down to declare a line saturated, the Ministry of Railways (Railway Board), in their written replies, stated that each line has a certain charted capacity to carry a certain number of trains each way during a period of 24 hours. This capacity depends on the speeds of the different trains operating on the section, the gradients, the standard of signalling and interlocking, the distance between crossing stations and the daily maintenance blocks. When the number of trains operating on the sections reach this charted capacity, the line becomes saturated unless additional capacity is created by doubling or multiple lines, automatic block signaling and splitting block sections trains and other line capacity works, the line cannot carry any additional traffic without affecting maintenance work.

14. The Railway Board have further stated that in accordance to their directive a double line section is deemed to be saturated at 90% utilization of chartered capacity after accounting for a mandatory Maintenance Block of 4 hours. Like wise a single line section is considered saturated when capacity utilization exceeds 80%.

15. During oral evidence the Member (Traffic) explained to the Committee:

"In a normal single line, there is a 20 train each way capacity where a mandatory provision is made for maintenance block. With this much traffic the line is said to be saturated. In case of double line there is a provision for 60 trains on an average. In case we have to increase the capacity, in the first instance, we make signal improvements and if there are more than 24 trains, then we plan for doubling or patch doubling."

16. The Ministry of Railways informed that line capacity on a route could be augmented in the following ways :-

A) Carrying out line capacity works

(i) by gauge conversions
(ii) by gauge constructing additional lines (doubling/multiple lines) and by new alignments

B) Electrification

C) Upgrading standard of Signaling and Inter locking

(i) Splitting long block sections
(ii) Automatic signaling
(iii) Introduction of air brakes
(iv) Increase in average speed / speed differentials

D) Rolling stock

(i) Higher capacity wagons / coaches
(ii) More wagons / coaches per train
(iii) High horsepower locomotives
(iv) Developing alternative railway stations / terminals.

The Committee will now discuss the ways and means for augmenting the line capacity in the succeeding paragraphs.

(A) LINE CAPACITY WORKS

(i) GAUGE CONVERSION

PROJECT UNIGAUGE

17. The Ministry of Railways, in their White Paper on Railway projects stated that the gauge conversion had been going on slowly ever since Independence but the Railways decided in consultation with the Planning Commission to do away with the multi gauge system and w.e.f., 1-4-1992 to give a thrust to Gauge conversion by taking up Project Unigauge for the selective conversion of MG/NG lines to BG over 3 Five Year Plan periods.

POLICY FOR TAKING UP GAUGE CONVERSION WORKS

18. The policy followed for selection of routes to be taken up for Gauge Conversion under Project Uni-Gauge has been as under:

- To take up conversion of lines to develop alternative BG routes obviating the need for doubling existing BG lines on these routes.
- To establish new BG links between stations connected by other BG lines.
- To establish BG connection to ports, industrial centres and locations having potential for growth.
- To take up conversion of lines required on strategic considerations.
- To minimise transhipment and to improve wagon turn round by avoiding delays at transhipment points.
- To carry out the conversion of lines as per the above policy at least at par with its cost yet providing a standard of service not lower than what the rail users were getting on the MG.

PROGRAMME OF GAUGE CONVERSION

19. While explaining the programme of Gauge Conversion, the Ministry of Railways stated that it was decided to convert about 14500 km of MG/NG lines to BG. This was planned to be done at the rate of about 6000 km each in the 8th and 9th Plans and the remaining in the 10th Plan. The remaining lines were planned to operate as MG feeder lines, as MG clusters with normal train services and as rail bus routes for operation with MG rail buses.

20. Accordingly, the Railways had identified 14657 km of lines for conversion in the first phase of Action Plan when it was taken up in 1992. Out of the 14,657 km identified in the first phase of the action plan, 6897 km has been completed as per the target fixed for the same during the 8th Plan period. Work has been in progress on 4958 km which was to be completed in the coming years as per availability of resources and the work was to be taken up on 1002 km. After this another 4988 km were added to the Action Plan.

21. When asked about the reasons for taking up another 4988 km, the Ministry in their written replies explained as follows :

A) "Works included in action plan to provide BG connection between newly developed ports and the hinterland .
   a) Surendernagar – Bhavnagar with extension to Pipavav – 385 km and Gandhidham – Palanpur 313 km Total = 698 km

B) Work included in the action plan on operational considerations in lieu of doubling :
   a) Gorakhpur - Gonda loop 260 km
   b) Rewari –Ringus – Phulera 215 km
   Total = 475 km

C) Works included in the action plan on the basis of Defence requirement :
   a) Marwar – Mavli – Badisadri 234 km

D) Works included in the action plan to serve new industries (on cost sharing basis with the State Government)

a) Salem – Cuddalore 190 km
b) Dharangdhara – Kuda 22 km
Total = 212 km

E) Lines included in the action plan on operational considerations to provide linkages / to serve industries :
a) Latur - Latur Road 42 km
b) Badarpur – Kumarghat 117 km
c) Silchar – Jiribam 50 km
Total = 209 km

F) The remaining lines have been taken up on social considerations for development of backward areas and to meet the aspirations of the people of the areas served by these lines to get connected to the national BG network".

22. The IX Plan Working Group on Railways in their Report have stated that project unigauge was conceived with the objective of generating transport capacity by opening up alternative routes to ease the congestion on the BG trunk route which are working to saturation and to provide speedy and un-interrupted means of communication between areas which have potential for growth. It would also overcome problems associated with break of gauge transhipment which have hitherto stifled industrial growth in areas served by the MG and NG network. Gauge conversion of most of the routes will have a large impact on the economic growth of the country and provide operational advantage to the Railways.

Performance during the first three years of 9th Plan (1997-2000) in regard to the gauge conversion has been 1740 kms against the target of 3710 kms.

23. When asked about the MG routes which have been identified for gauge conversion to provide alternative passage for movement of traffic, the Ministry submitted the list of such project as given in **Appendix-I**. The Ministry of Railways, in their written replies, have informed the Committee that the carrying capacity of a BG section is about twice the carrying capacity of a MG section, both as regards freight and passenger traffic. They further stated that it would be more economical to go in for gauge conversion of selected MG routes to provide alternative passage

for the movement of traffic, thus creating additional transport capacity. This would also enable the Railways to cut the operational and maintenance losses on MG. The MG system required an amount of Rs. 22,000 crores for overcoming all arrears. In any case, a minimum amount of Rs. 1200 crores was required to replace over aged tracks on important routes so as to maintain safety and operational visibility. The Ministry of Railways have further stated that as a result of gauge conversion, a number of new corridors/alternative routes have been developed and some of the major routes are as under :

1. Bhatinda –Rewari
2. Delhi – Ahmedabad
3. Sawaimadhopur-Jaipur-Jodhpurpur-Jaisalmer
4. Kandla-Ahmedabad-Marwar-Jodhpur-Bikaner-Bhatinda
5. Manmad-Parli Vaijnath-Secunderabad
6. Guntur-Guntakal-Hospet-Goa
7. Bangalore-Hubli-Londa-Bombay
8. Madras-Karur-Madurai-Tuticorin
9. Bellary-Shimago
10. Allahabad-Varanasi-Chhapra-Sonepur- Bachwara
11. Guwahati-Lumding – Tinsukia-Ledo-Dibrugarh
12. Burhwal-Sitapur link providing bye pass to Lucknow
13. Muzaffarpur-Sagauli-Raxaul linking the rail head to Nepal
14. Bangalore-Mysore
15. Salem-Bangalore
16. Gondia-Chandafort
17. Secunderabad-Dronachellam
18. Tambaram-Trichy

Completion of the above mentioned Gauge Conversion Projects have created most of the desired alternative routes and generated additional capacity. In addition to the above, the following ongoing works are important for the Railways from capacity creation point of view :

1. Kanpur-Kasganj-Mathura
2. New Jalpaiguri-Siliguri-New Bongaigaon
3. Katpadi-Pakala-Tirupati
4. Guntur-Guntakal
5. Guintakal-Kalluru

6. Mudkhed-Adilabad
7. Solapur-Gadag
8. Arsikere-Hasan-Mangalore
9. Ajmer-Udaipur-Chittaurgarh
10. Surendernagar-Bhavnagar
11. Gandhidham-Palanpur
12. Bhildi-Viramgam
13. Thanjavur-Villupuram main line

The Ministry of Railways have submitted before the Committee that further investment on Gauge Conversion works as a means to create alternative routes and generate additional capacity should be limited to only those works listed above. There are about 20 sanctioned Gauge conversion projects **(Appendix - II)** taken up only on developmental considerations. These lines will neither create capacity on critical sections nor will they be useful as alternative routes.

24. The Gauge Conversion to be completed in 2000-01, that is, in the fourth year of the 9th Plan is as follows :

1.	Nonera-Bhind of Guna-Etawah project	50	CR
2.	Raxaul-Birganj	8	NE
3.	Makum-Dongri	31	NF
4.	Amguri-Tuli	14	NF
5.	Laxmanthirtha bridge diversion on Mysore-Hassan line	1	SR
6.	Mudkhed – Adilabad	142	SC
7.	Wankaner-Morbi	48	WR
8.	Gandhidham-Bhuj	58	WR
9.	Darangdhara-Kuda	33	WR
	Total	385	Kms

25. The Ministry of Railways also stated that three new gauge conversion works were included in the budget during the 4th year of the 9th Plan i.e., 2000-01. These are Trichy-Manamadurai, Villupuram-Katpadi and Akola-Purna. All the clearances for these works are available and the railway has taken up preparation of detailed plans and estimates for these works. The work would be taken up after the preliminary planning work is completed.

26. On being enquired about the total length of meter gauge which was yet to be converted to BG, the Ministry of Railways have stated that there is no proposal to convert all the MG/NG tracks. The action plan provides for conversion of 19,645 km. Of this, 8697 km have been converted and 10,948 km remains to be converted. Gauge conversion was taken up in a big way in April '92 and most of the through routes taken up have been completed. However, over the years a number of lines have been added to the Gauge conversion works in progress on various other considerations. The amount spent since April '92 when Project Unigauge was taken up is Rs. 7857 crores up to 31-3-2000. An amount of Rs. 623 crores has been provided in the budget 2000-01 for this work.
The outlay provided in the year 2001-02 regarding gauge conversion is Rs. 665 crore.

RAILWAYS PREDICAMENT

27. The Ministry have stated that the conversion works are being progressed as per availability of resources and according to their priority as approved by the Government. The shelf of gauge conversion projects has gone beyond the availability of resources for their completion within a reasonable time. As on date, the throw forward on gauge conversion projects is Rs. 9104 crore while the funds are being made available around Rs.600 crore per year. From this, it will be seen that even if cost escalation is not considered, the gauge conversion works which are going on will require over 15 years for their completion. From the White Paper on Railway projects (of the Ministry of Railways) the Committee have , however, found that all the projects taken up by the Railways are not remunerative and some of them have been included in the Railway Budget without Survey and without the requisite prior clearances. The Ministry of Railways have now stated that all the projects have been prioritised and will be funded accordingly so that the higher priority projects get completed and the nation starts reaping the fruits of its investment at an early date.

28. The Ministry of Railways have furnished the detailed list of gauge conversion projects as approved by CCEA **(Appendix - III).** On being asked whether they would adhere to priority of gauge conversion projects as fixed, the Member (Traffic) explained during the oral evidence :

> "Where there is a saturated route, it is beneficial for the Railways to go in for gauge conversion for eg. Ahmedabad route was considered for gauge conversion as the Delhi – Mumbai route was saturated. Similarly, New Jalpaiguri and Bongaigaon section would benefit railways after gauge conversions … Gauge conversion of Gandhidham – Palanpur Section is our third priority ".

29. Elaborating the point further, the Chairman, Railway Board stated as under :

> "This time we are trying to complete the projects which are advanced or critical so that some returns can

start in. If we spread the funds to cover all the projects, no project can be completed and also we run out of funds. We should give priority to the projects on which we have spent 90% of funds so that at least that line gets completed or we should fully fund the projects where there is congestion we have to release it, doubling line or line capacity work, gauge conversion which are to benefit the system so that we get maximum returns. We should economically and wisely invest the funds so that railway system get returns".

EXTENT TO WHICH UNIGAUGE HAS HELPED IN DECONGESTION :

30. When the Committee desired to know how far project unigauge has helped in decongesting existing saturated routes, the Ministry of Railways in their replies, stated that the Project Unigague has certainly helped in decongesting many of the existing routes. While the exact extent of such decongestion has not yet been studied, the position will be clear from the examples, such as Bhatinda – Rewari along with Mathura – Alwar new line, Vadodara – Ahmedabad route vacating Delhi-Mumbai-Rajdhani route etc.

31. When asked as to how the alternative routes by gauge conversions would reduce the pressure on existing routes, the Ministry of Railways explained that the relief, which some of these routes will provide to the existing saturated routes is as follows:

"The entire coal traffic to Bhatinda had earlier to pass through the congested Delhi area and then via Rohtak and Jind. With the conversion of Bhatinda – Rewari along with the construction of Mathura – Alwar new line, this traffic now does not need to enter Delhi area. The broad gauge traffic from Delhi to Ahmedabad had earlier to move on the saturated Delhi-

Mumbai Rajdhani route up to Vadodara and then on the saturated Vadodara-Ahmedabad route. The conversion of the line has enabled diversion of this traffic on the converted line releasing capacity on the Delhi-Mumbai Rajdhani route.

In order to relieve the increasing pressure of traffic on Mughalsarai - Delhi route, alternative routes for carrying traffic between Eastern & Northern India have been developed by converting Kanpur – Kasganj – Mathura MG route and doubling and electrifying Mughalsarai – Saultanpur – Lucknow route.

The development of Kandla-Ahmedabad-Marwar-Jodhpur-Bikaner-Bhatinda route has enabled direct movement of POL and other traffic between Kandla port and Bhatinda instead of this traffic having to pass via Vadodara – Ratlam – Delhi and Bhatinda.

The conversion of Manmad-Parlia-Vaijnath-Secunderabad has provided an alternative route between Mumbai and Hyderabad.

The development of new route from Bangalore to Mumbai via Hubli will definitely reduce the pressure on the Mumbai-Guntakal sector of Mumbai-Chennai route.

Jogighopa and New Bongaigaon, which is under conversion will provide much needed alternative to the congested New Jalpaiguri–Guwahati BG section of NF Railway. Further relief to this route will be provided by the newly sanctioned line from new Mainaguri to Guwahati".

The Ministry added that full benefits from the Gauge Conversion projects will be apparent when the traffic flows stabilize. Wherever

possible and as per operational requirements, traffic is diverted on the alternative routes to decongest the existing routes.

NON-UTILISATION / UNDER UTILISATION OF LINE CAPACITY

32. The Committee have noted that in the Nagpur Division of South Eastern Railway, the Gondia Chandafort-Ballarshah (253 km) section was commissioned and connected to Ballarshah in January, 1999. It has provided an alternative route for south bound traffic. The line capacity of the section is twelve trains each way thereby having an utilisation of 17% of the line capacity only. The traffic potential envisaged in the survey report of the project is six trains each way. After gauge conversion only 2 pair of passenger trains per day are running on this section.

33. On being specifically asked, during the evidence, about the reasons for not utilizing the lines after commissioning of these projects (after gauge conversion) and investing significant, the Member (Traffic) replied :

> "This was not on operational priority. However, when the unigauge concept came it become one, though it was not required. If we use Ballarshah route from Bhilai-Gondia-Nagpur then we have to go in for change of traction. In such a case we have to assess the position of trains running from South-Eastern Railways but they are very few in number and so would not benefit Railways much. If we complete the Jabalpur - Gondia narrow gauge line, there will be no congestion on south route from Jabalpur to Ballarshah and this can benefit Railways."

34. The witness admitted before the Committee:

> "At the time of adopting Unigauge system for Railways all gauge conversion projects were taken up without assessing or going through their financial viability. Initially all gauge conversion projects were taken up irrespective of return".

35. The Ministry of Railway informed the Committee that while identifying these projects, which form part of Phase – I of the project Uni-gauge, accent was to take up work on route and network basis and not in isolated stretches. As these conversions were being done as part of the policy to have uni-gague on Indian Railways, a comparison of viability aspect vis-a-vis expansion of the diagonals and quadrilateral routes, was not taken up.

36. When the Committee desired to know whether goods train could be introduced on this section, the Ministry of Railway in their written replies stated that, running of trains on this section required additional inputs in terms of yard layout etc. This will be done in a planned manner depending on fund availability. The section was opened for passenger traffic with a view to providing connectivity of that section to the national system.

37. In the White Paper on Railway Projects, the Ministry of Railway have stated that some sections were taken up for conversion in the hapazard manner which resulted in the Railways having parallel BG and MG lines.

38. Giving their comments on the above, the Ministry of Railways stated that the gauge conversions and construction of lines in the past resulted in parallel BG and MG lines in some sectors. These lines are :

1) Dindigul-Madurai
2) Dharmavaram-Kalluru
3) Guwahati-Alipurduar

Once the gauge conversions planned under Project Unigauge get completed, there will be no necessity for these parallel lines and we will have a more integrated BG network.

