

PAPER No. 219.

RAIL AND ROAD COMPETITION

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Railway Transport in India was a monopoly for many years. From the time the first railway was built it took all long distance traffic from the bullock cart transport and proved a most essential factor in the making of modern India, including the building of miles of roads. The invention of the internal combustion engine gave a fillip to road building. The roads grew more numerous and were better maintained for the service of motor transport and gradually competition with railways increased until to-day railways have no longer the monopoly of transport.

Where a public utility service has a monopoly the State jealously guards the interests of the public, and railways have always had their fair share of State regulation and control.

As long as railways are considered an essential service their control by Government will continue to have the unqualified support of all parties in the State. With the increase in motor transport and the resultant increase in competition, there seems to be no logical reason why the road-motor transport undertakings should not also be brought under the control of similar legislation, as they can also now be considered an essential service. In certain cases, such as the schedule of fares for taxi-drivers, this has been done but suggestions to regulate and control the carrying of goods and passengers by lorries and buses have always received considerable opposition.

This opposition may be partly due to the feeling that railways have had things all their own way for many years and there is now an opportunity for the traders, by threatening to use motor transport, to force down railway rates to meet their own individual interests.

But whatever the faults of Indian Railways, they cannot be accused of making excessive profits in their transactions and they can boast of their charges being amongst the cheapest of any railways in the world.

There seem to be two questions for consideration. Are railways to continue to maintain themselves and, if possible, to contribute something towards Central Revenues or are they to be subsidized by Government at the expense of the tax-payer? A third point, namely, to pull up railways and do without them, cannot be considered seriously.

The Government of India have spent 800 crores of rupees on its railways and it cannot be expected to look on with equanimity and watch one of its essential services slowly deteriorate even to the point of bankruptcy. Motor transport is also an essential service, particularly as a local service, and it is not surprising that Government should now be taking steps to control it in the same way that railway transport is controlled. This seems logical and necessary in both their interests and also in the interests of the travelling public and the tax-payer who are deeply concerned in both services.

The railway authorities are not opposed to road motor transport but only to its present conditions, inadequately controlled by legislation. They recognize that it is essential to the economical development of the country and, for short-distance traffic, that it is more efficient from the public point of view because of its speed and the great convenience of door to door delivery. Road motor transport in fact should be a great assistance to railways if co-ordinated, but under existing conditions the cut-throat competition between the two methods of transport is uneconomical and if allowed to continue unchecked can only result in,

- (1) the bankruptcy of railways or their subsidy by Government at the expense of the tax-payer and,
- (2) the continuance of a very poor and inefficient road motor transport service.

Regulations are necessary to co-ordinate the two services and to prevent the filching of traffic from the railways by unfair competition.

Unfair Competition.

The threat of competition may and does cause a railway to reduce its rates, very gratifying to the trader no doubt, but in the long run it will be disastrous for the country where railways are State owned.

The unfairness of the competition lies in the fact that railways have to carry all that is offered. Motor transport selects its traffic and naturally takes the more valuable commodities only. As an example of the manner in which road hauliers can pick and choose their loads, a writer in *Modern Transport* gives the following instance:—

“A cargo of esparto grass arriving at Granton. The bales which are intact and which give good loads are taken away by road, the loose esparto from bales broken up during the voyage is handed to the railway companies who cannot refuse to accept it as they are common carriers.”

Exactly the same thing is happening in India. If road transport had to carry all that railways carry, there is no question but that the railways would more than hold their own, and there would not be that

undercutting of rates by road transport that is so detrimental to railways to-day.

Railway fares and rates for passengers and goods are definitely controlled by law, within certain maxima and minima, and cannot be altered from day to day. Rates and fares must be published and are available to the public; such is not the case with road motor transport undertakings. It is well known that as long as a train is at a railway station the bus fares are kept low, but as soon as the train has left, up goes the bus fare! Where there is no competition with the railway, bus fares are from 4·9 pies to 9 pies per passenger-mile. This is much higher than the third class railway fare of 3 pies a mile.

No undue discrimination in rates is permitted on railways. The road haulier on the other hand is free to charge any rate which he can obtain in competition with any transport service for such traffic as he selects. The Railway Rates Officer cannot make rates in the free and easy manner of his competitor. Once a rate has been quoted it is not always possible to say what the repercussion may be. An accusation may be made that the rate is prejudicial to some person or place, and whereas it was intended to limit the scope of a particular rate, it is found that its scope must be widely extended with a consequent loss of revenue, or the rate must be cancelled and the commodity does not move. Road transport knows nothing of such regulations and can make its rates for each particular undertaking without any fear of subsequent legal embarrassment.

