

# Safety and Efficiency in Indian Railways

B. S. D. Baliga



**FORUM OF FREE ENTERPRISE**

PIRAMAL MANSION, 235 DR. D. N. ROAD,  
BOMBAY 400 001.

“Free Enterprise was born with man and shall survive as long as man survives.”

—A. D. Shroff

1899-1965

Founder-President

Forum of Free Enterprise

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Railways came to be operated in India for the first time in 1853. The first Railway train in India made its historic journey in the Bombay area from Bori Bunder to Thana. The surplus capital available in the U.K. as a result of the industrial revolution sought investment overseas in Railway construction and India attracted a good part of it under the guaranteed return scheme. As the main idea was to build up import and export trade which was in British hands at that time, the lines were built from the ports of Calcutta, Bombay and Madras into the interior. The war in 1857 resulted in construction of some strategic lines in the north-west, and in linking the systems which had been built from ports into a sort of an all-India network.

The Railways ushered in the possibility of cheap bulk and mass long distance transportation. Railway development helped movement of foodgrains to deficit areas, encouraged mobility of population and the setting up of industries near consuming areas. The development of the

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\* The author is a former Chairman of the Railway Board. This is the text of a public lecture delivered under the auspices of the Forum of Free Enterprise in Bombay on 10th May 1982.

internal combustion engine and aeroplane later provided some specific and time-saving services but could not displace the Railways in their bulk and mass movement areas.

Railways the world over have faced hostility from competing interests and the public due to their monopolistic nature, high requirement of land, the economic power wielded by the Directors and the patronage they could dispense. The fact that competing road and air-services have strong lobbies of manufacturers, raw material suppliers and financiers, with correspondingly high voting strength, and that almost 1 in 7 of the population is involved in some way in road or air services have made public relations work for Railways a difficult task. In India, road transport is a State subject, and is often operated by the private sector. This is a factor that operates against the Government managed railways getting public support at any crucial time. Further, since Railways are in India Government-operated, the anti-Government bias, a legacy from pre-Independence days, is still sticking to all railway activity, and cynicism has characterised comments on railways in media and private conversation.

Since Independence, traffic handled has gone up many times more than that in 1947, in both passenger and freight. The wagon, track, locomotive fleet have been strengthened gradually, though lack of finances has caused delay in replacement and additions, causing shortages of rolling stock. The rolling stock in services include an appreciable percentage of over-aged stock which could not be replaced for want of funds.

Increase in track length has been modest but utilisation of the track in terms of tonnes moved over it per day has gone up steeply. In fact statistically, Indian track on trunk routes has shown almost the highest utilisation among all world Railways.

As for passenger traffic, the sleeping accommodation provided on Indian Railways as a standard in the lower class and the more comfortable seats now provided show a great advance even compared to other Railways, though the fares charged by them are much higher than in India. Over-crowding in suburban, intra-urban and underground railways during peak hours and in main line railways during peak hours are a common feature in most countries. While this is a deplorable feature, one has to realise that no commercial organisation can make very heavy investment in spare rolling stock to remain as a standby to reduce overcrowding during peak periods which form a small part of the total period of operation. Few countries, even in the affluent West, can afford this fully. Up to forty percent of normally required rolling stock is kept as reserve by Western systems for use during peak periods. India, at its present state of development, cannot afford to keep a high level of standby rolling stock which represents locked-up capital.

Before 1947, each Railway system used to charge its own rates and fares taking into consideration its working expenses and density of traffic. The further the Railways lay from the coal fields, and the density of traffic, the lower were the rates and fares. The highest rates and fares were charged by the S. I. Railways which lay far

from the coal fields, and this was resulting in lower salaries and wages paid to the staff. The East Indian Railway which covered Bengal and Bihar coal fields charged the lowest rates and fares and paid the highest wages. In 1947, rates and fares, and salaries and wages, were standardised and made uniform all over India, which helped the outlying areas from coal fields with higher wages for local staff and lower rates and fares. The continuity in kilometrage beyond railway boundaries and the telescopic system of reckoning rates and fares for the through distance which were introduced also brought benefits to all those concerned with long distance movement of goods and passengers.