(II). DOUBLING OF LINES FOR DECONGESTION OF CONGESTED ROUTES

39. As per the Year Book (1999-2000) of Railways, the Railway network has a total length of 62,759 km out of which 47,053 km consists of single line and 15,706 km has double/multiple lines. Thus only about 25% of railway track has double or multiple lines. Almost all the double/multiple track sections and electrified routes are Broad Gauge. Metre and Narrow Gauges are mostly single line and non-electrified.

40. Construction of double /multiple lines is an important means to augment the capacity of a section of railway line. Doubling of single line sections and construction of multiple lines on double line section is considered only after the sections have reached the saturation level or are nearing saturation, after taking into account the future growth. The objectives of doubling are as follows :

a) to progress and complete the doubling of the quadrilateral and diagonal trunk routes.
b) to undertake the construction of third and/or fourth lines on certain very busy routes in order to develop additional line capacities to handle the anticipated traffic on those routes.
c) to undertake doubling on other important routes where the existing single line has reached its saturation limit and further increase in traffic on such routes is anticipated.

41. While the targets for doubling of lines during the 9th Plan as per the approved plan size of Rs. 45,413 crore was 2500km in physical terms, the actual achievement during the first three years of the plan was only 640 kms. The actual achievement regarding doubling of lines (in physical terms) for the year 2000-01 was 200.5 km vis-à-vis target of 300 km. During 2001-02, it is proposed that about 200 km of doubling would be completed with an outlay of Rs.672 crore for the same period.

42. On being asked whether the Ministry of Railways have identified and declared certain double line sections and single lines as saturated after accounting for a mandatory Maintenance Block of 4 hours, the latter furnished a detailed list of such projects as per **Appendix – IV & V respectively**. However, they stated that apart from laying additional lines, railways resort to relatively lower cost options like splitting long block sections, improving standards of signaling and installing Automatic Signalling to create additional capacity.

43. The Ministry of Railways, in their written reply, informed the Committee that additional lines are being laid on the following double line sections at present:

(a) New Delhi - Tilak Bridge (NR)
(b) Kanpur – Panki (NR)
(c) Sonenagar – Mughalsarai (ER)
(d) Chandanpur – Gurup (ER)
(e) Gurup – Saktigarh (ER)
(f) Vijayawada – Krishna Canal (SCR)
(g) Atipattu – Korukkupet (SR)
(h) Marudhalam – Walaja Road (SR)
(i) Vaniyambadi – Jolarpet (SR)
(j) Kurla – Mumbra (CR)
(k) Diva – Kalyan (CR)
(l) Santacruz – Borivali (WR)
(m) Borivali –Virar(WR)
(n) Surat – Kosamba (WR)
(o) Bhilai – Champa (SER)
(p) Manoharpur – Goelkera (SER)
(q) Tikiapara – Santragachi (SER)
(r) Bangalore – Whitefield (SR)

They further informed that the following proposals for laying additional lines on double line sections are under consideration :

(a) Tilak Bridge – Ghaziabad – Panki (NR)
(b) Ambala – Sirhind (NR)
(c) Virar – Ahmedabad (WR)
(d) Mumbai Central – Borivali (WR)
(e) Barang – Khurda Road (SER)
(f) Pattabiram – Arakkonnam (SR)
(g) Mumbra – Diva (CR)
(h) Kurla – Dadar (CR)
(i) Panskura – Kharagpur (SER)

These will be taken up in a need based manner subject to availability of resources.

The Ministry of Railways also informed the Committee that following sections will require doubling in the near future on a need based manner subject to availability of resources :

(a) Ahmedpur – Sainthia (ER)
(b) Harishchandrapur – Eklakhi (NFR)
(c) Cuttack – Barang (SER)
(d) Aunrihar – Varanasi (NER)
(e) Gooty – Renigunta (SCR)
(f) Wadi – Guntakal (SCR)
(g) Bhigwan – Sholapur (CR)
(h) Hotgi – Gulbarga (CR)
(i) Barauni – Katihar (NER)
(j) Rewari – Ajmer (WR)
(k) Manikpur – Cheonki (CR)
(l) Utretia – Zafrabad (NR)
(m) Kankather – Hapur (NR)
(n) Udhna – Jalgaon (WR)
(o) Ernakulam – Kottayam – Kayankulam (SR)
(p) Kharagpur – Midnapur (SCR)

ADDITIONAL LINES ON THE SATURATED DIAGONALS AND GOLDEN QUADRILATERALS

44. When asked about the plan to expand/construction of additional lines on the saturated diagonals and the quadrilateral routes, the Ministry of Railway furnished, in their written replies, that the diagonals and quadrilaterals are doubled except parts of Mumbai – Chennai route. The Ministry of Railways informed that doubling Mughalsarai – Sultanpur – Lucknow route have been taken up to relieve pressure on traffic of Mughal Sarai Delhi route. Strengthening of Delhi-Calcutta and Calcutta-Mumbai lines by providing 3rd lines in critical portions has already been taken up and these would be further extended as per traffic requirements on the other diagonals and quadrilaterals. Details of work undertaken to enhance capacity on Delhi-Calcutta and Calcutta-Mumbai routes by laying additional lines is given at **Appendix - VI**. As regards the parts of Mumbai-Chennai which are not yet doubled, surveys have been taken up to identify the works required for creating the required traffic capacity. Doubling of Gooty-Renigunta (Ph.I) Ballapalli- Pullampet section, which falls on the Mumbai-Chennai part of the quadrilateral has been

included in the budget 2000-01. Further consideration of doubling of other stretches which are at present single line will be possible once the survey reports become available.

45. On being asked about the details of the surveys for doubling which have been taken up to identify the works for creating the required traffic capacity on Mumbai – Chennai route, the Ministry in their written replies stated as under :

> "(i) (a) Raichur – Guntakal – 120 km – The project will be considered subject to availability of resources.
> (b) Gooty – Renigunta – 120 km – Phase I Belapally - Pullampet section (41 km) has been included in Budget 2000-2001.
>
> ii) In the first year of a doubling project, most of the time is taken in final location survey, preparation of designs and drawings for extension/(construction of) new bridges and in developing the plans of yards so not much funds are required. The funds required for the project would be provided over the next few years and the work completed.
>
> iii) The survey for the balance section i.e., Bhigwan – Gulbarga (273 km) was taken up in 1996-97 and is in progress and is targeted for December, 2001".

46. It was suggested that one of the reasons for acute congestion in some sections is the mix of long distance passenger, freight and suburban traffic on the same corridor at approaches to important cities and terminals. Asked whether there was any contingency plan of the Ministry of Railways in this regard, the Ministry, in their written replies, stated that segregation of freight and passenger services, though desirable, is a very expensive proposition and the constraints of resources do not permit the Railways to attempt such segregation universally. However, in the vicinity of metropolitan cities particularly in Mumbai segregation of suburban and non-suburban traffic is made whenever possible.

47. The Ministry of Railways have informed the Committee that the following works are in progress for augmenting capacity on approaches to important cities and terminals :

MUMBAI :

- 5th & 6th Line from Kurla to Mumbra and from Diva to Kalyan.
- 5th Line from Santacruz to Borivali
- 3rd and 4th line between Virar and Borivali
- Automatic Signalling between Virar and Dahanu Road

CHENNAI :

- 3rd Line between Korukkupet and Athipattu

CALCUTTA /HOWRAH :

- 3rd Line between Chandanpur and Saktigarh

NEW DELHI :

- 5th and 6th Line between Tilak Bridge and New Delhi.

SURVEY TO ASCERTAIN TRAFFIC POTENTIAL

48. The Ministry of Railways stated that ascertaining expected traffic volume on different routes of Indian Railways is a continuous process and there has been no delay in making these assessment or conducting survey. When asked whether there is any proposal to conduct a fresh survey to assess traffic volume, the Ministry in their written reply stated that this is an ongoing process. However, in order to derive benefits from latest information technology techniques, a Long Range Decision Support System has been instituted on the Railways which uses state of the art techniques for forecasting traffic trends on Indian Railways.

49. In their Memorandum, the Ministry of Railways informed that an exercise carried out by all Railways about 2 years ago, established the urgent need for doubling of 4000 kms of existing BG network to generate additional capacity to match the increase demand for transportation.

UTILISATION OF LINE CAPACITY

50. On being asked about the utilization of line capacity, the Ministry of Railways furnished a detailed statement of the expected traffic volume on saturated routes in the next five years along with the percentage of line capacity utilization for the year 1997-98 **(Appendix - VII)**.

From the above statement it was found that following routes would be making more than 125% utilization of line capacity :

Route / Section	Line Capacity Utilization (% age)
Sahibabad – Ghaiabad	142.86
Shaktigarh – Chandanpur	133.33
Nagda – Ratlam	147.06
Vadodara – Udhna	131.58
Udhna – Virar	135.42
Bhopal – Itarsi	125.56
Vijayawada- Gudur	129.55
Kalyan – Manmad	136.54
Secunderabad – Bibinagar	142.65
Bibinagar – Kazipet	130.88

NEW PROJECTS FOR DOUBLING

51. The Ministry of Railways have further informed the Committee that the Railways are taking up laying of double/multiple lines in a phased manner. Doubling has been made a thrust area to create the additional capacity, required to move efficiently both the existing and the anticipated traffic. A number of new projects have been sanctioned in the last 5 years and fund allocation under this plan head has also been increased as can be seen from **Annexure – VIII**.

52. As against a total outlay of Rs.1,067 crores for doubling in the VIII Plan, the outlay for doubling in the first four years of the IX Plan is an under:

1997-1998	:	Rs. 291 crores (Revised Estimates)
1998-1999	:	Rs. 472 crores (Revised Estimates)
1999-2000	:	Rs. 554 crores (Revised Estimates)
2000-2001	:	Rs. 646 crores (Revised Estimates)

The allocation under this head has been Rs. 672 crore for 2001-02.

53. Regarding doubling of lines, while the targets for 9th Plan as per the approved plan size of Rs. 45,413 crore was 2500 km the actual achievement for

the first three years was only Rs. 640 crore. On being asked about covering the composite load, the Member (Traffic), during the oral evidence, stated :

> "For augmenting time capacity a provision of Rs. 1000 crore has been made for the year 2000-01. Out of this Rs. 646 crore should be spent on doubling and Rs.300 crore for line capacity works. Although it has gradually increased but if you see our requirement it is about Rs. 2000 crore".

54. The Member (Traffic) also explained about the double line saturated sectors, which have already been identified :

> "We have increased the planned money to be spent on doubling of lines significantly and gradually over last 4 years. We are gradually increasing allocation for saturated routes and it is to be increased even more, over the next ten years. If GDP growth rate is 7-8 % then we have to grow at 9-10 % and enhance our line capacity accordingly. For this we require an allocation of at least Rs. 2000 crore annually".

55. On being asked about the estimated cost to be invested on the congested routes and the rate of return on these investments, the Ministry of Railways in their written reply, stated that the amount to be invested has not yet been identified. Provision of 3rd line on the following sections have been taken up at a total cost of Rs. 678.67 crore :

		Rate of Return
Delhi – Chennai Route :	1. Mathura – Bhuteshwar	----
	2. Vijayawada – Krishna Canal	19.96 %
	3. Attupattu – Kurukkupet	----
Delhi – Howrah Route :	1. Kanpur – Panki	16.94 %
	2. Sonenagar – Mughalsarai	15.21 %
	3. Shaktigarh – Gurup	13. 8 %
	4. Gurup – Chandanpur	13. 8 %
Howrah – Mumbai Route	1. Bilaspur – Urkura	22.24 %
	2. Goelkera – Monoharpur	16.95 %
	3. Sorona – Bhilai	22.14 %

In addition, in order to provide the required capacity on Delhi-Mumbai sector, it is proposed to develop an alternative route using the Delhi – Ahmedabad BG line which has recently become available through gauge conversion and by providing a 3rd line between Ahmedabad and Virar. The cost of this 3rd line work as per the updated survey of 1998, is estimated at Rs. 1665.13 crore.

56. When asked to explain about the present status of this project the Ministry of Railways stated that since the total cost of the proposed 3rd line was Rs. 1665.13 crore, which would have taken several years with present availability of resources, so it was decided to take up patch doubling of critical sections so that train operations get a relief through removal of bottlenecks on the route. Accordingly in the first phase doubling of Surat-Kosamba section (31 kms) has been included in the Budget 2000-01 at a cost of Rs. 49 crore. The rate of return on this 3rd line from Virar to Ahmedabad as worked out in the survey report is as under:

(a) 11.48 % for completion period of 15 years
(b) 14.35 % for completion period of 8 years

57. On being asked about the concrete steps taken by Railways to decongest metropolitan city routes, the Ministry of Railways, in their written replies, stated that Indian Railways have been taking continuous steps to improve upon the system so as to cater to the increasing demand as also to expand these system into new areas in cooperation with State Governments. In New Mumbai and Chennai, new suburban systems are being constructed with sharing of 2/3rd cost by the respective State Governments and 1/3rd by the Railway under MTP Plan Head.

58. The Ministry informed the Committee that five suburban projects - 4 in New Mumbai and 1 in Chennai have been / are being executed with 2/3rd cost sharing arrangement with State Governments. These projects have provided a convenient mode of transport to the daily commuter for coming to Main Business Area of the city from newly developing urban residential area. With the availability of efficient mode of communication, there is less pressure for people to reside in the main city area thereby reducing local traffic within the main city routes.

59. Elaborating upon the paucity of funds, vis-à-vis funding of long duration projects and adding more of such projects, the Chairman, Railway Board, stated :

" For merging or balancing the two things I would suggest two measures …. One is that there should be some contribution from State Governments too. The reason is that development is taking place in the State due to Railways whether these projects are relating to new lines or the gauge conversion, but it will certainly improve their economic condition of that State".

60. The Member (Traffic) added in this connection :

" The British people had adopted a policy of …. 5 per cent rate of return to the private person engaged in construction work of line ….. below 5 per cent rate of return the Government paid the amount in compensation. It was a scheme which required Government support. Therefore, we have requested the State Governments to participate on new line projects which have fallen in the same categories of lines in which our return is negative, as we have not got enough money to undertake remunerative projects as well as unremunerative projects. We have two types of MOUs that have been signed. One is Karnataka Government in which they have created a financing company comprising of the Government of Karnataka, IDBI, HUDO, and the Railways. The second one is in Secunderabad which is an unremunerative project. The State Government is agreed for participation in this project. In the North-Eastern States the Government have decided to invest 10 per cent of the total budgetary support. Likewise they had assured to sanction money for Jammu and Kashmir route also. But, we did not get the money so far ."

61. Explaining the point further, the Chairman, Railway Board, submitted before the Committee :

"Railways are responsible for many things. Safety is to be considered …. if we have reduced the allocations for gauge conversion, we have raised it for track renewals up to 50 % during last 2-3 years. We have limited funds, we can't raise the allocation everywhere. We are investing more in traffic facilities and line capacities and we have only this

much of kitty. Therefore, we have, as a conscious decision, tried to involve State Governments because the states are getting benefit. There are States which have under written 2/3rd of the investment."

He further added :

"Unless such steps are taken , we would be going through a very steep downhill. The total kitty, if I borrow from the market Rs. 3,500 crore and I pay Rs.3,200 crore for lease charges, then my internal generation is reducing by Rs.3,200 crore. Now, these are the vicious circles, which we have got into".

NON LAPSABLE RAILWAY FUND

62. Mentioning about creation of non-lapsable Rail Funds like the National Highway Funds, the Member (Traffic) apprised the Committee :

"We had requested the Government that just as there is National Highway Fund for National Highways, Railways should also be provided with an Infrastructure Development Fund by the Finance Ministry so that we could deal with the freight and passenger business thoroughly. This fund could be utilized for doubling of lines or to enhance loop lines or signal improvement which would eventually help in improving line capacity utilization.

Apart from asking State Governments to come to the support for gauge conversion and new line projects we have proposed to the Center that a non-lapsable fund may be generated for Railways to improve their condition just as in the case of National Highway where funds are generated by imposing cess on diesel".

63. In this context, pleading before the Committee the Member (Traffic) stated :

"We want support of the Committee…… wherever infrastructure has developed, whether it is power or road sector railways is viable. So firstly infrastructure in that area should be developed. Central Government has taken a good decision regarding Highway Project. However on similar grounds a similar project should be developed for Railways as well. Then we can also expect remunerative fund. The Governments could grant us some strategic loans which could be utilized for development of routes and area where railways is not financially viable. For example, we have invested Rs. 2,500 crore on Konkan railway fund and we have to pay Rs. 300 crore per year for that. If we compare only expenditure and railway earning from the budget, then it is balanced. But we have to pay recurring charges of Rs. 300 crore for which we need grant. Hence, these projects would be run without grant or public service obligations…… These projects could also be subsidized".