The railway has to pay for the entire upkeep of its track. It has to spend large sums on the maintenance of its track and for safety appliances, signalling, interlocking, etc.

It has been alleged by railway authorities that road motor transport on the other hand only pays a small proportion of the necessary expenditure on roads. Road transport authorities do not accept this, and their argument is that "motor transport contributes something like ten crores of rupees in taxation in one form or another, a sum which exceeds that of the road bill." It would be an interesting problem to determine but its solution will not settle all the difficulties.

The cost of construction of roads even from the time of Akbar is not known and it is certain that motor transport has only contributed towards the cost of construction and maintenance of roads within recent years. Motor transport has obtained some advantage from not having to pay interest on the total amount spent on the construction before the advent of motors.

35 % of the working costs of railways are on account of interest charges mostly on construction of the track and buildings. Road

transport has not this overhead expenditure to meet. The cost of *Police Traffic Control* is not met out of the Petrol Tax or Motor Taxes. It is recognized that the control of motor transport is inadequate, largely due to the fact that Provinces cannot afford the money to provide an efficient control staff although money is available for new roads. It would seem wiser to pay for an efficient Police Traffic Control Staff before adding to the present road mileage. In future, as additional roads are constructed, money should be budgetted for the extra police necessary to control the traffic on those roads and to enforce the law.

Regulations such as the Geneva and Washington Convention, and Payment of Wages Act do not at present touch the road transport undertakings but they add very considerably to the expenses of railways.

In the case of accidents, damages are obtainable from railways, but seldom are the dependents of those killed in bus accidents compensated by the owner of the bus. He is usually not in a position to do so and yet an attempt to legislate that road motor transport undertakings should be fully insured has been strongly opposed. The extra charge for insurance would be about an anna per passenger per 100 miles, say 0.12 pie per passenger-mile.

Overloading of lorries is a very general practice. There are many instances of 1½ ton lorries carrying as much as 5 to 6 tons—definitely a dangerous practice. Nowhere on railways is this breach of Regulations possible to this extent. In many cases the low rates charged by lorries are only possible due to this overloading.

This overloading, if done continually, must react on the life of the lorry. In many cases the lorry is bought on the hire-purchase system. The first few instalments are paid but before the bulk of the purchase money is paid the lorry has been worked to death and the Finance and Guarantee Corporation to whom the vehicle is mortgaged is told to take it away.

Another flagrant evasion of the law is in the case of the private lorry which should only be used for a man's own goods. Very frequently this lorry is not only overloaded with impunity but used as a public vehicle for hire, thus defrauding the legitimate transport concerns as well as the railway.

Before one can fully appreciate how unfair the present competition is, it is essential that the methods of charging goods freights by railway should be understood, the principles underlying it and the consequences.

The Railway Rates Structure.

Railway rates are not based on the cost of carriage; it is impossible

to isolate the cost of carrying a particular commodity from the general cost of the undertaking. I cannot do better than quote an extract from the Presidential address to the 1936 Autumn conference of the Indian Railways Conference Association which gives a very clear explanation, of the Rates Structure of Railways.

“There is a general classification consisting of sixteen classes, and commodities are assigned to one of these classes for the purposes of charge. Roughly speaking, the higher the intrinsic value of the commodity the higher the classification and the higher the charge. The maximum permissible charge in each class is fixed by Government and the maximum rise from 0.38 pies per maund in the lowest class to 1.87 pie in the highest class. The minimum charge in each class is also fixed, the minimum for all first five classes is 0.10 pie and for all the other classes 0.166. The maximum is called the class rate and is of the nature of a standard rate though it is not called so. To appreciate the necessity for a grading of this sort, it is only necessary to consider what would be the position today if the same rate was applied to all commodities. The average charge in 1935 (on Class I Railways) for all commodities was 6.76 pies per ton-mile. At the present prices of commodities this would double the cost of coal at 100 miles. The cost of most grains would not be doubled until they had been carried about 2,000 miles and for commodities of a higher intrinsic value the distance would be much greater still. To charge the same rate in all cases would, therefore, be not only inequitable but it would severely restrict the movement of the less valuable commodities and cripple the development of the country. It is to be noted, however, that the grading in the classification cannot pretend to take account of all the differences between commodity values, nor is it by any means certain that this would be desirable. The fundamental and important consequences of the grading is that the lower priced commodities and those that move for long distances do not pay their share of the cost of transport and are in fact subsidized by other commodities which can well afford this. Whilst the average charge for moving a ton of goods one mile on the Railways in 1935 was 6.76 pies, coal was charged only 3.19 pies and other commodities, in some cases, as little as 2.75 pies. The highest was about 50 pies. A similar but not quite parallel system is adopted by the Post Office in that the charge for a package from one street to another street in Calcutta is the same as the charge for the same package from the South of India to the extremes of Kashmir and the short distance traffic subsidizes the long distance traffic.”