The increase in Railway staff since 1947 has been phenomenal. While increase in staff to meet the needs of traffic and to improve service conditions reasonably is necessary, the doubling of the strength that we see by today's figures does not appear to be needed for the new conditions. Departmentalisation of catering, creation of new services, ever increasing leave reserve strength and the large number of holidays allowed in India, have brought about this state of affairs. Poor law and order conditions also have been responsible to some extent for this increase. Leave reserve, while theoretically necessary, brings about non-seasonal idleness, and inadequacy during festivals and holidays. Unless there is a strong check to limit absence and leave, no amount of leave reserve can meet the curse of absenteeism and the private medical certificate. The Railways have a rule authorising the supervisor to disallow leave when absenteeism is high without regard to the medical certificate. If this rule is enforced rigidly,

absenteeism can be controlled. The general attitude in India that Government has to create more employment, even directly, by creating new posts in its own organisation, without any attempt to improve efficiency makes it difficult to limit staff to what is actually required. The attitude of trade unions and many elected persons who have no experience of administration, towards reducing leave entitlement and leave reserve to international standards, makes it difficult to promote efficiency in Government organisations. Mechanisation of documentation is frowned upon and most managerial attempts to streamline the organisation and to increase efficiency are resisted. The result is that the Railways and all Governmental organisations in India are over-staffed. The late President V. V. Giri, who was a seasoned labour leader himself, once expressed the view that if half the Government staff stayed at home, the other half in office will work efficiently without distraction. This is an eloquent comment on the state of over-staffing in the Government today.

To establish an industrial culture, a natural discipline has to be developed. What has been done by the West over 150 years, we are striving to do within a much shorter period. While the West has today the fifth or the sixth generation of workers, with old traditions, engaged in industry, we are trying to convert agricultural labourers in one hop into industrial workers and that under the world's most liberal labour laws. We do not have the tradition of the Protestant work ethic either. Agriculture does not call for punctuality, regular attendance, night shift working, efficient group working in coordination or strong loyalties to an organisation. But industry, particularly one

like Railways, needs all these. The growing pains in such attempts at quick conversion can cause delays, poor service and even accidents. While attempts are made to enforce discipline, the total indiscipline prevailing in the surrounding areas and the general atmosphere of indiscipline in the country act as a discouragement and disincentive to the supervisors in charge. A large measure of public cooperation and discipline are needed for railwaymen working at stations, to start trains without detention, to eliminate trespassing, and at unmanned and manned level crossings and at numerous other places, where the public come in contact with the railway staff. This can come out of a natural obedience to authority and rules, or by fear of authority. We have neither of these two at present — we do not have the first and have lost the second. Performance indicators and efficiency indicators show the trend on Railways. The statistics show improvements up to 1976-77, but deterioration thereafter until 80-81, when due to managerial innovations and stern enforcement of discipline, the position has been improved almost upto 76-77 level, and in some respects better than that. Detailed statistics are available only upto 80-81 at present. Originating annual loading has gone up to 220 million tonnes. Average gross loads of trains have gone up to 1721 tonnes on BG, the average load has gone upto 760 kms.

Wagon kilometre per wagon day has gone upto 83.6 from 81.9 in 77-78, the previous best. Vehicle kilometre per vehicle day has gone upto 342 from 306 in 76-77, the previous best. Net Tonne kilometre moved per annum per wagon capacity has gone up to 16,285, a 35% increase



from 50-51. This figure is only next to that of the Japanese Railways, who are at the top of world railway performance in this respect. Turn around time of wagons has gone down to 13.5 days, a 17% improvement almost approaching the 1976-77 figure. There has been a 30% increase in coal loading. Jumbo rakes using only 50% of the wagon holding are now moving more than 80% of the total traffic. The power stations hold today about 21 days of stock of coal. There have been corresponding improvements elsewhere. On the freight front, our Railways have given good service and improved efficiency commendably.