64. During the evidence, the Member, Railway Board apprised the Committee as under :

"As we complete the non-viable projects our internal resource generation decreases. Railways bears losses in starting new railway lines. If we sanction any project which are non-viable but socially desirable it is damaging, we may consider an integrated development plan for the transport sector and the railway line should be a part of the integrated plan. Then the railway line would also be viable".

(III) NEW ALIGNMENTS / NEW LINES :

65. The Ministry of Railways apprised the Committee that capacity of a saturated route could be increased by opening alternative routes through new alignments apart from carrying out line capacity works. They also informed the Committee that based on the recommendations of the National Transport Policy Committee, they are now following a systems approach to take up new lines to enhance the aggregate capacity of the network. This has led to laying down of following criteria for the construction of new lines :

- Project – oriented lines to serve new industries for tapping mineral and other resources ;
- Missing links for completion of alternative routes to relieve congestion on existing saturated routes ;
- Lines required for strategic reasons ; and
- Lines for establishment of new growth centers or giving access to remote areas.

66. The Ministry of Railways further informed that new starts will be of two types, firstly lines recommended by Committee on Expansion of Railways Network (CERN) appointed by the Planning Commission in 1987-88 to prepare a perspective plan for the construction of new railway lines, and secondly, the lines required on strategic, and operational consideration during the plan period.

67. About the status of the works proposed by the CERN, the Ministry stated that the committee appointed by the Planning Commission has already identified the requirement of new lines on capacity consideration till the end of the 9th Plan. These lines cover a total of 2902 kms of new lines which were estimated to cost Rs. 2758 crore. Targets for new lines for the 9th Plan as per the approved plan size of Rs.45,413 crore in physical terms was 819 km. The actual achievement during the first 3 years of Plan is 410 km. During the year 1999-2000 , 167 kms of new lines were construded as indicated below :

Railway	**Section**	**Length (Kms)**
Eastern	Bongaon - Petrapole	8
Northeast Frontier	Goalpara – Kamakhya	124
South Central	Peddappali – Karimnagar	35
	Total	167

During 2000-01, 157 route kms of new lines were constructed as against the target of 217 kms for the year. The annual plan for 2001-02, 82 route kms of new lines are expected to be constructed.

68. However, the final decision regarding taking up of the new line projects for which the surveys are still in progress will be possible once the survey

reports become available. Even then, unless the survey reveal urgent operational needs for these lines, further new works may be taken only in the 10th Plan so that some of the ongoing projects get completed and the shelf becomes manageable.

69. The CERN made an observation that adopting project financing mechanisms cannot be replicated for gauge conversion or line doubling projects without an assessment of the traffic. This is because returns from such investments are proportional to such traffic movement. The higher the traffic, higher the earnings. When the Ministry of Railways were asked for their comments in this regard, the Ministry, in their written replies, stated that an essential component of the project financing mechanism is the Rate of Return (ROR) on investments made on the project. Higher the ROR, more beneficial the project is for the organization. In order to determine the ROR from Gauge Conversion or Line Doubling projects, the expected earnings from such projects has to be determined and cost savings in operation are also accounted. Earnings in such cases is directly dependent upon the additional traffic generated by this project. Therefore, an assessment of the expected traffic is absolutely essential for determining the financial implications of a project. However, mere diversion of existing traffic on an alternative route by itself does not increase the earnings creditable to the project, because this traffic would be accruing to the Railways even otherwise.

PRIORITISATION OF PROJECTS

70. Regarding prioritization of projects, the 9th Plan document stated that the tendency to spread resources thinly over a large number of projects has been a major problem in the railway sector for quite some time. There is at present a large shelf of ongoing projects which require a total expenditure of about Rs.34,000 crore to complete. The position relating to construction of new railway lines and gauge conversion projects is especially alarming. The financial requirement for completing all new line projects currently taken up by the railways is estimated to be above Rs. 19,000 crore whereas for gauge conversion the total requirement is over Rs. 9,000 crore. At the present rate of allocation even without considering the cost of escalation in future it will take about 40 years to clear the backlog for new lines and 11 years to complete gauge conversion projects.

71. Out of the basket of such projects, barely 10% are financially remunerative. In view of the above, funding of financially non-viable though socially relevant projects becomes a key issue which requires resolution and unless additional resources outside the Railway Plan are secured, there would be no prospect of such projects getting off the ground in a reasonable time frame. Since, the money is limited, we should utilize it at places from where the demand is sent to us and we get sufficient remuneration.

72. The tendency to take on a large number of projects leads inevitably to a very long completion period during which funds invested in the project earn no return and there are repeated cost over-runs. The investment strategy of the railways must therefore be reoriented to ensure speedy completion of the ongoing projects. Railway projects must be reprioritized to ensure that resources are allocated more rationally to bring about quicker completion of projects at a relatively advanced stage. New projects must also be deferred until resources justify expansion of projects.

73. During the oral evidence, the Chairman, Railway Board, also emphasized that :

> "If try to fund all the projects in hand, we may not be able to complete all of them…. We are trying to find only advance and critical projects and finalise these projects, even if the number of such funded projects are few so that at least these projects start remunerating Railways for their investment".

74. The Member (Traffic) also informed the Committee on this issue as under :

> "We are prioritizing those routes where there is traffic potential but capacity constraints have developed and routes, for example, there is Bombay-Virar-Baroda sector, which has become the most congested sector. We would like to invest money on the same. Likewise, there is Palanpur-Gandhidham section. We plan out our priority for the routes where demand of line capacity has increased or for which there is more remuneration than the projection so accordingly there is a change in our priority as well. Since, the money is limited, we should utilize it at places

from where the demand is sent to us and we get sufficient remuneration".

75. Elaborating the point further Financial Commissioner, Railway Board, Stated :

> "We have kept 14% internal rate of return as 7% dividend is to be paid to the Government apart from the other expenses. With savings after paying this 14%, can we get our schemes approved by Planning Commission and Central Government ….. Since unigauge policy has been introduced during the last two five year plans, the rate of return is more than 14% only in rare cases, in most of the schemes it is low".
>
> 'There are only 9 schemes in which rate of return is more than 14 per cent. In few schemes it is not even one per cent and in 3-4 schemes it is less than four per cent. If we keep on allocating funds for the development of backward areas to the socially relevant projects, we would not get the rate of return on our money".

76. During oral evidence Financial Commissioner, Railway Board, also stated :

> "If there are areas which are backward and where there is more passenger business only then that line is not justified. If the freight business too is involved, there is some scope in it."

He further added :

> "Generation of our internal resources are decreasing day by day due to our strategy during last 15-20 years. To meet growth rate of GDP we have to boost our infrastructure and to maintain our Plan size to the previous level of Rs.9,000 crore for which we are taking budgetary support of Rs. 3,000 crore where as borrowing Rs.3,400 crore from market and meeting our expenses from internal resource generation up to 69 % only. Our priority is

to invest money in such projects so that we could get early return".

MISSING LINK REQUIRED TO COMPLETE ALTERNATIVE ROUTES TO RELIEVE CONGESTION ON EXISTING SATURATED ROUTES

77. The Ministry of Railways stated that the Raxaul-Bhirganj extension will enable direct movement of Nepal bound container traffic from Calcutta/Haldia ports to Nepal. During evidence it was pointed out that the entire area of Indo-Nepal border has been left untouched and work of only about 3 km stretch has been completed. However, the Committee was subsequently informed during their on the spot study tour that a 4.62 km stretch of material modification to Muzzaffarpur Raxaul (till the end point / territory of India) was sanctioned in the year 1999-2000 at a cost of Rs. 11.23 crores. This project was targeted for completion in 2000-2001 and the line was commissioned on 29th April, 2001.

78. During the oral evidence, the Committee pointed out there were certain specific missing links on approved lines such as Jaynagar, Darbhanga, Narkatiyaganj which have been converted into broad gauge. Similarly lines from Darbhanga to Samastipur, Barauni and Patna have been converted into broad gauge but some lines have been left unfinished.

79. On being enquired about the justification of leaving these construction works unfinished after starting the work from both ends, Member Engineering, Railway Board, stated :

> "We release large amount for the priority projects and low amounts for other works. A very low investment is required during the first two-three years to complete the work of gauge conversion because we have to put some extra soil and a low amount is required to carry out work without dislocating line. Therefore, we prepare a list of priority projects for completion of project as per target. We complete the work by allocation of extra amount on the project in order to complete the work in the same year".

80. The representative of the Ministry of Railways further added :

"As you said it is an approved project, means it is there in the pink book for the gauge conversion. You are right but one needs to take approval of the cabinet to incur expenses under these projects. It is submitted in the Cabinet after getting the approval of Expanded Board. The clearance of the board has not been received as yet".

81. When asked to give the latest status of the project the Ministry of Railways in their post evidence replies stated the work of conversion of Jaynagar-Darbhanga-Narkatiaganj was included in the Budget 1997-98 to be taken up after obtaining the requisite clearances. The clearances has now been obtained and work has been commenced. The cost of conversion of this 268 km long gauge conversion project is Rs. 233 crore . Rs. 3.55 crore has been spent up to 31.3.2000 and Rs. 8 crore have been provided in the budget 2000-01. In the first phase, work has been taken up between Darbhanga and Jaynagar and earthwork is in progress and the entire length of 3 km length has been completed. Tenders for bridges on this section have been finalized and work is being started. Ballast supply is also in progress. In the next phase the work is being taken up between Darbhanga and Sitamari. Earthwork tenders have been opened. For the bridges tenders are being invited. From the above, it will be seen that the work is being progressed on the project. The work would be completed in the coming years as per availability of resources.

82. The Ministry of Railways further informed that no funds have been diverted from this project for this year to any other project. However, owing to lesser availability of resources, a 15% cut has been imposed on the entire plan expenditure and this would effect this work.

83. On being enquired about steps being taken by the Ministry to increase freight earnings in such sectors where they have gone down drastically due to partial / unplanned conversions in congested sections leading to delay in freight reaching destinations in time, the Ministry of Railways, in their written replies, stated that the earnings from freight traffic of the Railways have registered an increase in the recent past. However, there have been isolated cases where freight has suffered because of break of continuity in Metre Gauge. In such cases, further conversion to link such isolated areas are being planned.

84. Quoting a special case, the Member (Traffic) during the oral evidence stated :

> "We are doubling from New Jalpaiguri to New Bongaigaon. We are also taking up the patch lying in between. There is one Gonda-Gaorakhpur loop. That is a patch left over. On both sides we have double line. Our capacity will double if we complete that patch. But that patch is remaining, we are completing it".

85. When the Committee wanted to know about the gauge conversion work of New Jalpaiguri-Silliguri-New Bongaigaon ; the work on the branch line from Jogighopa to Guwahati and the work on New Mainaguri to Guwahati, the Ministry of Railways stated in their reply that the work on New Jalpaiguri-Silliguri-Bongaigaon project received the requisite clearances on 4-2-1999 and the work was taken up immediately thereafter. The work is being progressed on priority and is expected to be completed in 2003-04.

86. Further, the branch line from New Bongaigaon to Jogighopa has been in existence since 1965-66. The work on Jogighopa-Guwahati new line was taken up in 1983-84 year and has been completed in March, 2000. Telecommunication work and manning of operational facilities on this line is in progress. The line was to be commissioned in January, 2001.

87. The work on New Mainaguri to Jogighopa has been included in the budget 2000-01 after obtaining the requisite clearances. Final location survey has been taken up and once the alignment, work content and firming up of cost is done, land acquisition plans would be prepared and submitted to the State Government and the estimate would be processed for sanction. This will be followed by land acquisition. This procedure will normally take about a year. The work would be started once the land becomes available.

88. When suggested that construction of new line from Muzaffarpur to Sitamari should be expedited, the Ministry, in their post evidence replies, stated that the work of construction of this 63 km line is a sanctioned work. Final location survey for 60 kms has been completed and balance is in progress. Preparation of land plans & papers and other preliminary works are in progress. Earthwork in Sitamari yard for one km length has been completed. The work beyond it would be taken up once the land is made available by State Government. Papers for acquisition of 67.55 acres of land have been submitted

to State Government. This year, since no land is available for starting the work, an outlay of Rs. 10 lakhs was made in the Budget. The work would be progressed as per availability of resources and completed in the coming years.

89. On enquiring about the status of the final location survey on the Lohardanga- Tori section which has been reported to be in progress with a target date of completion as June 2000, the representatives from Railway Board, during the evidence, regretted the error in the papers submitted by the Ministry and informed that final location survey had been completed. The survey report was under finalisation and would be available by end of the year. In the meantime, preparation of land acquisition plans and papers had been taken up.

90. The Ministry in written replies informed that in the first phase for gauge conversion between Ranchi and Lohardanga, earthwork and bridges has been taken up. Work of casting RCC boxes in the existing arch bridges is in progress. Tenders have been awarded for one major bridge and are in progress for the remaining 3 major bridges.

91. Out of the total cost of 193 crore, Rs. 19.45 crore have been spent so far and Rs. 3 crore have been provided in the Budget this year. The work would be progressed to completion in the coming years as per availability of resources.

EXTENSION OF EXISTING RAILWAY LINES

92. The Ministry of Railways, while furnishing the details of the extension of existing railway line works taken up, have stated in their replies that, there are only three projects involving extension of existing Railway lines i.e., Miraj-Latur line of Central Railway up to Latur Road, Mankapur-Katra line to Faizabad and Sagauli-Raxaul line to Birganj (Nepal) on NE Railway.

93. The work of Miraj-Latur gauge conversion and extension from Latur to Latur Road was included in the Budget 1993-94. The work on this extension is in good progress. The extension of Miraj-Latur to Latur Road when completed would provide an alternative route between Hyderabad and Mumbai and to that extent will help in easing the congestion on the existing lines. Formation and bridges are ready and the section can be commissioned in about a year's time subject to availability of resources. However, since the extension will be operationally useful only when Latur to Kuruduwadi conversion is opened, it is proposed to open both the sections together in the coming years as per availability of resources.

94. The work of Katra-Faizabad line was included in the Budget 1994-95. Land acquisition has been nearly completed and 90% earthwork has also been completed. Work on the main bridge is in good progress. Work will be progressed to completion as per availability of resources in the coming years. The extension of Mankapur-Katra line to Faizabad will provide a direct link from Jabalpur and Allahabad to Gonda, Gorakhpur and other stations in North U.P.

95. Work of extension of Sagauli-Raxaul line to Birganj was taken up in 1999-2000. The work is being executed by M/s. IRCON. 50000 cum earthwork and bridge Nos.2,4 & 5 have been completed. Work on bridge Nos.1,3 & 6 is in progress. Ballast and sleepers supply is in progress. The work is targeted to be completed during the current financial year.

96. The Ministry of Railways have, however, informed the Committee that the rate of return expected is negative in above projects.

EXTENT OF DECONGESTION DUE TO NEWLY CONSTUCTED ALTERNATIVE ROUTES

97. When asked to what extent newly constructed alternative routes have reduced decongestion of existing railway lines (Zone-wise), the Ministry of Railways in post-evidence replies stated as follows:

> "Some of the new lines commissioned recently have helped in the development of alternative routes for decongesting the existing routes.
>
> Konkan Railway which was completed and commissioned in 1998 has provided an alternative North-South route on the West Coast.
>
> Mathura – Alwar new line in conjuction with Gauge Conversion of Alwar – Rewari – Bhatinda section has helped in diverting coal traffic for Punjab Power Houses from Mathura – Delhi trunk route to the new line and the newly converted line.

Koraput – Rayagada new line has given relief to Koraput – Kottavalasa ore carrying route on South Eastern Railway.

Talcher – Sambalpur new line is an alternative to the Sambalpur – Vizianagaram – Khurda route.In addition, ongoing work of Banspani – Daitari and Haridaspur – Paradip new line will provide an alternative and shorter route for iron ore from Banspani area to Paradip Port.

Panvel – Karjat ongoing new line work will help in providing an alternative outlet for south bound traffic from Jawaharlal Nehru Port".

B. ELECTRIFICATION

OBJECTIVES

98. The Ninth Plan Working Group on Railways in their Report have stated that the objectives of Railway Electrification in the IX plan was to complete the on-going works, to take up electrification of the remaining un-electrified sections of the golden quadrilateral as also to cover certain missing links. A total of 2334 route km of railway electrification was planned in the IX Plan. The actual achievement regarding route kilometers of electrification during the first four years of the 9th Plan is 1677 km. It is proposed to electrify 350 kms of Railway line during 2001-02. The total outlay provided fro 2001-02 for Electrification of projects is Rs. 225 crore. Emphasis has also been laid on strengthening overhead equipment to meet requirements of heavy haul freight trains and longer passenger trains at higher speeds

99. Electric traction is a pollution-free and energy efficient mode of transport and offers an excellent alternative to fossil fuels as a source of energy. At present, out of the seven major trunk routes connecting Mumbai, Kolkata, New Delhi and Chennai, five are fully electrified and work is in progress on the other two viz., Mumbai-Chennai and Kolkata-Chennai.