The above is a brief description of the Rating Structure of Railways and it is extremely doubtful if a better system can be devised, at least better so far as the general good of the country is concerned, although to charge on an average figure for all commodities would be much simpler from the point of view of the railways. Road transport rates are based more on the cost-of-carriage principle. As road hauliers are not forced to carry certain traffic at an uneconomical rate and recoup themselves by charging more on the more valuable commodities, as railways have to do,

they can and do select only the better paying traffic and can, therefore, quote a lower rate than the railways for their selected commodities. This leads people to look upon road transport as being cheaper than the railway without realizing the reasons which make the lower rate possible.

Is Road Transport cheaper than the Railway ?

Statement A (attached) shows the rates by railway for all classes of commodities compared with the estimated charge by lorry. The lorry gives the advantage of direct collection and delivery and therefore, for purposes of comparison, one anna a maund has been added to the railway rates.

The lorry rates have been calculated on the cost of carriage on the basis of annas four a lorry per mile. At this rate a $1\frac{1}{2}$ ton lorry would cost 2.6 annas per ton-mile, but if there is no return load the cost per ton-mile would be nearly doubled.

The lorry at this rate would not compete very seriously with the railway.

The statement shows that it is when the lorry carries 3 to 5 tons that it becomes a serious competitor.

It reveals the fact that the railway "full parcels" and "half parcels" rates are very much higher than the rates by lorry. In fact this traffic is all vulnerable to road motor transport.

As regards the goods traffic, the statement shows the extent to which railway traffic is vulnerable. Practically every class rate is vulnerable and it is only in the exceptional rates that railways hold their own and for short distances in certain cases.

The present Rating Structure of railways, which is after all for the benefit of the country, permits the more valuable traffic to subsidize the less profitable. But this system is only possible where there is a monopoly. Now the monopoly has gone and road motor transport has encroached on much of the more profitable traffic.

The Post Office would not be able to make its present low charges if an organization was to step in and take all the profitable traffic in towns and leave the delivery of letters to the "Wild" with the post office. This is, however, exactly on a "Par" with what is happening with railways.

The extent to which the less valuable commodity is subsidized is not always appreciated. As already mentioned in the section entitled "The Railway Rates Structure", the average charge for coal by rail is less than half the average charge for carrying all commodities. The charge for transporting a 5-ton load of coal from Jharria to Lahore by rail—

a distance of 1012 miles—is Rs. 58-12. Assuming lorries would undertake this service, the cost for transporting a 5-ton load by a 30 cwt. lorry, at annas 4 a lorry-mile, would be Rs. 253. If the lorry was unlucky enough not to obtain a return load, and in actual practice many would have to return empty, the cost would be nearly double and the freight on a ton of coal would amount to nearly Rs. 100 a ton.

It may be argued that the railways are doing this at a loss and are not charging an economical rate. The point I wish to make is that they are not doing so from any philanthropic motives. They would get more if they could. They are forced to do so by the economics of trade. It would be ruin to the country if they did not charge a very low rate on coal; in fact a surcharge of 12½% on the present freight rates has been presented by the trade as being harmful.

Supposing railways charged coal on the average freight charged for all commodities, the rate would be 6·76 pies per ton-mile, where as a 30 cwt. lorry loaded with 5 tons, which is grossly overloaded, cannot charge less than 9·6 pies per ton-mile, and a great deal more if it has to make good any empty haulage.

For cheapness all round it is clear that the railway is superior.

Lorries, however, do not undertake this long distance traffic in coal and other low valued commodities. They do not have to keep different types of vehicles for seasonal traffic—refrigerator vans, horse boxes, tank wagons, etc., and a large quantity of stock to deal with the peak traffic. It is, therefore, not surprising that road transport can under-quote the railways in the higher classified commodities and give the false impression that road motor transport is cheaper than railways.

The public will not realize this until a railway is closed down and motor transport is left with no competitor. Then the prices of commodities will rise to a price they never anticipated.

How other countries have handled the problem.

Other countries have had the same difficulties and have tried to co-ordinate the road and rail services besides trying to put the competition on a fairer basis. Even countries whose railways do not belong to the State have realized that there is a moral obligation on the Government to protect to a certain extent an essential service like the railways.