There has been a steady increase of average load of passengers in last thirty years — 220% in upper class, 37% in lower class mail and 28% in suburban. The increase in passenger traffic has not always been accompanied by maintenance of efficiency in service, except in a few cases. There has been some deterioration in passenger services in respect of punctuality, cleanliness, catering and reservations. The first few are largely due to introduction of new services without additional stock or maintenance facilities.

The average age of stock today is higher requiring greater maintenance. Due to shortage of stock, many slow services are working with less number of coaches. It is estimated that trains are running with about 1,600 coaches less in their compositions due to this reason at present. The taking over of catering by Railways from contractors has not proved such a success, as motivation is lacking, and staff selected do not always show real interest in the work. Complaints cannot be dealt with efficiently due to the rigid and involved disciplinary rules. Reservation mal-

practices are a reflection of shortages on one hand and lack of early planning by passengers on the other. The cornering of tickets can be effectively stopped only by the issue of some of identity cards to reservation requiring passengers with attached photographs, and elimination of travel agents, or substantial reduction and limiting their services for reservation only to foreigners who possess passports. When there is shortage of accommodation there is no point in introducing another link which takes away a cut from the revenue and gives temptations to indulge in malpractices.

The annual incidence of accidents on Indian Railways was lowest in 1976-77, with a figure of 780. In 1980-81 it had gone upto 859 and in the ten months of 1981-82 it had further gone up to 956. The increase has been largely in respect of collisions and derailment.

In collisions, staff failure was responsible for 97% of the accidents, in derailments staff failure caused 45% and equipment failure 29%. Deaths due to accidents went up from 244 in 1980-81 to 584 in the ten months of 81-82. One accident on NE Railway, where in a storm, coaches went down into the river, caused 270 fatalities out of the total of 584. Where millions of staff and passengers are involved, there is an element of chance in the number of accidents occurring and in the number of casualties. This, however, is not intended to play down the responsibilities of Railways to reduce accidents and fatalities to the very minimum, by making sustained efforts. Safety consciousness is now again being built up and results are now showing a gradual reduction. Breathlyser tests of drivers, and flasher

lights in locomotives have been introduced and are being rapidly extended. Delay in replacements and consequent over-aged stock in service are the result of denial of adequate funds to railways, and failure of the railways to raise adequate resources internally, to allocate sufficient funds for Depreciation fund and repairs and maintenance. At the end of the Sixth Plan, over-aged stock to the extent of 1,000 coaches and 10,000 wagons will still be with us. These figures may go up, if the Railways' procurement has to be curtailed due to rising prices. Additional manufacturing and workshop capacity are required but are not yet cleared by the Planning Commission. In the meantime, many steps are being taken to improve safety — strengthening of BEML coach walls and more ultrasonic flaw detectors. The recommendations of the Railways Accidents Committee are being steadily implemented, according to availability of funds and materials. Comparison with International Railway statistics show that Indian railway accident figures are lower than those of Israeli, Syrian, Pakistani and Canadian Pacific Railways but are higher than Japanese and some European railways. British railway figures are about the same as those of the Indian railways.

The safety of railways is ensured by the General and Subsidiary rules along with station working rules on the one hand, and good maintenance practices on the other. While the former are considered almost sacrosanct, slight departures for short periods in regard to the second cannot be considered as unsafe as there is a good in-built factor of safety in these practices. The tightening of discipline, refresher training of staff and making staff more safety conscious will help in promoting safety in working.