100. About 24% of the total route kms on IR is electrified. Of the total electrified route kms., 1,379 route kms are on the suburban sections and the

balance 13,605 on heavy density freight routes. During 1999-00, 44% of passenger train kms and 61% of the BG freight gross tonne kms. were operated on electric traction.

101. Over the years, progress of electrification on IR has been as under:

Period	**Routekms. electrified**
Upto Five Year Plan(1990)	9252
Annual Plans	1557
VIII Plan (1992-97)	2708
Five Year Plan (upto 99-00)	1467
Total as on 31st March, 2000	**14,984***

- Also includes 723 electrified route kms not yet opened to traffic.

ELIGIBILITY FOR ELECTRIFICATION

As a matter of policy, subject to availability of resources, a route is considered eligible for electrification, if the financial return on the capital investment in Railway Electrification as compared to diesel traction in accordance with specified norms, works out to 14% or more. The main factors in the cost benefit analysis of a route for electrification are the traffic density and the relative cost of operation by diesel and electric traction. In calculating this, the relative price of diesel oil and electrical energy are a vital factor. Diesel oil price is presently an administered price close to the actual costs. Tariff for electric traction, on the other hand, is the highest when compared to that for all other consumers and is around 3 to 4 times the normal cost of generation. Since the rate of financial return to take up electrification is calculated on the actual cost of diesel and electricity, the actual economic rate of return is much higher.

However, in certain specific cases, electrification is also taken up on considerations of operational flexibility.

IMPACT OF ELECTRIFICATION ON DECONGESTION

102. Regarding the impact of electrification on decongestion of existing routes, the Ministry of Railways have stated, in their Memorandum, that the studies carried out by LRDSS Group in the Railway Board have revealed that decongestion of existing routes to the extent of about 15% is possible by

electrification of tracks due to increase in line capacity. In addition, electrification modernises the Railway system by introducing modern signalling and telecommunication, which also enhances the line capacity further.

ELECTRIFICATION PROJECTS ON CONGESTED ROUTES

103. Electrification works are already in hand on the following major routes :

(i) Kharagpur-Bhubaneshwar-Visakhapatnam (East Coast Line);
(ii) Renigunta-Guntakal (One part of golden quadrilateral); and
(iii) Ambala-Saharanpur-Moradabad (Part of 'B' route).

104. It is further proposed to extend electrification from Guntakal to Pune via Wadi and Sholapur to provide electrified route between Chennai and Mumbai (non-electrified leg of golden quadrilateral) and also to extend electrification from Moradabad to Lucknow and Mughalsarai to complete 'B' route of Northern Railway. This will provide relief to heavily congested 'A' route i.e., Mughalsarai-Kanpur-Ghaziabad.

105. In this connection, the Ministry of Railways stated that no further Electrification work has yet been proposed to be taken up on congested routes. However, cost-cum-feasibility survey of the following sections has been completed as follows :

Sl. No.	Section
1.	Ludhiana - Jammu Tawi
2.	Itarsi-Allahabad
3.	Mughalsarai-Varanasi-Allahabad
4.	Koraput-Vizianagaram
5.	Bina – Kota
6.	Kengeri – Mysore
7.	Pune-Wadi-Guntakal
	(i) Pune – Sholapur
	(ii) Sholapur – Wadi
	(iii) Wadi – Guntakal
8.	Pagidipalli – Nadikudi – Nallapadu
9.	Sanatnagar – Wadi

106. On being asked about details of electrification work proposed to be taken up on Guntakal to Pune via Wadi & Sholapur, the Ministry categorically stated that this proposal has not been considered.

107. The first phase of the electrification work of Mughalsarai – Sultanpur-Lucknow- Moradabad consisting of Mughalsarai-Zafrabad section has been approved in the 1999-2000 Budget subject to requisite clearances. The project was discussed in the Expanded Board meeting on 13.10.2000 and the consideration was postponed to the next meeting of Expanded Board with the Planning Commission.

108. When the Committee pointed out during the evidence that the electrification work has been left halfway through at many places resulting into blocking the investment with no returns/pay backs, the Member (Traffic) explained before the Committee:

> "At the time of electrification priority is given to double line routes such as Kolkata- Chennai routes. This is most important route, we have given it first priority. We give second priority to single lines and first justify them for doubling. While we prioritise them, there are certain gaps left out."

109. When pointed out that these gaps should be bridged to obtain the desired benefits of such huge investments, the Chairman, Railway Board responded.

> "There is controversy about the benefit accruing from diesel vis-à-vis electric traction. As directed by the Hon'ble Minister we are constituting a Committee to examine relative benefits of electrification and diesel traction."

He , however, confessed :

> "If we would have gone route-wise in gauge conversion or requirement-wise in electrification, we would have avoided these breaks.

PAYMENT OF CHARGES ON ELECTRIC TRACTION

110. Drawing the attention of the Committee to the higher payment of tariff which the Railways have to pay for the electric charges on the traction, the Member (Traffic) stated:

> "We are being charged much higher than even the high-tension consumers, who are charged more than their generation cost. The actual recovery of charges from the Railways is as high as three times to four times the cost of generation."

111. On being asked about the average rate the Ministry of Railways have to pay per unit, the Member (Traffic) stated:

> "It varies. It is as high as Rs. 4/- or Rs. 5/- per unit. If we are able to get from the State Electricity Boards a charge equal to what they charge from the high tension consumers, then we can save Rs. 1,000 crore on our traction bills."

112. The Chairman, Railway Board, added that :

> "There is a high tension consumer industry. He is charged certain tariffs. His uses may be 5 KWs of power. The Railways are the major consumers. The major consumer gets a rebate. He does not pay on a premium. Now, that is what is happening that the Railways pay the money in time and they are being charged two or three times the cost which an industrialist is being charged for. I am not talking of the farmers. I am talking of the Industrialists. We are being charged two and a half times to three times though we are paying our dues."

113. However during the Study Tour of the Committee to Thiruvananthapuram, the General Manager, Southern Railways had informed that for electrification of track in Kerala a Committee with Member (Engineering), Railway Board and the Chief Engineer, Southern Railway who has been appointed as Liaison Officer would be liaisoning with Government of Kerala regarding supply of electricity.

114. The Financial Commissioner explained as follows :

> "I think, we have had in the past a kind of role model performance from the State of Kerala because most of their power is hydro electric power. Their cost of generation is less. They offered us some incentives – lower tariffs for five year period so that electrification could be progressed. And we have done electrification right up to Ernakulam. In fact, this is an example which we would like other States also to follow. For example, if they can supply us power at 40 paise or 60 paise, we would be only too glad to do electrification in those areas and ultimately save money. The cost of generation of most of these Electricity Boards, plus whatever rate at which they are buying it from the NTPC, is only around Rs. 1.50 per unit. There are transmission losses, there are distribution losses and there are various other compulsions with the State Governments – rural electrification and many other things – but ultimately what we are interested in is that let there be a reasonable rate. If they are buying it at Rs. 1.50 or Rs. 2, they can offer it at Rs. 3 to us. We do not mind paying that. But if the Madhya Pradesh Electricity Board gives us at Rs. 5 plus, that is a little difficult for us."

115. The Committee pointed out that the cost of production of electricity from hydro sources and coal is different and it varies from State to State. They emphasized that expenditure on production of electricity and rate they charge varies from State to State, so the Railways should come with a reasonable, concrete proposal which should not be disputable with the States. Quoting example of Kerala, the Committee pointed out that Railways have been requesting a rate much lower than the cost of production in the State.

OUTSTANDING DUES OF RAILWAYS ON SEBS

116. The Ministry of Railways furnished the following position of outstanding dues recoverable from of the State Electricity Boards (SEBs) :

OUTSTANDING POSITION OF SEBs (Figures in Crore)

Year	Total outstanding Dues	Outstanding dues Against SEBs	%age of Column 3 to Column 2
Dec 1996	1422.73	1061.28	74.59
March 1997	1191.53	927.22	77.82
March1998	1175.30	928.86	79.03
March 1999	1401.47	1139.91	81.34
March 2000 (approximate)	1582.84	1321.81	83.51

117. Elaborating upon an important aspect regarding huge amounts locked in the outstanding over dues on SEBs, the Ministry in a written reply stated that Power house outstandings have always been a significant chunk of the total outstandings position of Indian Railways and ranges between 74.59% and 83.51% of the total outstandings in the period December 1996 and March 2000.

118. During the evidence, the Chairman Railway Board pleaded before the Committee for their support to recover overdues from SEBs :

"We have dues from the State Electricity Boards for the coal transportation. They owe us Rs. 1600 crore. We are waiting for this money. Badarpur owes us Rs. 992 crore and all other State Electricity Boards put together it comes to Rs. 1600 crore. If we get the money back, then the Railways can invest. That is the money only on the books. Now, this is the situation where not only are the Electricity Boards charge us so much, at the same time they are not even paying us for the coal freight."

(D). ROLLING STOCK

141. An expenditure of Rs.4013.00 crore is proposed in 2001-02 on Rolling Stock of which Rs. 3791.46 crore are for programmed deliveries of Rolling Stock already on order and Rs. 221.54 crore for new acquisitions, as detailed below :

(Rs. In Crore)

	Against earlier programme	Against 2001-02 Programme
Locomotive	999.73	118.44
Boilers and others	1063.57	34.74
Carriages	1219.12	67.61
Wagons	46.73	0.75
Cranes	262.31	---
Track machines	200.00	---
Total	3791.46	221.54

(i). Higher Capacity Wagons/Coaches

142. The Ministry of Railways have stated that nearly 1900 container wagons with a speed potential of 100 kmph have already been introduced. Order exist for the procurement of 1320 more such wagons by M/s. CONCOR. With the introduction of these wagons, the running time of container wagons between Delhi and Mumbai has already come down from 102 hrs. to 43 hrs.

143. In addition to the above, 300 BOXNHA wagons (5 rakes) have also been procured with a higher speed potential of 100 kmph. These are open wagons used primarily for the movement of coal. The wagons are being used on Dhanbad – Panki, Dhanbad – Harduaganj, Dhanbad – Dadri and Dhanbad – Badarpur routes initially, on trial basis. It is also proposed to procure 5 rakes of similar high speed open coal wagons BOXNHS during 2001-02. A

proposal to retrofit existing BG air brake wagon fleet with high speed bogies during POH is under active consideration.

(ii). More Wagons/Coaches per train

144. On being asked whether alternative steps have been taken to reduce the problems of existing density routes e.g., by attaching additional coaches to the existing trains etc. The Ministry of Railways in their written reply stated that increasing the passenger carrying capacity of existing trains by introducing additional coaches has been started in a major way by the Railways.

(iii). High Horse Power Locomotives

145. High horsepower electric locos have already been inducted in the system. Initiatives have also been taken to induct high horsepower diesel locomotives. Action is also being taken to improve the speed potential of wagons to100 kmph.

146. When asked how far the high horse power electric locos, which have already been inducted in the system, have helped in creating additional capacity, the Ministry of Railways in their written reply stated that the 'state-of-the-art' high horse power electric locos provide higher acceleration, haul heavier loads at higher balancing speeds and are more reliable in

service. Its unique feature of regenerative braking, apart from providing energy saving, enables the train to restart immediately after braking, thus reducing overall running time. High horse-power passenger loco (WAP5) is capable of hauling 26 coach train at balancing speed of 140 kmph as against 100-120 kmph achieved by conventional locos (WAP 1/4). High horsepower freight loco (WAG9) is capable of hauling more than 6000 t loads at 100 kmph and 4700 t loads at balancing speed of above 100 kmph on level track as against 70/90 kmph achieved by a conventional WAG5/WAG7 locos for 4700 t load.

147. These superior features of high horse power loco contribute in enhancing line capacity of a section. On Indian Railways, only a small number of high horse power electric locos have so far been inducted in the system. A small fleet on a system where most of the trains are still being worked by locos with lower capabilities (horse power) cannot make any perceptible diffence in line capacity of a section. However, with successful transfer of technology (TOT) from ABB, CLW have already started manufacturing high horsepower electric locos indigenously for deployment in Railways. The actual impact of these locos on line capacity on a section/route shall be known when sufficiently large number of such locos are inducted in the system. The Ministry informed the Committee that increased investment on locomotives, including higher HP locos, would go a long way in speeding up freight movements and optimizing the utilization of wagons, as well as line capacity.

(iv). Developing Alternative Railway Stations/Terminals

148. One of the objectives of the IX Five Year Plan was generation of adequate rail transport capacity for handling increasing freight and passenger traffic with special emphasis on development of terminals.

149. The Ministry of Railways have stated that at the end of the IX Five Year Plan Railways are expected to carry approximately 333 Billion Tonne Kilometers of freight traffic and 469 Billion Passenger Kilometers of passenger traffic. Railways are making earnest efforts to handle the expected increase in traffic by upgrading the existing coaching and freight terminal facilities and providing new terminals wherever necessary within the available resources.

150. The Committee pointed out during evidence that there has been congestion at terminals due to which there is a long waiting period for passenger trains. When asked about the specific proposal/the concrete action taken by the Ministry of Railways in this regard, the Member (Traffic) explained:

> "The second point is our passenger terminals. If I am introducing passenger trains. I have to have more platforms and maintenance facilities. We have not been able to get enough money for this queuing phenomenon for traffic. Even in important regional sectors, we are having the problems of congestion."

151. The Member (Traffic) further elaborated that :

> "Under the head `Traffic Facility Works', we have now put more money on development of terminals. This we are doing both for freight terminals as well as for passenger terminals. There, the main thrust is to have more platforms, more stabling lines, and more maintenance pits. One pit can at the most maintain three trains in a day. So, when more and more trains are getting introduced, we have to develop those facilities. That is required primarily on safety

consideration. Therefore, we have taken action on this also. But one point that I want to mention about the States' contribution is that in the State of West Bengal, they found that if they put money for the development of their roads vis-à-vis investment in the Railway infrastructure, it will be better spent if they put it for the development of the railway network."

(v) Raising levels of Platforms

152. During the oral evidence it was pointed out that when gauge conversion is done, the level of platform is not automatically raised. The Ministry, in their post evidence replies, stated that the level of platforms to be provided on a section depends on the level of traffic and when gauge conversion is done, the level of platforms are not automatically required to be raised. On the Indian Railway system there are a large number of BG stations having rail level /low level platforms and raising them would involve a huge expenditure, for which the resources are not available. The Railways are, however, striving to upgrade the facilities at stations keeping in view the levels and the availability of resources and the stations on this section would also be given due consideration for upgradation of the facilities including level of platforms keeping in view the traffic to be handled and availability of resources".

153. The Committee note that the Ministry of Railways declare a line saturated when a line exceeds the chartered capacity to carry a certain number of trains each way during a period of 24 hours and that capacity depends on the speeds of the different

trains operating on the section, the gradients, the standard of signalling and interlocking, the distance between crossing stations and daily maintenance block. In accordance to the Railway Board's directives a total line section is deemed to be saturated at 90 per cent utilization of chartered capacity after accounting for a mandatory maintenance block of 4 hours. Likewise a single line section is considered saturated when capacity utilization exceeds 80 per cent.

The Committee find that the Golden Quadrilateral connecting the four metropolitan cities of Mumbai, Delhi, Kolkata and Chennai and the two diagonals comprising 15.8 per cent of the total network, carries in excess of 50 per cent of the total freight transport output and 47 per cent of the passenger traffic. The Ministry of Railways have informed the Committee that this high density network is today totally saturated and needs massive doses of investment in its basic infrastructure, particularly because future growth is also projected by industry, trade and business interests along these very corridors. In addition to these routes, there are other freight and passenger intensive sections where there is saturation as far as line capacity utilization is concerned. Keeping in view the above facts, the Committee are of the firm view that the Ministry of Railways will have to develop alternative routes for decongesting existing routes by creation of additional capacity by gauge conversions, doubling or laying multiple lines, new alignments, electrification, upgrading standard

of signalling and interlocking, splitting long block sections, automatic signalling, introducing air brakes, increasing average speed, creating speed differentials, procuring higher capacity wagons/coaches, adding of more wagons/coaches per train, procuring high horsepower locomotives and developing alternative railway terminals/station facilities. They also desire the Railways to take timely steps, in case of nearly saturated routes, well in advance to create additional capacity and reduce multifarious problems being faced by the saturated routes today. The Committee recommend that a well defined plan be formulated for decongesting the existing saturated /near saturation routes.