Statutory inquiries are held by the organisation of the Commissioner of Railway Safety, an independent body under the Ministry of Civil Aviation, in case of serious accidents. Some times, judicial inquiries are ordered by the Government in cases where casualties are high and the cause of the accident is not very clear. The position in regard to accidents in Indian Railways is gradually improving and there is no cause for alarm.

There have been comments made arising out of a report of the Public Accounts Committee criticising coach utilisation and fuel consumption. It must be noted that in the foreword to the report it is stressed that what has been stated in the report as lapses should not be considered as representative of the general working, as the report does not make any comment on the good work that has been done. While the PAC mainly deals with losses to the Government due to errors of commission and omission, it is not in a position to comment on the technical performance and exercise a judgement on the working of an organisation. It is necessary to have a Director of Technical Audit as in the Japanese system to deal with the technical issues.

The Railways have already been in the red from 1967 due to political reluctance to raise the rates and fares. With inadequate resources, contribution to Depreciation Fund, and allotment to repairs and maintenance, and to development, have been inadequate and has not taken into consideration, steady inflation in the economy. There has been no policy to foresee and provide for additional dearness allowances, concessions to staff, and for rise of costs by

inflation in the budget. The Planning Commission even now works on the basis of fixed prices, when in a five year period, prices by past experience may go up from 30 to 50%. Thus the railways have been going deeper into the red.

Railways are a capital intensive industry. The margin available in 1947 to move additional traffic with marginal investment has long since been wiped out, and investment now has to be on a big scale in tune with the high prices and the needs of new technology. The Planning Commission has allotted only half of the Railways' demand of Rs. 11,000/- crores in the Sixth Plan, and unless the Railways get another Rs. 1,000/- crores annually, they will be only postponing the evil day of large-scale sickness.

In the U.S., the Inter-State Commerce Commission watches the financial statements of the railroads and ensures that adequate provision is made for depreciation. It is a great temptation to show a brighter financial picture at the bottom line by providing for depreciation fund inadequately.

Social services cost Indian Railways about Rs. 450/- crores — Rs. 287/- crores for passenger traffic, Rs. 32/- crores for suburban traffic and the rest for freight. Only part of this has been neutralised by recent increases in the rates and fares. If we want long-term, permanent improvements, and not flash in the pan type by flogging the system, the Railways must have at least another Rs. 600/- crores annually, for investment as pointed out by P. S. Jha in "The Times of India". This will call for another 15 to 20% increase in rates and fares, which will permit adequate

provision for replacements, repairs, maintenance and development. The Planning Commission lays down a ceiling for the Railway Plan, which includes what the Railways raise from internal resources. This system leaves no incentive to Railways to raise funds themselves. A proper system should provide funds, and give the Railways freedom to raise additional resources internally without any question of an overall ceiling.

The dividend paid by the railways to the Central Revenue is on the book value of the capital. The capital has not been revalued from the inception. The present value is estimated to be at least four times the book value. This would show how inadequate the dividend and DF allowance of the Railways have been, if we read between the lines. Direct costs of operation have gone up from 62% to 78%, without corresponding increases of rates and fares. Since we are short of capital to develop the railways to meet the full needs, the proposal to cut down non-essential travel temporarily is justified. It is also necessary as done on some other foreign railways to limit concessional tickets to only the working days, as the concession is meant only to go to work and return, and not for other purposes.

Railways, despite substantial investments since 1947, had, not been able to raise originating loading to the extent desired, except in 1976-77, when originating loading was 239 million tonnes. The figures have been hovering around to 200 million tonnes only. In the last year, the Railway Board have been able to achieve a break-through by running jumbo trains, over long distance, without hold-