154. The Committee find that the Railways have been facing acute financial crunch for the last so many years. While the Railways have been taking measures to improve their performance in movement of freight and passenger traffic, yet they are unable to create sufficient surpluses. After an in-depth study, the Committee find that there is a huge shelf of projects costing about Rs. 35,000 crore while the closing balances in various funds of Railways are very meagre. The Ministry of Railways have not even been in a position to pay dividend in full to the General Exchequer for the last two years and its payment, to the extent of Rs. 1500 crore in 2000-01 and Rs. 1000 crore in 2001-02 has been deferred. It is more disturbing to the Committee that the Ministry of Railways have been taking up new projects without completing the earlier ones, The

money spent on these projects is also thinly distributed with the result that they are not in a position to earn revenue or bring benefit to the people by completing a project. Although all the pending projects are supposed to have been prioritized by the Government, the priority of these projects have been kept changing with the change of Government at the Centre or with the change of Railway Minister. The Committee recommend that the Ministry of Railways should make concerted efforts to increase generation of their internal resources and at the same time should complete the projects which are nearing completion by investing sufficient funds so that the nation could reap the benefits of huge investments made on these projects. The Committee emphasize that the existing projects should be reviewed critically and prioritized after realistic assessment in terms of their status of completion, financial viability and achieve optimum utilization of scarce funds. The Committee are also of the firm opinion that the priorities once fixed should not be changed except in the larger national interest or on strategic considerations.

155. The Committee are perturbed to find that at the time of introduction of Project Unigauge, conversion of MG and NG lines was done as a part of policy without going into their financial viability or operational priority. In this connection, they find that the Gondia - Chandafort – Ballarshah (252kms) line in Nagpur Division of South-Eastern Railway was converted and connected to Ballarshah after investing a huge

amount of scarce resources. This alternative route has a potential of six trains each way but is being used for only two pairs of passenger trains per day. As this line is very much under-utilised, the Committee recommend that the Railways should make proper utilization of this line by introducing some more goods trains / diversion of traffic for South bound trains. The Committee would also like to know the efforts made in this regard within the next three months. Capacity utilization of similar other lines should also be enhanced under intimation to them.

156. The Committee observe that the missing links on approved lines such as Jaynagar – Darbharga - Narkatiya Ganj and Darbhanga to Samastipur, Baramuni and Patna, including a stretch of 3 kms in between, needs to be completed at the earliest. Some other lines such as Gonda-Gorakhpur loop and a line between New Jalpaiguri to New Bongaigaon have also been left incomplete.

The Committee are perturbed to find that on certain other sections also gauge conversion works were carried out leaving small patches incomplete, thereby leading to non-utilization of the entire line. There have also been cases where freight has suffered because of break of continuity in Meter Gauge. The Committee are unable to comprehend as to why the Railways could not complete these lines by converting these small stretches into BG. The Committee strongly recommend that the work should be

taken up in these areas and completed at the earliest so that the entire line starts functioning. This would help in decongestion of the saturated routes apart from ensuring free movement of freight traffic. The Committee may be kept apprised about the progress of these projects from time to time.

157. The Committee find that on certain double line sections, which are saturated after accounting for maintenance block, line capacity utilization is as high as 142%. They are apprehensive that in such cases of high line capacity utilization, safety considerations must have been compromised. The Committee would caution the Ministry of Railways to utilize the line capacity only to the extent it does not affect the basic safety norms and affect human life and/or loss of public property. They desire that compliance to safety norms by the Railways be given priority while the lines are optimally utilized. The Committee hope that in such cases the Government must have adopted other alternative measures to augment line capacity on saturated high density corridors. They may be apprised of the specific measures taken / planned to be taken by the Government to decongest these busy routes while keeping the safety norms in mind.

158. The Committee note that the Ministry of Railways assess volume of traffic through surveys, which is an ongoing process. In order to derive benefits from the latest information techniques, a Long Range Decision Support system has been evolved for

forecasting traffic trends on Indian Railways. Forecasting an accurate traffic trend on a particular route would help the Railways in planning for alternative measures / routes in case of decongestion. The Committee would, however, like to know the extent to which these techniques are being used by the Indian Railways in forecasting traffic trends accurately.

159. During the evidence, the Committee were apprised that based on traffic potential and capacity constraints, a large number of projects are unremunerative, particularly in backward areas. However, these projects are socially desirable. The Committee are of the opinion that such non-viable projects reduces the scope for internal generation of resources by the Railways. They are of the firm view that the prevalent practice in the Railways to liberally sanction projects (commercially viable and non-viable) without ensuring availability of the requisite funds for their completion and commissioning has to be curbed. The Committee stress that this kind of callous attitude only leads to spreading the scarce resources thinly. They are of the considered view that adding of new projects in the Railway's existing shelf without correspondingly making funds available would be disastrous to the financial health of the Railways. The Committee stress that projects which are unviable but socially desirable be taken up only when matching funds are assured both by the Planning Commission and the Ministry of Finance.

160. The Committee appreciate the categorical announcement of the then Minister of Railways in her speech that no new projects would be taken up in the year 2001-02. However, from the Budget for the year 2001-02, they note that an amount of Rs. 736 crore is proposed to be spent on various projects in the name of material modification. The Committee, therefore, strongly recommend that henceforth a temporary ban should be imposed on fresh projects, including the expansion of existing projects, in the name of material modification without ensuring availability of requisite funds.

161. The Committee note that the Railway Board had requested the Government for creation of infrastructural development funds by the Finance Ministry on the analogy on which National Highways Fund has been created. The representatives of the Ministry of Railways have submitted to the Committee during evidence that in case such a fund was created for them, they would be committed to deal with freight and passenger business entirely on their own. They also emphasized that if non-lapsable Infrastructural Development Fund was also created for them, it will not only enhance their share in the transport sector but also help in funding projects relating to doubling of lines, enhancement of loop-lines, improvement in signalling etc., which would in turn improve line capacity utilization. This would in turn help in decongestion of heavily congested routes. The Committee desire that the Ministry of Railways should carry

out a detailed study in the matter in consultation with the Ministry of Finance. They also recommend that the Ministry of Railways should incorporate the proposal for creation of such a fund in their Memorandum on Rate of Dividend and other ancillary matters, so that this proposal could be examined by the Committee in-depth.

162. The Committee find that though railway transport is 5 to 6 times more energy efficient, cost effective and eco-friendly as compared to road transport, the share of railways in movement of goods and passenger traffic has declined significantly from 1950-51 to 1996-97 (89 per cent of goods traffic to 40 per cent and 80 per cent of passenger traffic to 20 per cent). During the evidence, representatives of the Ministry of Railways, had pleaded before the Committee that wherever infrastructure has developed viz., power or road sector, it has became viable. Hence, it has been suggested that any project, which is non-viable but socially desirable, should be considered as part of an integrated development plan for the transport sector by the Government. The Committee, therefore, desire that the matter may be referred to the Ministry of Finance and the Ministry of Surface Transport for their consideration. The Ministry of Railways should also persuade the above Ministries for an integrated development plan so that road and railway sectors may supplement each other in the development of an area.

163. The Committee recommend that fiscal and other mechanisms have to be developed to stimulate the flow of private capital into the rail sector without correspondingly generating intolerable burden of market interest rates and unmanageable debt trap.

The Committee observe that there are a number of projects at hand which are uneconomical in terms of low level traffic and do not justify their funding. With opening up of economies, such areas are opened to private operators, at times by giving concessions on long term basis. The Committee feel that Railways could make serious efforts in involving the private sector in the creation and maintenance of Railway network and assets. Some concrete measures have to be taken in this direction as private money is likely to shy away because of the high risk factor. With private sector involvement, Railways could bring more efficiency, provide better services and market for more traffic. The Committee, therefore, suggest that on experimental basis initially some pilot projects could be started on some of these routes.

164. The Committee find that electrification modernizes the Railway system by introducing high speed locomotives, modern signalling and telecommunications which in turn enhances the line capacity. Electrification of tracks can increase the capacity of the existing congested routes to the extent of 15 per cent. The Committee observe that

electrification work had been left half way through at many places resulting in blocking huge investments. The Committee recommend that the gaps left on various projects relating to electrification of tracks should be completed at the earliest. They are convinced that once this work is completed, the returns will start flowing to the Railways and in turn help in increasing internal generation of resources apart from increasing line capacities on the congested routes.

165. The Committee were also apprised that there exists a controversy about the relative benefits of electrification vis-à-vis diesel traction. However, the Chairman, Railway Board, informed that at the instance of the Railway Minister, a committee was being constituted to assess the relative benefits of electrification on diesel traction. The Committee are keen to know about the status of the committee so constituted and whether that committee has submitted its Report to the Government. In case the Report has been submitted, its findings and recommendations may be intimated to the Committee.

166. The Committee were informed that the Ministry of Railways had to pay much higher tariffs for electric traction which is even more than the high tension consumers. In some cases, the tariffs are as high as three to four times the cost of generation of electricity. It is so, in spite of the fact that the Railways are the major consumer and

they make payments in time. Instead of getting a discount they were made to pay much higher rates than that charged from the industrialists. The Committee recommend that for payment of electricity charges Railways should be treated on par with the bulk consumers and they should be charged at a reasonable rate , depending on the cost of production of electricity in a particular State.

167. The Committee are disappointed to note that a huge amount of Rs. 1321.81 crore being about 83.51 per cent of the total outstanding dues of the Railways was outstanding against State Electricity Boards in March, 2000. A handful of errant power houses viz., Badarpur Thermal Power Station, Delhi Vidyut Board, Haryana Power Generation Corporation Limited and Punjab State Electricity Board together constitute 93 per cent of these total outstandings. Though, the Ministry of Railways, based on earlier recommendations of this Committee, have been able to reduce the outstanding dues to some extent after adoption of prepayment scheme by all SEBs, the Committee is constrained to note that BTPS (which alone forms 72 per cent of SEB outstandings) has not complied with the system and has further added to the outstandings. The Committee, therefore, recommend that the Ministry of Railways should approach the Cabinet to impose higher rate of cut from the Central Plan Assistance to the State Electricity Boards, which are heavily defaulting.

The Committee also reiterate their earlier recommendations that the amount recoverable from the State Electricity Boards, etc., should be adjusted against their future power tariff bills. The Ministry of Railways should continue and ensure strict adherence to the cash and carry scheme for all consignments to be booked in future to curb fresh accruals to freight outstandings.

168. The Committee are of the firm opinion that the Railways must look for alternative methods to increase capacity of the existing network to take care of the increase in traffic instead of investing in new lines, which are capital intensive with larger gestation periods. More so because the Railways are facing a financial crunch. Automatic signalling leads to better train management and ensures that the idle time of rolling stock is reduced to the minimum as trains follow each other in quick succession. The Committee also find that while the cost of laying a new line can be up to Rs. 2 crore / route km, automatic signalling requires just Rs. 12 lakh to Rs. 14 lakh/ route kilometre for a double line section. With automatic route setting and signalling, rail traffic can be optimized at the central traffic control to get the best out of the network. The present manual system is cumbersome and leads to greater detentions, especially in slow moving traffic. Bringing down the difference in average speeds of goods and passenger trains and reduction in turn-round time of goods trains, also enhances the existing line capacity.

The Committee recommend that the Railways should concentrate on introducing advanced signalling network, reduce the speed differential between different trains and increase traffic on the line to increase line capacity of the existing network. They also recommend introduction of modern technology so that the exact location of every train is known and centralized traffic control is promoted to manage trains with different speeds according to their priority. The Committee also stress for faster turn round time, so that rolling stock on trunk routes could be utilized better for more loading, leading to more revenues for Railways, apart from reducing pressure on the system.

169. The Committee appreciate the concept of 'Shadow goods trains' and faster moving rakes developed by Railways to reduce congestion. They were apprised that on several sections goods trains follow fast moving passenger trains reducing travel time by half. They would like to know the extent to which congestion has been reduced in high density network by following this concept. The details of congested routes on which such shadow goods trains have been introduced should also be intimated to the Committee. They recommend that this concept should be utilized on most of the congested routes to reduce travel time of goods/passenger trains.

170. The Committee observe that there is heavy congestion at terminals and long waiting periods for passenger and freight trains. They feel that the very purpose of decongesting congested line/routes is defeated if the terminals are left congested. The Committee feel that the main thrust should be to have more platforms, more stabling lines, more maintenance pits, etc. They emphasize that these facilities should be developed consistant with introduction of new originating trains from the terminals. This is a prime requirement not only to decongest the congested terminals but also on safety considerations. The Committee, therefore, recommend that a blue print of the specific steps taken by Ministry of Railways to handle the expected increase in traffic by upgrading the existing coaching and freight terminal facilities and providing new terminals be brought out and placed before the Committee within a period of six months.

171. The Committee observe that high horse power electric locos provide higher acceleration, haul heavier loads at higher balancing speed and are more reliable in service. They find that its unique features of regenerative braking enables the train to restart immediately after braking. Apart from being energy saving, it reduce overall running time. The Committee were informed that the actual impact of these locos on line capacity at a section / route shall be known when large number of locos are inducted in the system. As the superior features of high horse power loco contribute in enhancing line capacity of a section, the Committee recommend that with transfer of technology

(TOT) from ABB, CLW should start manufacturing high horse power electric locos indigenously for deployment in the Railways on a larger scale.

172. The Committee find that even though some routes have already reached the chartered capacity, then a number of new trains have been introduced and frequency of the existing trains increased on these routes. They feel that this will compound the problem of the existing high density routes by interrupting and slowing down traffic significantly apart from causing safety hazards. They, therefore, recommend that the Ministry of Railways must conduct a detailed exercise to assess the line capacity before introducing new train services or increasing frequency of existing trains on saturated routes.

APPENDIX-I

(Vide Para 23)

ACTION PLAN OF GAUGE CONVERSIONS

(as on 1.4.2001) (All figures in Km)

State	MG/NG on 1.4.92	Identified in Action Plan	Further identified for conversion	Total identified for conversion	Total km converted as on 1.4.2001	Lifted as on 1.4.2001	MG/NG as on 1.4.2001	Works in progress	Km which will be lifted	Total kms which will get converted/ lifted	Balance MG/NG sections
A	B	C	D	E	F	G	H	I	J	K	L
A.P.	1519	1226	293	1519	911	0	608	570	570	1481	38
ASSAM	2258	1438	399	1831	828	0	1430	568	568	1578	680
BIHAR	1751	450	1005	1455	297	67	1387	764	764	1136	615
DELHI	27	27	0	27	24	0	3	3	3	27	0
GOA	79	75	0	75	75	0	4	4	4	79	0
GUJARAT	3571	684	869	1553	329	0	3242	1242	1242	1571	2000
HARYANA	616	616	55	671	376	0	240	167	167	543	73
H.P.	244	0	0	0	0	0	244	0	0	0	244
KARNATAKA	2407	1717	462	2179	1663	0	744	744	744	2407	0
KERALA	114	101	0	101	0	0	114	101	101	101	13
M.P.	1447	730	0	730	56	0	1391	444	444	500	947
MANARASUTRA	1981	844	359	1203	672	0	1309	516	516	1188	793
PTJNJAB	170	103	0	103	96	42	32	0	0	138	32
ORISSA	143	0	143	143	0	0	143	143	143	143	0
RAJASTHAN	4591	3249	396	3645	1851	95	2645	883	883	2906	1685
T.N.	2907	1632	321	1953	900	32	1975	1298	1298	2292	615
U.P.	2695	1527	869	2396	675	35	1984	1055	1055	1767	927
W.B.	830	238	108	345	36	0	794	311	311	434	396
TOTAL	27349	14657	5279	19936	8789	271	18289	8813	8813	18291	9058

MG Lifted to be lifted		Already lifted	To be lifted
Assam	New Bongaigaon-Kamakhya		182
Bihar	Samastipur-Barauni Thanabihpur-Mahadeopur Ghat Hajipur-Sonepur Khagaria-Mansi		
	Kotakapura-Bhatinda		8
Punjab	Sanganer-Todarai Singh	42	
Rajastban	Aunrihar-Varanasi Mau-	95	21
U.P.	lndara Tuticorin-Maniyachi Barsoi-	35	56
T.N.	Aluabari	32	2 62
W.B.	Mau-indara Tuticorin-Maniyachi Barsoi-Aluabari		87
Total		204	418

Appendix – II
(Vide Para 23)

The following sanctioned Gauge conversion projects have been taken up only on developmental considerations. They will neither create capacity on critical sections nor will they be useful as alternative routes :

1. Miraj - Latur
2. Jabalpur – Gondia including Balaghat Katnagi
3. Rajkot - Veraval
4. Neemuch - Ratlam
5. Agra - Bandikui
6. Bankura – Damodar River railway line
7. Mansi – Saharsa
8. Jayanagar – Darbhanga – Narkatiaganj
9. Gonda – Gorakhpur
10. Katihar – Jogbani
11. Rewari – Sadhlpur
12. Bhildi – Samdri
13. Luni – Barmer – Munabao (Strategically Important Line)
14. Secunderabad – Mudkhed & Jankhampet – Badham
15. Dharmavaram – Pakala
16. Ranchi – Lahardaga with extension to Tori
17. Bangalore – Hubli – Birur – Shimoga (Shimoga – Talguppa)
18. Mysore – Chamarajanagar
19. Quilon – Tirunelveli – Trichendur & Tenkasi – Virudhnagar
20. Madurai - Rameswaram

APPENDIX- III

(Vide Para 28)

PRIORITY LIST OF NEW LINE AND GAUGE CONVERSION PROJECTS AS APPROVED BY CCE-A

PRIORITISATION OF NEW LINE PROJECTS Annexure-11

Priority Category	S.No.	Project	Km	Cost	Throw forward as on 1.4.1999	$ Priority fixed by the previous Govt.
		PRIORITY AI-Completed projects, residual works in progressd projects.				
AI	1	Ta)cher-Sambalpur	174	389	17	A-1/2
		TOTAL	174	389	17	
		PRIORITY A2-Viable projects/those required on operational considerations.				
A2	1	Dailari-Banspanj	155	590 2	**395@**	**A-1/4**
A2	2.	Dharniavarani-Pentikonda via Puttaparthi	60	94	94	A-III25
A2	3	Dallrajahara-Jagdalpur*	135	367	363	Category II/B 1
A2	4	Panvel-Karjat	28	107	92	B/80
A2	5	Hubli-Ankola	164	483	473	A-111/13
A2	6	Amrawati-Narkher	138	175	149	"6
A2	7	Kakinada-Kotal)alli"	45	51	51	B,38
A2	8	Haridaspur-Paradeep	78	300	288@	A-III/12
A2	9	Angui-Sukinda Road	90	246	243	A-III/14
		TOTAL	893	2413	2148	

**Clearances yet to be obtained.

*Sail is providing full cost for 1st phase work from Dallirahahara to Rowghat. For the rest of the line SAIL is providing finances to the tune of Rs.75 cr.at 7% interest to be adjusted through freight concessions. M.P. Govt. will be providing land free of cost worth Rs.25 cr. And rest of the money is to be given by the Railway out of total cost of Rs.363 cr. Railway share will be Rs.128 cr.

PRIORITY A3-Projects nearing completion and those which will get completed in 9th plan.

A3	1	Kapadvanj-Modasa	59	41	27	B/45	
A3	2	Bongaon-Potropole	6	7	4	Inadvertantly left over	
A3	3	Katra-Faizabad		7	51	31	B/33
A3	4	Guna-Etawah	348	350	140@	A-1/5	
A3	5	Laxmikantapur-Namkhana		47	100	43@	A-III/11
		TOTAL	467	549	245		

PRIORITY B1-Projects in Jammu & Kashmir

		Project to be funded from Railway's Plan					
B1	1	Jammu Tawi-Udhampur		53	345	40	A-1/3
		TOTAL		53	345	40	

Category	S.No.	Project	Km	Cost	Throw Forward as on 1.4.1999	$ Priority fixed by the previous Govt.
		National Project to be funded from outside the Railway's Plan				
B1	2	Udhampur-Srinagar-Baramula	290	2500	2348	Category II/60
		TOTAL		290	2500	2348
		GRAND TOTAL B1	343	2845	2388	

@ Updated Cost

S.No.		Project					
1	2	3	4	5	6		7
		PRIORITY B2-Projects in North East Region					
B2	1	Jogighopa-Guwahati		142	642	68	A-1/1
B2	2	Harmuti-Itanagar	33	156	146		AII/10
B2	3	Dadhnoi-Depa	15	22	19		AII/6
B2	4	Kumarghat-Agartala		119	875	849@	A-II/7
B2	5	Boglbeet bridge	46	1000	998		A-II/8
B2	6	Diphu-Karong	123	1604	1604		A-II/9
		Total	478	4299	3684		
@ Updated Cost							
		PRIORITY B3-Projects involving major bridges costing over 100 crs.					
B3	1	Patna-Ganga bridge**		16	600	598	A-III/19
B3	2	Rail Bridge on Ganga at Munger**		12	600	599	A-III/21
		Total		28	1200	1197	

**Clearances yet to be obtained.

Category	Sl. No.	Project	Km	Cost	Throw forward as on 1.4,.999	5 Priority fixed by the previous Govt.
PRIORITY C. Socially desirable projects.						
CL-Projects Already cleared						
CIA-Projects having higher priority amongst Cl						
CIA	1	Restoration of Falua-Islampur	45	49	48	New work
CIA	2	Rajgir-Hisua-Tilaya	'27	49	48	New work
CIA	3	Lalitpur-Satna & Rewa-Singrauli	627	925	924	B/51
CIA	4	Chandigarh-Ludhiana	95	248	247	A-111/16
CIA	5	Bishrampur-Ambikapur	**23**	40	40	A-111/27
CIA	6	Ara-Sasaram	98	120	115	A-111@,20
CIA	7	Eklakhi-Balurghat	87	82	57	B/36
CIA	8	Nangal Dam-Talwara	83	150	118	B/31
CIA	9	Beas to Dera Baba lainal Singh	5	4	4	Inadvertantly left over
CIA	10	Munirabad-Mchboobnagar	222	380	**375**	A-111/29
CIA	11	Howrah-Amta	73	120	89	B/39
CIA	12	Tamluk.-Digha	87	74	35	B/40
CIA	13	Hassan-Bangalore	16	295	268	A-III/23
CIA	14	Karur-Salem	6	136	116	B/47
CIA	15	Godhra-Indore-Dewas-Maksi*	*85*	297	**280**	B/44
CIA	16	Giridih-Koderma	316	145	144	A-III/18
CIA	17	Ranchi-Barkxkhani-Hazariba-h-Kodernia CIA	105	491	491	New work
	18	Sakri-Hassanpur	189	90	76	A-111/15
CIA	19	Mtizaffarpur-Sitamarhi	76	100	98	A-111/17
CIA	20	Angamali-Sabarimala	63	550	550	
			116			
		TOTAL	2588	4345	4123	

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*Dewas to Maksi will be completed first.

Category	S.No.	Project	Km	Cost	Throw Forward As on 1.4.1999	$ Priority fixed by the previous Govt.	
		CIB-Other Projects not covered in CIA					
CIB	1.	Ahmednagar-Beed-ParliVaijnath	250	353	351	B/50	
CIB	2.	Mandarhill-Rampurhat via Dumka	130	170	164	B/32	
CIB	3.	Khagaria-Kusheshwarsthan	44	78	77	A-III/22	
CIB	4.	Peddapally-Karimnagar-Nizamabad	177	261	238	B/37	
CIB	5.	Nandyal-Yerraguntla	126	156	153	B/42	
CIB	6.	Lanjigarh Road-Junagarh	54	100	89	B/34	
CIB	7.	Khurda Road-Bolangir	289	353	348	B/41	
CIB	8.	Kottur-Harihar	65	66	66	B/46	
CIB	9.	Kadur-Chickmagalur-Saklesphur	100	157	150	B/43	
CIB	10.	Dausa-Gangapur	93	152	151	B/49	
CIB	11.	Macheria-Nalgonda	32	48	48	B/58	
		TOTAL	1360	1894	1835		
		C2-Projects yet to be cleared.					
		C2A-Projects having operational priority which will go to category CIA after clearances.					
C2A	1.	Dumka-Devghar	60	180	180	New work	
C2A	2.	Taran Taran-Goindwal	21	25	25	A-III/26	
C2A	3.	Duraunda-Maharajganj	6	4	3	B/57	
C2A	4.	Kopargaon-Shirdi	16	32	32	B/53	
C2A	5.	Abohar-Fazlika	25	30	30	B/56	
C2A	6.	Kalka-Parvanoo	7	23	23	B/59	
		TOTAL	135	294	293		

Category	S.No.	Project	Km	Cost forward as on 1.4.1999	Throw previous	$Priority fixed by the Govt.
		C2B-Other socially desirable projects which will go to category CIB after clearances				
C2B	1.	Baramati-Lonad	54	75	75	B/52
C2B	2.	Etawah-Mainpuri	60	120	120	A-III/28
C2B	3.	Gulbarga-Bidar	116	242	242	B/54
C2B	4.	Gadwal-Raichur	60	93	92	New work
C2B	5.	Bangalore-Satyamanglam	200	225	225	A-III/24
C2B	6.	Kottayam-Erumeli	43	200	200	B/55
		TOTAL	533	955	954	
		Grand Total	16924			

Throwforward of Rs.16924 cr. Does not take into account cost escalation and is based on current costs.
$ Priorities as fixed by Previous Government
Category-I Lines to be funded from Railway's Plan Funds.
PRIORITY 'A'
A-I Lines Required on operational considerations and planned to be completed in 9th Plan period.
A-II Lines required on operational considerations other than falling in category A-I and other lines Considered necessary from the view point of developing backward areas with relatively a higher priority.
B Lines taken up on development considerations.
CATEGORY-II Lines to be funded from funds outside the Railway's Plan.

NEW WORK TAKEN UP AFTER THIS LIST WAS FINALISED
(New lines)

S.No.	Name of works	Category in which it Will fall
1.	Agra-Etawah	C1
2.	Kakinada-Pithapuram	C2
3.	Deogarh-Sultanganj	C1
4.	Tarkeshwar-Bishnupur	C1
5.	Kotapalli-Narsapur	C1
6.	Jogighopa-Maynaguri	C1
7.	Ramganj Mandi-Bhopal	C1
8.	Ajmer-Puskar	C1
9.	Gandhinagar-Adraj Moti-Kalol	C1

PRIORITISATION OF GAUGE CONVERSION PROJECTS

Category	S.No.	Project	Km		Cost Forward as on 1.4.1999	Throw previous	$Priority fixed by the Govt.	
PRIORITY A1-Completed projects, residual works in progress								
A1	1.	Lumding-Dibrugarh	628	592	1	A1-6	Completed except Amguri-	
A1	2.	Madras Beach-Tiruchchirapali	340	426	40	A1-4	Tuli & Makum-Dongri	
A1	3.	Hajipur-Bachwara	67	67	1	Completed	which will be completed	
A1	4.	Secunderabad-Dronachellam	331	307	9	A1-5	this year.	
A1	5.	Bangalore-Hubli-Birur-Shimoga	469	431	49	AII-11	Completed	
A1	6.	Mysore-Hassan	119	149	12	AI-7	Completed	
A1	7.	Pnulera-Marwar-Ahmedabad	572	632	40	Completed	Completed except	
A1	8.	Luni-Marwar and Jodhpur-Luni	102	93	9	AI-3	Talguppa-Shiomoga.	
A1	9.	Hospet-Hubli-Goa	489	531	49	Completed	Completed	
		Total	2526	2605	210			

PRIORITY A2 –Viable projects/those required on operational considerations.

A2	1	Surendernagar-Bhavnagar	385	337	307	AII-24	Completed from Morbi-
A2	2	Wankaner-Malia Miyana	90	79	64	B-50	Maliya Miyana and Dahin-
A2	3	Gandhidham-Palanpur**	318	318	318	New work	sara to Navlakhi.Rest will
A2	4	Mudkhed-Adilabad	162	115	74	C-II/52	be completed this year.
A2	5	Kanpur-Kasganj-Mathura	458	395	355	A-II-14	
A2	6	Arsikere-Hassan-Mangalore	236	185	87	A-I-1	
A2	7	Thanjavur-Visupuram main line**	192	223	223	New work	completed.
A2	8	Sriganganagar-Sarupsar**	116	69	69	B-47	
A2	9	Dindigul-Tricihy	93	89	0	AII-11	
A2	10	Dharangadhara-Kuda siding	22	9	6	Category II-	
A2	11	Narkatiaganj-Valmikinagar	50	45	2	AII-18	
A2	12	Mathura-Achnera	35	20	20	AII-25 53	
A2	13	Khadda-Gorakhpur	86	58	0	AII-16	Completed.
A2	14	Guntur-Guntakal & Guntakal-Kalluru	458	502	58	AII-13	Completed.
A2	15	Secunderabad-Mudkhed & Jankhampet-Bodhan	256	283	278	AII-23	Completed.
A2	16	Gondia-Chandafort	242	233	1	AI-2	
A2	17	Rajkot-Veraval	155	100	81	B-45	
A2	18	Neemuch-Ratlam	135	117	103	AII-20	
A2	19	Agra-Bandikui	151	150	139#	AII-19	
A2	20	Bhildi-Samdari	157	185	185	Frozen	
A2	21	Ajmer-Udaipur-Chittaurgarh	300	262	242	AII-10	
A2	22	Gonda-Gorakhpur-Loop**	250	250	250	AII-10	
		Total	4347	4024	2862		

#Updated cost.

**Clearances yet to be obtained.

Project			Km	Cost	Throw	$Priority	fixed forward as on 1.4.1999	Govt.	by the previous	
PRIORITY A3—Projects nearing completion and those which will be completed										
A3	1	Indara-Phephana				51	35	5	AII-28	Completed.
A3	2	Kashipur-Lalkuan				60	47	40	B-41	Completed.
A3	3	Katpadi-Pakala-Tirupati				104	113	81	AII-15	
A3	4	Sholapur-Gadag				300	275	147	Inadvertantly left over	Sholapur to Bijapur completed.
A3	5	Gandhidham-Bhuj				58	41	33	B-38	
A3	6	Rewari-Sadulput**				141	198	198	B-51	
A3	7	Rewari-Delhi 2nd one				83	59	37	AII-22	
A3	8	Bhildi-Viramgam				157	155	150	AII-9	
		Total	843			840	646			
**Clearances yet to be obtained.										
PRIORITY b-1—Projects taken up on strategic considerations.										
B1	1	Luni-Barmer-Munabao				300	240	219	AIII-33	
		Total				300	240	219		
PRIORITY b2—Projects in North East Region.										
B2	1	New Jalpaiguri-Siliguri-New Bongaigaon**				280	468	468	AIV-35	
B2	2.	Lumding-Silchar				198	648	606	AIV-34	
B2	3.	Kalakhal-Bakabhi**				84	200	200	AIV-36	
		Total				562	1316	1274		

PRIORITY C—Socially desirable projects.

C1—Projects already cleared

CIA—Projects having higher priority among CI category projects

CIA	1	Jayanagar-Darbhanga-Narkatiaganj	260	233	233	AII-29
CIA	2	Ranchi-Lohardaga with extention to Tori	113	147	135	A-II-21
CIA	3	Mosi-Saharsa	155	210	182	A-II-17
CIA	4	Jabalpur-Gondia including Balaghat-Katangi	285	386	366	B-40
CIA	5	Madurai-Rameswaram	161	240	240	B-42
CIA	6	Samastipur-Khagaria**	86	70	70	AII-8
		Total	1060	1286	1227	

CIB—Other Projects not covered in CIA among CI category projects

CIB	1	Rupsa-Bangariposi	89	58	54	B-46
CIB	2.	Miraj-Latur	359	314	252	B-43
CIB	3	Tiruchchirappali-Nagore		200	138	60@ B-48
		Total	648	510	366	

@Trichy-Thanjavur completed, rest of the work showed down due to refineries not coming up yet.

**Clearances yet to be obtained.

		Project	Km	Cost	Throw forward on 1.4.1999	$Priority fixed by the previous Govt.
C 2 Projects yet to be cleared.						
C2B. Other socially desirable projects, which will go to category C1B after clearance.						
C2B	1	Bankura-Damodar River (BDR) railway line	96	100	100	New Work
C2B	2	Gonda-Bahraich	00	48	48	B-39
C2B	3.	Kalihar-Jogbani	108	100	100	AII-32
C2B	4	Dharmavaram-Pakala	227	200	200	B-37
C2B	5	Naupada-Gunupur	90	47	47	B-44
C2B	6	Mysore-Chamarajanagar	210	175	175	AII-27
C2B	7	Quilon-Tirunelveli-Trichendur & Tenkasi-Virudhnagar	357	280	280	AII-30
C2B	8	Villupuram-Pondicherry	37	30	30	B-49
		Total "C 2B" 1185	980	980		
		Grand Total		7784		

Throwforward of Rs.7784 cr. Does not take into account cost escalation and is based on current costs.
$Priorities as fixed by previous Government
CATEGORY –1 Lines to be funded from Railway's Plan funds.
PRIORITY 'A'
A-I Those projects which are in advanced stage of progress and most of them will be completed in 97-98
A-II Projects having operational priority.
A-III Projects taken up on strategic consideration
A-IV Projects taken up in NE region
B-Projects taken up on development/missing link consideration
CATEGORY-II Projects to be funded from funds outside Railway's Plan.