ups *en route*, and detention at way-side yards, by dieseling and going in for juggler operation of work trains, the elimination of exchange yards for major industries, elimination of overaged stock, rationalisation with marginal increase of loadings at transshipment points, by extended runs of diesel locos into steam territory and storing in GRS steam locos. New levels of achievement have been reached by re-establishing discipline. In 1981-82, originating loading went up to 220 million tonnes, over an increased load of 760 kms. It would be interesting to recall that loading in 1950-51 was only 93 million tonnes. If proper support and encouragement is given, the Railways should be able to maintain this improvement and provide better services all round in the eighties. Next to an adequate allocation to depreciation fund, and for repairs and maintenance, comes the need for proper priorities in new investments for development. While electrification, other lines, capacity work, new types of additional rolling stock and stronger track are the needs of the Railways, restoration of old branch lines and laying of new branch lines are cast on the Railways by political decisions to satisfy the populist demands. It is a well-known fact that Railways are economical only for long distance bulk movement and urban area passenger movement, and that the short branch lines to satisfy the ego of every area even in hilly and light traffic areas, which can be given a fast, efficient and low investment road transport, are a sad commentary on our sense of priorities. Hilly areas may be better developed on lower investment by laying out roads, and initial concessions of lower excise duties on vehicles and fuel, and benefits of telescopic fare structure, for road-cum-rail

level, as an alternative to sinking capital on Railways in movement. This is an idea worth considering at the highest low traffic areas.

Politicalisation and populism have been the bane of the railways. Services demanded from Railways should be decided by clearly laid own priorities. In a time of crisis, even in a democracy, priorities should not be decided by populism. Decisions have to be far-sighted and hard-headed. It is in this context that initially priority was given to moving efficiently freight over passenger traffic. Unless civil supplies and industrial raw material are moved adequately on priority, for the core sector, the food distribution system, industry and agriculture will be seriously affected. We are today facing a crisis. During the last two wars, passenger services were slowed and reduced, and all special trains for holiday and festival were dramatically curtailed in every country, even in neutral countries. In such conditions, trains cannot run punctually, or avoid over-crowding.

The extent of over-crowding and inconvenience accepted in train journeys even in normal times, during peak periods in the urban areas and during holidays on the main lines in Japan has to be seen to be believed. Few countries can afford the luxury of expensive spare capacity being kept idle for most months of the year or most hours of the day and to be used only for a short period. Most decisions on Railways these days tend to get politicalised, even where the very survival of the Railways is at stake. This is a sad feature which must be countered.

Indian Railways have retained their volume of traffic, though due to increase in the total volume, their share has



fallen. While road vehicles perform a useful function, they are not economical, except for small loads for short distances. Over long distances, there would be some saving time, compared to the Railways. Per unit of transport, road vehicles require much more land, and investment. For bulk and long distance traffic, the Railways will remain irreplaceable for a populous developing country like India, where land and capital are scarce and incomes are low, but Railway Services involve a high degree of organisation, a large measure of centralisation, very heavy investment, and some measure of patronage which has to be accepted as a fact of life. Road transport operation in India does not have the same maintenance, or safety standards either in respect of equipment or in personnel. It is not subject to proper checks.

Higher average speeds, longer trains, more effective braking with air-brakes and well accepted policies for investment for development and replacement, will keep Railways as an essential and popular service for many decades to come. The users and the politicians must take a long view and agree to levy adequate rates and fares to keep up with inflation and provide a surplus for development, without being obliged to fritter away resources for meeting populist demands for uneconomical lines and services. In short, if Railways have more of business methods to guide and less of political pressures to deal with, they will have a bright future in India, and may be expected to give an efficient, economical and safe service to the nation.

*The views expressed in this booklet are not necessarily  
the views of the Forum of Free Enterprise.*

“People must come to accept private enterprise not as a necessary evil, but as an affirmative good.”

—Eugene Black

## FORUM OF FREE ENTERPRISE

The Forum of Free Enterprise is a non-political and non-partisan organisation, started in 1956, to educate public opinion in India on free enterprise and its close relationship with the democratic way of life. The Forum seeks to stimulate public thinking on vital economic problems of the day through booklets and leaflets, meetings, essay competitions, and other means as befit a democratic society.

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