NEW WORK TAKEN UP AFTER THIS LIST WAS FINALISED
(Gauge conversion)

S.No.	Name of Works	Category in Which it will fall
1.	Kaptanganj-Thawe-Siwan-Chappra	C2
2.	Salem-Cuddalore	C2
3.	Katpadi-Villupuram	C1
4.	Trichy-Manmadurai	C1

APPENDIX-IV
(Vide Para 42)

DOUBLE LINE SECTIONS WHICH ARE SATURATED AFTER ACCOUNTING FOR MAINTENANCE BLOCK

Route/Section	Railway
1	2
New Delhi-Mudhalsarai-Howrah	
New Delhi-Sahibabad	Northern Railway
Sahibabad-Ghaziabad	Northern Railway
Ghaziabad-Tundla	Northern Railway
Tundla-Kanpur	Northern Railway
Kanpur-Allahabad	Northern Railway
Allahabad-Chunar	Northern Railway
Chunar-Mughalsarai	Northern Railway
Mughalsarai-Sonenagar	Eastern Railway
Sonenagar-Gaya	Eastern Railway
Gaya-Gomoh	Eastern Railway
Bardhaman-Shaktigarh	Eastern Railway
Shaktigarh-Chandanpur	Eastern Railway
Chandanpur-Howrah	Eastern Railway
New Delhi-Mathura-Kota-Ratlam-Vadodara-Surat-Mumbai Central	
New Delhi-Mathura	Northern Railway/Central Railway
Bayana-Sawai Madhopur	Western Railway
Sawai Madhopur-Kota	Western Railway
Kota-Nagda	Western Railway
Nagda-Ratlam	Western Railway
Vadodara-Udhna	Western Railway

Udhna-Virar	Western Railway
Virar-Mumbai Central	Western Railway

New Delhi-Mathura-Jhansi-Bhopal-Itarsi-Nagpur-Warangal-Vijaywada-Chennai Central

New Delhi-Mathura	Northern Railway/Central Railway
Mathura-Jhansi	Central Railway
Jhansi-Bina	Central Railway
Bina-Bhopal	Central Railway
Bhopal-Itarsi	Central Railway
Itarsi-Amla	Central Railway
Nagpur-Manikgarh	Central Railway/South Central Railway
Manikgarh-Kazipet	South Central Railway
Kazipet-Vijaywada	South Central Railway
Vijaywada-Gudur	South Central Railway
Gudur-Chennai Central	Southern Railway

Mumbai VT-Bhusawal-Nagpur-Bilaspur-Kharagpur-Howrah

Mumbai VT-Kalyan	Central Railway
Kalyan-Manmad	Central Railway
Manmad-Bhusawal	Central Railway
Wardha-Nagpur	Central Railway
Nagpur-Gondia	South Eastern Railway
Gondia-Bilaspur	South Eastern Railway
Bilaspur-Jharsuguda	South Eastern Railway
Jharsuguda-Chakradharpur	South Eastern Railway
Santragachi-Howrah	South Eastern Railway

Kalyan-Pune-Daund-Wadi-Secunderbad-Kazipet

Kalyan-Badlapur	Central Railway
Badlapur-Karzat	Central Railway
Karzat-Lonawala	Central Railway
Lonawala-Pune	Central Railway
Wadi-Secunderabad	South Central Railway
Secunderabad-Bibinagar	South Central Railway
Bibinagar-Kazipet	South Central Railway

Kharagpur-Cuttack-Palasa-Waltair-Vijaywada

Vizianagram-Kottavalasa	South Eastern Railway
Kottavalasa-Visakhapatnam	South Eastern Railway
Visakhapatanam-Nidadvole	South Central Railway
Nidadvole-Vijaywada	South Central Railway

Wadi-Raichur-Arakkonam-Chennai Central

Wadi-Guntakal	South Central Railway
Guntakal-Renigunta	South Central Railway
Renigunta-Tiruttani	Southern Railway
Tiruttani-Arkkonam	Southern Railway
Chennai Central-Pattabhiran	Southern Railway
Pattabhiran-Tiruvallur	Southern Railway
Tiruvallur-Arakkonam	Southern Railway

Howrah-Bandel-Burdwan

Howrah-Bandel	Eastern Railway
Bandel-Burdwan	Eastern Railway

Sitarampur-Madhupur-Kiul-Patna-Mughalsarai

Sitarampur-Kiul	Eastern Railway
Kiul-Danapur	Eastern Railway

Kiul-Bhagalpur-Sahibganj-Barharwa

Bhagalpur-Barharwa	Eastern Railway

Delhi-Panipat-Ambala Cantt-Kalka

Delhi-Panipat	Northern Railway
Panipat-Ambala Cantt.	Northern Railway

Ambala Cantt.-Ludhiana-Pathankot

Ambala Cantt.-Rajpura	Northern Railway
Ludhiana-Jalandhar City	Northern Railway

Arakkonam-Jolarpettai-Salem-Erode-Coimbatore-Ernakulam

Arakkonam-Katpadi	Southern Railway
Katpadi-Jolarpettai	Southern Railway
Jolarpettai-Salem	Southern Railway
Podanur-Shoranur	Southern Railway
Shoranur-Ernakulam Jn.	Southern Railway

Vadodara-Ahmedabad

Vadodara-Ahmedabad	Western Railway

Jolarpettai-Bangalore-Mysore

Jolarpettai-Kuppam	Southern Railway
Malur-Bangalore	Southern Railway

Others

Lucknow-Varanasi	Northern Railway
Barwadi-Tori	Eastern Railway
Tori-Barkakana	Eastern Railway

APPENDIX-V

(Vide Para 42)

SINGLE LINE SECTIONS WHICH ARE SATURATED AND WHERE ADDITIONAL LINES ARE BEING LAID TO AUGMENT CAPACITY

S.No.	PROJECT	RLY
1	2	3
1	Barasat-Hasanabad doubling with electrification PH-I (Barasat-Sondalia)	Eastern Railway
2.	Kalinarayanpur-Krishnanagar	Eastern Railway
3.	Khurda Road-Puri PH-I (Khurda Road-Delang)	South Eastern Railway
4	Gooty-Renigunta Sec. Doubling of Balapalle-Pullampet Sec.	South Central Railway
5	Jarwal Road-Burhwal (Patch Doubling)	North Eastern Railway
6	Panskura-Haldia PH-I (Panskura-Rajgoda)	South Eastern Railway
7	Panvel-Jasai-JNPT	Central Railway
8	Sonarpur canning PH-I (Sonarpur-Ghutiari Sharif)	Eastern Railway
9	Aluabari Road-Kishanganj	Northeast Frontier Railway
10	Amroha-Kankather	Northern Railway
11	Amroha-Moradabad	Northern Railway
12	Bangalore-Kengeri with Elect.	Southern Railway
13	Baruipur-Lakshmikantpur PH-I (Baruipur-Dakshni Barasat)	Eastern Railway
14	Bolai-Kalisindh-Kisoni-Bercha	Western Railway
15	Bolpur-Ahmedpur	Eastern Railway
16	Budge Budge-Akra PH I	Eastern Railway
17	Calicut-Mangalore	Southern Railway
18	Champa-Saragbundia	South Eastern Railway
19	Chhapra-Hajipur	North Eastern Railway
20	Daud-Bigwan	Central Railway

21	Diva-Panvel	Central Railway
22	Diva-Vasai	Central Railway
23	Ernakulam-Ernakulam mar. yard	Southern Railway
24	Ghaziabad-(Hapur) Moradabad PH I	Northern Railway
25	Goelkera-Manoharpur 3rd line (Chakradharpur-Bondamunda Section)	South Eastern Railway
26	Gonda-Jarval Road	North Eastern Railway
27	Gudur-Renigunta	South Central Railway
28	Guskara-Bolpur PH III	Eastern Railway
29	Hospet-Guntakal (Gauge-Conv.)	South Central Railway
30	Irugur-Coimbatore	Southern Railway
31	Jallandhar-Pathankot-Jammu Tawi	Northern Railway
32	Jhapatardal-Guskara PH II	Eastern Railway
33	Karpurigram-Siho	North Eastern Railway
34	Khanna-Santhia Phase I	Eastern Railway
35	Kishanganj-Dalkolha	Northeast Frontier Railway
36	Kobra-Gevra Road	South Eastern Railway
37	Kobra-Saragbundia	South Eastern Railway
38	Kuttipuram-Calicut	Southern Railway
39	Manikpur-Cheonki PH-I Doubling of Manikpur-Katayadandi	Central Railway
40	Muradnagar-Meerut	Northern Railway
41	Nergundi-Cuttack-Raghunathpur	South Eastern Railway
42	New Alipur-Akra PH I	Eastern Railway
43	Parsa Bazar-Punpun (Patna-Gaya, Phase II)	Eastern Railway
44	Patna-Parsa Bazar (Patna-Gaya, Phase – I)	Eastern Railway
45	Punpun-Taregna (Patna-Gaya, Phase-III)	Eastern Railway
46	Quilon-Trivandrum	Southern Railway
47	Raghunathpur-Rahama	South Eastern Railway
48	Rahama-Paradeep	South Eastern Railway
49	Rajatgarh-Barang	South Eastern Railway
50	Rajatgarh-Nardundi	South Eastern Railway

51	Sewagram Chitoda	Central Railway
52	Talcher-Cuttack-Paradeep (2nd Bridges on Mahanadi & Birupa)	South Eastern Railway
53	Tarakeshwar-Sheoraphulli PH-I (Sheoraphulli-Nalikul)	Eastern Railway
54	Titlagarh-Lanjigarh	South Eastern Railway
55	Tundla-Yamuna Br.	Northern Railway
56	Urkura-Raipur-Sarona	South Eastern Railway
57	Utratia-Chandrauli and Sultanpur-Bandhua Kalan	Northern Railway
58	Whitefield-Kuppam	Southern Railway
59	Yeshwantpur-Tumkur	Southern Railway
60	Jafrabad-Utretia PH-II (Zafrabad-Srikrishnanagar)	Northern Railway

APPENDIX-VI
(Vide Para 44)

DETAILS OF WORKS UNDERTAKEN TO ENHANCE CAPACITY ON DELHI-CALCUTTA & CALCUTTA-MUMBAI ROUTES BY LAYING ADDITIONAL LINES

Project	Railway	Year of Approval	Kms.	Cost diture up to 31.3.2000	Expen- Outlay 2000-01	Budget	Status
1	2	3	4	5	6	7	8
			(Amount in Crores of Rs.)				
Calcutta-Delhi Route							
Chandanpur-Gurup 3rd line	Eastern	1994-95	17	23.82	13.82	10.00	Work is in progress and Cheragram-Gurup (5 Km) has been commissioned. Chandanpur Belmuri section is targeted to be completed by Dec. 2000. The work is targeted for completion by June-2001 subject to availability of resources.
Gurup-Shaktigarh 3rd line	Eastern	1996-97	26	41.53	4.10	10.00	The plans have been finalised. Tenders are being invited.
Kanpur-Panki 3rd line	Northern	1995-96	9	34.03	15.85	10.00	Earthwork is in progress. 76.2m girders for flyover are being manufactured at Manmad workshop.
New Delhi-Tilak Bridge 5th and 6th line	Northern	1998-99	3	36.00	2.00	10.00	Preparatory works have been taken up.
Sonenagar-Mugalsarai	Eastern	1992-93	124	241.00	202.00	38.00	This project is partially funded out of ADB loan. Work is progressing well. Out of 16 block section, 8 have been commissioned covering 51.44 kms. The entire work will be completed by Feb.' 2001.

Calcutta-Mumabi Route Akaltara-Champa	South Eastern	1994-95	25	53.60	51.20	1.00	Akaltara-Naila (16 Km) completed. Naila-Hasdeo (7 Km) completed, except the Hasdeo Bridge which will be completed by December 2001. Commissioning is awaiting CRS's sanction which will be after condonation of grade infringement from Board.
Bilaspur-Urkura	South Eastern	1997-98	100	151.52	5.22	14.00	Final location survey fro Bilaspur to Bhatapara has been completed. Contracts for bridges and ballast have been awarded and for earthwork are in progress.
Goelkera-Manoharpur 3rd line (Chakradharpur-Bondamunda Section)	South Eastern	1997-98	40	186.91	2.67	10.00	Final location survey and preparation of land acquisition has been taken up. 74 hect. of land is to be acquired for which paper have been submitted to State Govt. Work in railway land at Manoharpur has been taken up.
Sarona-Bhillai 3rd line	South Eastern	1997-98	18	47.68	13.51	10.00	Earthwork and minor bridges are in progress site investigation for important major bridge Kharum has been taken up. Kumbari-Bhillai (11 km) is expected to be completed by February 2001.
Urkura-Raipur-Sarona	South Eastern	1995-96	11	31.05	26.05	5.00	Work completed and commissioned.

Kurla-Thane 5th and 6th Line (phase I)	Central	1995-96	8	97.39	54.19	14.00	Work of earthwork supply of Ballast, Track linking. Major Bridges, Foundation and erection of OHE structures and other works are in progress in stretches which are free from encroachments.
Kurla-Thana 5th and 6th Line (Bhandup to Thane) Ph.II	Central	1997-98	10	58.30	15.50	10.00	Earthwork, supply of Ballast, Bridges and 22 KV serial feeder obstructing 5th and 6th line by Underground cable between Bhandup-Mulund and Mulund-Thane section is in progress.
Thane-Mumbra 5th and 6th line	Central	2000-01	6.4	49.34	0.00	0.01	New work has been included in the Works Program of 2000-01 subject to the condition That expenditure on the project will be Incurred only after taking necessary clearances.

APPENDIX VII
(Vide Para No.50)

DOUBLE LINE SECTIONS WHICH ARE SATURATED AFTER ACCOUNTING FOR MAINTENANCE BLOCK

ROUTE/SECTION	Double/ Patch Double	Line Capacity Utilisation 1997-98					
		CC With	Pass	Gds.	Ors.	Total	% age
1	2	3	4	5	6	7	8
New Delhi-Mughalsarai-Howrah							
New Delhi-Sahibabad	DL	71	62	20	-	82	115.49
Sahibabad-Ghaziabad	DL	105	90	60	-	150	142.86
Ghaziabad-Tundla	DL	54	37	26	0.1	63.1	116.85
Tundla-Kanpur	DL	58	37	35	0.1	72.1	124.31
Kanpur-Allahabad	DL	55	25	34	0.1	59.1	107.45
Allahabad-Chunar	DL	57	30	35	0.1	65.1	114.21
Chunar-Mughalsarai	DL	55	27	35	-	62	112.73
Mughalsarai-Sonenagar	DL	55	17	42	1	60	109.09
Sonenagar-Gaya	DL	48	19	28	1	48	100.00
Gaya-Gomoh	DL	45	19	31	0.5	50.5	112.22
Gomoh-Sitarampur	DL	88	24	25	1	50	56.82
Sitarampur-Andal	DL	91	40	38	1	79	86.81
Andal-Khana	DL	91	39	34	5.3	78.3	86.04
Khana-Bardhaman	DL	115	55	40	4,5	99.5	86.52
Bardhaman-Shaktigarh	DL	108	85	40	7	132	122.22
Shaktigarh-Chandanpur	DL	60	47	28	5	80	133.33
Chandanpur-Howrah	DL	70	54	27	5	86	122.86
New Delhi-Mathura-Kota-Ratlam-Vododara-Surat-Mumbai Central							
New Delhi-Mathura	DL	79	54	28	0.2	82.2	104.05
Mathura-Bayana	DL	36	14	17	1.72	32.72	90.89

Bayana-Sawai Madhopur	DL	36	16	25	2.68	43.68	121.33
Sawai Madhopur-Kota	DL	41	20	25	9.06	54.06	131.85
Kota-Nagda	DL	38.5	16	22	4.64	42.64	110.75
Nagda-Ratlam	DL	42.5	20	35	7.50	62.50	147.06
Ratlam-Vadodara	DL	39.5	20	12	2.94	34.94	88.46
Vadodara-Udhna	DL	48	40	18	5.16	63.16	131.58
Udhna-Virar	DL	45	44	12	4.94	60.94	135.42
Virar-Mumbai Central	DL	126	170	4	7	181	143.65
NewDelhi-Mathura-Jhansi-Bhopal-Itarsi-Nagpur-Warangal-Vijaywada-Chennai Central							
New Delhi-Mathura	DL	79	54	28	0.2	82.2	104.05
Mathura-Jhansi	DL	47	32	15	0.3	47.3	100.64
Jhansi-Bina	DL	53	32	20	0.4	52.4	98.87
Bina-Bhopal	DL	53	34	25	5.5	64.5	121.70
Bhopal-Itarsi	DL	45	31	20	5.5	56.5	125.56
Itarsi-Amla	DL	36	22	16	1.2	38.2	106.11
Nagpur-Manikgarh	DL	44	20	30	5	55	125.00
Manikgarh-Kazipet	DL	41	19	27	1	47	114.63
Kazipet-Vijaywada	DL	44	25	25	1	51	115.91
Vijaywada-Gudur	DL	44	30	26	1	57	129.55
Gudur-Chennai Central	DL	79	57	22	1	80	101.27
Mumbai VT-Bhusawal-Nagpur-Bilaspur-Kharagpur-Howrah							
Mumbai VT-Kalyan	DL	158	145	14	5	164	103.80
Kalyan-Manmad	DL	52	48	20	3	71	136.54
Manmad-Bhusawal	DL	46	28	20	1.7	49.7	108.04
Wardha-Nagpur	DL	53	27	29	2.7	58.7	110.75
Nagpur-Gondia	DL	41	19	30	0.8	49.8	121.46
Gondia-Bilaspur	DL	50	20	38	0.5	58.5	117.00
Bilaspur-Jharsuguda	DL	50	14	34	0.5	48.5	97.00
Jharsuguda-Chakradharpur	DL	47	16	40	1	57	121.28
Kharagpur-Panakura	DL	81	47	25	0.3	72.3	89.26
Panakura-Santragachi	DL	128	92	23	0.3	115.3	90.08
Santragachi-Howrah	DL	144	130	6	9.7	145.7	101.18

Mumbai VT-Bhusawal-Nagpur-Bilaspur-Kharagpur-Howrah							
Mumbai VT-Kalyan	DL	158	145	14	5	164	103.80
Kalyan-Manmad	DL	52	48	20	3	71	136.54
Manmad-Bhusawal	DL	46	28	20	1.7	49.7	108.04
Wardha-Nagpur	DL	53	27	29	2.7	58.7	110.75
Nagpur-Gondia	DL	41	19	30	0.8	49.8	121.46
Gondia-Bilaspur	DL	50	20	38	0.5	58.5	117.00
Bilaspur-Jharsuguda	DL	50	14	34	0.5	48.5	97.00
Jharsuguda-Chakradharpur	DL	47	16	40	1	57	121.28
Kharagpur-Panakura	DL	81	47	25	0.3	72.3	89.26
Panakura-Santragachi	DL	128	92	23	0.3	115.3	90.08
Santragachi-Howrah	DL	144	130	6	9.7	145.7	101.18
Kalyan-Pune-Daund-Wadi-Secunderabad-Kazipet							
Kalyan-Badlapur	DL	126	115	6	2	123	97.62
Badlapur-Karzat	DL	54	55	6	2	63	116.67
Karzat-Lonawala	DL	37	29	6	5	40	108.11
Lonawala-Pune	DL	44	47	6	3	50.2	114.09
Wadi-Secunderabad	DL	31	17	14	3	34	109.68
Secunderabad-Bibinagar	DL	34	26	19	3.5	48.5	142.65
Bibinagar-Kazipet	DL	34	20	21	3.5	44.5	130.88
Allahabad-Katni-Jabalpur-Itarsi-Bhusawal							
Manikpur-Satna	DL	47	20	17	3.2	40.2	85.53
Satna-Katni	DL	47	21	18	3.3	42.3	90.00
Kharagpur-Cuttack-Palasa-Waltair-Vijaywada							
Kharagpur-Nergundi	DL	39	21	13	2.5	36.5	83.59
Vizianagram-Kottavalasa	DL	50	23	25	2.9	50.9	101.80
Kottavalasa-Visakhapatnam	DL	65	24	37	9.9	70.9	109.08
Visakhapatnam-Nidadvole	DL	36	25	16	1	37.1	103.06
Nidadvole-Vijaywada	DL	40	22	17	1	40	100.00

Wadi-Raichur-Arakkonam-Chennai Central							
Wadi-Guntakal	PD	26	19	15	1	35	134.62
Guntakal-Renigunta	PD	25	11	17	2	30	120.00
Renigunta-Tiruttani	DL	31	19	14	1.6	34.6	111.61
Tiruttani-Arakkonam	DL	31	29	14	1.6	44.6	143.87
Chennai Central-Pattabhiran	DL	126	125	24	3	152	120.63
Pattabhiran-Tiruvallur	DL	106	84	24	4	112	105.66
Tiruvallur-Arakkonam	DL	79	57	24	3	84	106.33
Howrah-Bandel-Burdwan							
Howrah-Bandel	DL	103	87	4	4	95	92.23
Bandel-Burdwan	DL	63	48	14	4	66	104.76
Sitarampur-Madhupur-Kiul-Patna-Mughalsarai							
Sitarampur-Kiul	DL	41	27	10	6.5	43.5	106.10
Kiul-Danapur	DL	41	35	7	1.5	43.5	106.10
Danapur-Mughalsarai	DL	39	28	5	0.5	33.5	85.90
Kiul-Bhagalpur-Sahibganj-Barharwa							
Kaira-Bhagalpur	DL	34	19	8	2.4	29.4	86.47
Bhagalpur-Barharwa	DL	20	13	5	4.3	22.3	111.50
Delhi-Panipat-Ambala Cantt.-Kalka							
Delhi-Panipat	DL	50	37	29		66	132.00
Panipat-Ambala Cantt.	DL	53	33	21		54	101.89
Ambala Cantt.-Ludhiana-Pathankot							
Ambala Cantt.-Rajpura	DL	72	47	35		76.5	106.25
Rajpura-Sirhind	DL	72	39	24		63	87.50
Sirhind-Ludhiana	DL	54	35	14		49	90.74
Ludhiana-Jalandhar City	DL	53	40	18		58	109.43
Ambala Cantt.-Moradabad-Lucknow-Pratapgarh-Mughalsarai							
Laksar-Moradabad	DL	53	24	20	1.5	42.5	85.85
Bareilly-Lucknow	DL	50	26	15	1.5	42.5	85.00
Lucknow-Utretia	DL	44	26	13		39	88.64

Arakkonam-Jolarpettai-Salem-Erode-Coimbatore-Ernakulam							
Arakkonam-Katpadi	DL	38	35	22	5	62	163.16
Katpadi-Jolarpettai	DL	39	33	21	4	58	148.72
Jolarpettai-Salem	DL	35	30	19	2	51	145.71
Podanur-Shoranur	DL	32	29	14	3.6	46.6	145.63
Shoranur-Ernakulam Jn.	DL	40	30	10	6	40	115.00
Vadodara-Ahmedabad							
Vadodara-Ahmedabad	DL	45	36	11	7.82	54.82	121.82
Jolarpettai-Bangalore-Mysore							
Jolarpettai-Kuppam	DL	24	15	10	2	27	112.50
Malur-Bangalore	DL	30	16	10	5.6	31.6	105.33
Others							
Lucknow-Varanasi	DL	18	11	12	0.2	23.2	128.89
Barwadi-Tori	DL	30	8	23	0.4	31.4	104.67
Tori-Barkakana	DL	31	8	24	0.4	32.4	104.52
Bina-Katna-Anuppur	DL	39	9	27	0.5	36.5	93.59
Nagda-Makshi	DL	34	14	16	2.35	32.35	95.15

APPENDIX-VIII
(Vide Para 51)

THE FOLLOWING NEW PROJECTS OF DOUBLING HAVE BEEN SANCTIONED IN THE BUDGET 1995-96 TO 1999-2000

1996-96	Km.	Present Status
1	2	3
Diva-Vasai Road	42	In phase-I, 28 Km from Vasai Rd. to Bhiwandi has been completed Bhiwandi has been completed Bhiwandi to Diva is targeted for June 2001 subject to removal of encroachments.
Diva-Panvel	25.67	Work has been completed.
Daund-Bhigwan	27.68	The work is in good progress and expected to be completed in current year.
Nishatpura (A&D Cabin) Chord line	1.5	The work has been completed.
Guskara-Bolpur (Phase-III)	19	The section from Guskara to Pitchkuridhal (5.5 km) has been completed & work in the rest of the two sections will be completed by 31.3.2001.
Budge-Budge-Akra (Phase-I)	6.09	The work has been completed and opened for traffic.
Tundla-Yamuna Bridge	21	The work of Tundla-Etmadpur including flyover will be completed durng next year.
Muradnagar-Meerut City	29.5	The work is expected to be completed by Jan, 2001.
Ghaziabad-Hapur	37	The work from Ghaziabad to Dasna has been completed. Balance will be completed during current financial year.
Kanpur-Panki 3rd line (Phase-I)	9	Earthwork is in progress. 76.2m. girders for flyover are being manufactured at Manmad Workshop. TDC Dec. 2002.
Calicut-Mangalore	221	Work is in good progress. 6 sections have been completed. Another 13 sections (65 km) will be completed in 2000-2001. The work is expected to be completed in 3-4 yrs. time as per availability of resources.
Kuttipuram-Guruvayur	36	Work transferred from Doubling Plan Head to new Line Plan Head. Work will be taken up after obtaining necessary clearances as new line work.
Bangalore-Kengeri Patch	12.45	Due to low operational priority, the work is frozen for the present.

Raghunatpur-Gorakhnath-Rahama	28.4	Work completed and commissioned.
Urkura-Raipur-Sarona	11	Work completed and Commissioned.
Kota-Gurla doubling of Chambal bridge	2	The work has been completed and commissioned.
Bombai Central-Borivli 5th & 6th line	15.81	Work on all minor and major bridges have been completed. Work is held up at certain locations due to delay in removal of encroachment.
1996-97		
Panvel-Roha Land acquisition	75	FLS has been completed. Land acquisition is expected to be completed in March 2001.
Sewagram-Chitoda	3.97	Work has been completed.
Katni A cabin-New Katni Jn. A cabin	1.6	Work has been completed.
Patna-Gaya Phase-I	7.24	Work has been completed.
Gurup-Shaktigarh Extension of 3rd line	26	The plans have been finalised. Tenders under finalisation.
New Alipur-Akra Phase-I	9	The plans have been finalised. Tenders for earthwork, blanketing and minor bridges have been awarded.
Gonda-Jarwal	45.45	The work from Gonda-Maizpur (18.5 km) completed. Balance is expected to be Completed in 2000-2001.
Dalkola-Kishanganj	28	The work from Kishanganj to Kenki (14 Km) completed. Balance is expected to be completed in 2000-2001.
Irugur-Coimbatore	17.7	Land acquisition for the project has been taken up. The detailed planning of the Facilities to be provided is also on hand. The work as required would be taken up And completed in the coming years as per availability of resources.
Vijayawada-Krishna Canal – 3rd line	5	The third line is proposed between Krishna Canal and Vijayawada by providing A second track on the substructure over Krishna for which superstructure tender Have been finalised. Tenders for earthwork and other major bridges are under Finalisation. The work is targeted for completion by March 2002, subject to Availability of balance requirement of funds in 2001-02.
Hospet-Guntakal	115	Final location survey has been completed. Tenders schedule for earthwork minor Bridges and ballast are under finalisation. The decision on whether this work is to Be done through BOLT or with Railway funding is yet to be taken by the Board.
Korba-Sarangubundia Patch doubling	15	Project completed and Commissioned.
Talcher-Cuttack-Paradeep	3	Soil investigation and detailed design on Birupa bridge has been completed and Tenders have been invited.

1997-98

Patna-Gaya Phase –II	6	The Work is being taken up.
Jalandhar-Pathankot-Jammu	203	The work would be taken up after requisite clearances have been obtained.
Gorakhpur-Sahjanwa Phase-I	7.7	Work has been temporarily frozen.
Kangeri-Ramanagaram	32	Due to low operational priority, the work is frozen for the present.
Yeswantpur-Tunkur	64	The necessary clearances have been obtained. Preliminary arrangements are Being made for taking up the work including acquisition of land.
Bangalore-Whitefield-Bangalore City-Krishnarajapuram	23	Work will be taken up after the necessary clearances have been obtained.
Gudur-Renigunta	83	2 block section on Gudur end and one block section on Renigunta end are Targeted for completion in 2000-01.
Bilaspur-Urkura	110	Final location survey for Bilaspur to Bhatapara has been completed and the Work is being taken up.
Titlagah-Lanjigarh Road	47	Land acquisition plans has been taken up. Kondel road-Nerla road section is Targeted to be completed by June 2001.
Nargundi-Cuttack-Raghunathpur	43	Nergundi-Kendrapara Road (8 km) is targeted for completion by Dec. 2001.
Champa-Saragbundia	30	Three block sections covering 17 km section from Sarabgundia-Kathari road Bolpur (17 km) have been commissioned in May 2000. Work on flyover bridge On Bolpur-Champa section is in progress and will be completed by Feb.2001.
Rahama-Paradeep	23	Land acquisition has been completed except for last 3 km at Paradweep end. The Work on major bridges no 242, earthwork and minor bridge in 7 out of 9 is in Progress.
Sarona-Bhillai 3rd line	18	Earthwork, minor bridges, Ballast and other misc. work are in progress. Site Investigation for important major bridge Kharum has been taken up Kumbari-Bhillai (11 km) is expected to be completed by Feb.2001 and balance will be Completed by June 2001.
Goelkera-Manoharpur 3rd line	34.8	Final location survey and preparation of land acquisition has been taken up. 74 Hect. of land is to be acquired for which paper have been submitted to State Govt. Work in railway land at Manoharpur has been taken up. Work on rest of The section will be taken up when once the land is made available by State Govt.

1998-99 NIL

1999-2000

Mathura-Bhuteshwar	3	Earthwork & bridge work is in progress. The work will be completed in 2000-01.
Diva-Kalyan doubling of 5th and 6th line	11	Earthwork and Bridges are in progress.
Punpun-Taregna	1	Preliminary arrangements are being made for taking up the work.
Amroha-Moradabad	30	Tenders have been invited for Earthwork, ballast and bridges.
Dayabasti-Grade Separator	6	Detailed planning has been taken up.
Chhapra-Hajipur	59	The work will be taken up after obtaining the requisite clearances.
Karpurigram-Siho	26	Tenders for earthwork for 3 sections have been finalised.
Ernakulam Jn.	3	Works on bridges & formation are in progress.
Ernakulam Marshalling Yard		
Attipattu-Korukkuputtai	18	Preparation of Plans and estimates is in progress. Tender for construction of a important bridge across Ennore Creek has been awarded.
Rajatgarh-Barang	20	Necessary clearances are to be obtained and work will be taken up after clearances.

MINITES OF THE TENTH SITTING OF THE RAILWAY CONVENTION COMMITTEE (1999) HELD ON 30TH OCTOBER, 2000

The Tenth sitting of the Railway Convention Committee was held on Monday, the 30th October, 2000 in Committee Room No.62, Parliament House, New Delhi from 1100 hours to 1300 hours.

The following Members were present :

Shrimati Bhavnaben Chikhalia — Chairperson

Lok Sabha

2. Shri Raghunath Jha
3. Dr.(Smt.) C. Suguna Kumari
4. Shri Hannan Mollah
5. Shri Ravindra Kumar Pandey
6. Shri Radha Mohan Singh

Rajya Sabha

7. Shri Dina Nath Mishra
8. Shri Suresh Pachouri
9. Shri A. Vijaya Raghavan

SECRETARIAT

1.	Shri R.C. Gupta	-	Deputy Secretary
2.	Smt. Abha Singh Yadhuvanshi	-	Assistant Director

Representatives of Ministry of Railways

1.	Shri Ashok Kumar	-	Chariman, Railway Board
2.	Shri N.P. Srivastava	-	Financial Commissioner, Railway Board
3.	Shri R.N. Malhotra	-	Member Engineering, Railway Board
4.	Shri Shanti Narain	-	Member Traffic, Railway Board

2. At the outset, the Chairperson welcomed the Members and the representatives of the Ministry of Railways, who came to Tender oral evidence before the Committee.

3. Initiating the discussion, the Chairperson requested the Members to introduce themselves to the officials. Thereafter the Chairperson requested the Chairman, Railway Board to introduce himself and his colleagues to the Committee. The Chairman, Railway Board, then introduced himself and his colleagues to the Committee.

4. The Chairperson, then, stated that the Committee have taken up the subject "Development of Alternative Routes for Decongesting of the Existing Routes" for examination and requested the officials to express their views on the subject without fear. Thereafter, the Chairman with the permission of the Chair made a video presentation on "Development of Alternative Routes on Indian Railways".

5. Then, the Chairperson and the Members took the evidence of the representatives of Ministry of Railways and raised Important questions relating to the subject.

6. The Chairperson then asked the Ministry of Railways to furnish complete information/details on certain important points that remained unanswered during the discussion at the earliest to this Secretariat.

7. A verbatim record of the discussion has been kept.

The Committee then adjourned.

MINUTES OF THE TENTH SITTING OF THE RAILWAY CONVENTION COMMITTEE (1999) HELD ON 30TH OCTOBER, 2000

The Twenty First sitting of the Railway Convention Committee was held on Wednesday, the 18th December, 2001 in Committee Room No.133-A, Chairperson's Chambers, Parliament House Annexe, New Delhi from 1500 hours to 1600 hours.

The following Members were present :

Shrimati Bhavnaben Chikhalia — Chairperson

Lok Sabha

2. Dr.(Smt.) C. Suguna Kumari
3. Shri Ravindra Kumar Pandey

Rajya Sabha

4. Shri Lakhiram Aggarwal
5. Shri Solipeta Ramachandra Reddy
6. Shri A. Vijaya Raghavan

SECRETARIAT

1.	Shri R.C. Gupta	-	Deputy Secretary
2.	Smt. Abha Singh Yadhuvanshi	-	Assistant Director

2. At the outset, the Committee took up for consideration the Draft Report on 'Development of Alternative Routes for Decongesting Existing Routes' and adopted the same without any modifaction.

3. The Committee also authorized the Chairperson to finalise the Report and present the same to both the Houses of Parliament after making consequential changes, if any, arising out of factual verification by the Ministry of Railways.

4. The Committee, then, decided to visit DRM's Office, Delhi during the month of January, 2002, and therefore proceed for On-the-spot Study Tour to Guwahati, New Jalpaiguri, Katihar, Samastipur, Muzaffarpur, Sonpur and Patna.

The Committee then adjourned.