Other countries whose railways are the property of the State have taken a very firm line in this respect and it may be of interest to record briefly the action that has been taken in a few cases,

*JUGOSLAVIA. The Railways belong to the State. "Road transport undertakings are submitted to well defined regulations, and these require them as far as postal and passenger services are concerned, to meet the same obligations as those imposed on the railways. Motor transport undertakings, in addition to the ordinary taxes, also have to pay a special contribution towards the maintenance of the roads, a tax which may be as much as 25% of the cost of transport. This tax is paid into the fund for the construction and maintenance of the roads. On the other hand, the motor transport undertakings are obliged to insure the passengers and the goods traffic with a Jugoslavia company. . . . It has to guarantee the maintenance of a regular service and has to comply with all regulations on the construction and cleanliness of vehicles, the management, the men employed on the vehicles and the annual revision of the Rates and Time Tables".

*ARGENTINE REPUBLIC. "The Executive Authorities submitted to Congress 1932 a draft bill proposing to put all road transport undertakings under Government control. The road operators will have to submit their rates to the administration under which the railways come; they will also have to conform to regulations similar to those binding the railways including in particular clauses dealing with rates of pay and working conditions. The dominant idea is to regulate the activities of road transport undertakings so as to put them on the same footing as other competitive transport undertakings, already under Government control".

*ITALY. "The Minister of Communications will not give permission for the service when he sees or foresees that it will compete with the railway. The reason is that competition against railway transport is due not to conceded motor service but to hired motors."

*SOUTH AFRICA. "Under this form of organization the motor transport services are more in the nature of feeders of the railways. Under the Acts of 1916 and 1922 the railways have the right to levy supplementary wharfage dues of 1s. per 100 lb. on goods imported into the harbours of the Union, this additional charge being imposed on persons using lorries or other vehicles for the transportation of their goods along routes which, in the opinion of the Administration, are regarded as competing with railway transport. Any person may be called upon to enter into a written contract with the railways by which he undertakes to have all his goods conveyed by rail; this exempts him from payment of the supplementary wharfage dues. If, at the request of the consignee, the person concerned uses the competitive route, it is the consignee who is called upon by the railway to pay the wharfage dues. In this way competition is reduced to the minimum."

* Extracts from the Monthly Bulletin of the International Railway Congress Association, June, 1934.

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*AUSTRALIA. "Legislation is being introduced in each State with a view to limiting motor transport competition. There is at present no Commonwealth regulation governing motor transport. The provisions regarding the registration of motor vehicles and licensing of drivers are not uniform. Traffic is controlled by Road Boards empowered to allocate the route over which buses may operate. Concessions are generally granted in such a way as to avoid overlapping with other bus services or causing competition to an existing railway line. Motor transport enterprises operating on controlled routes are generally required to run according to regular schedules and are compelled to insure passengers against accident".

†GERMANY. "A compulsory minimum tariff was established bringing the motor transport tariffs into line with the tariffs of the three highest classes of the D. R. G., plus the additional charge of 5 per cent for closed wagons. Lastly, the system of way-bills, consignment notes, and compulsory inspection was introduced. Certain severe penal clauses were also added to these regulations. Motorists declare that the D. R. G. is aiming at a complete monopoly of all transport."

‡"In Germany, according to a statement by Dr. Brandenburg of the Ministry of Transport, the point is stressed that private initiative in road haulage developments cannot be permitted especially for long distances. Sooner or later the various means of transport must be grouped under the aegis of the State. In short, interests of the nation as a whole and defence in particular are paramount. This dictum follows out the German policy dating from October, 1931, whereby road transport movements exceeding 30 miles must charge the same rates as the railway charges. In view of the difficulties of enforcement, the German road hauliers have, since June, 1935, been placed in one national organization which is responsible for controlling their activities and their charges."

§GREECE. "In order to prevent the further growth of road competition, which has so developed as to have become a serious competitor of the railways, the Greek Government has recently introduced measures which make many of the road transport companies subsidiaries of the railway system. It is hoped by the refusal to renew permits for vehicles which go out of circulation from accidents or old age to bring the question within manageable limits. All long haul traffic has been decreed a railway monopoly, and transport companies may only operate within

* Extract from the Monthly Bulletin of the International Railway Congress Association, June, 1934.

† Institute of Transport Journal.

‡ Copy of an extract from "Road and Rail in Forty Countries" by Wohl and Albitreccia.

§ Extract from Monthly News Letter, The Indian Roads and Transport Development Association, Ltd.

a fixed radius of their headquarters, approximately 50 kilometres. A Ministry of Railways and Motor Transport has been created to deal with the problem of road versus railway competition." (Modern Transport.)

All these countries evidently realize the necessity for protecting their railways.

The railways in India belong to the public ; they are essential to the country. The N. W. Railway alone employs over 100,000 men and pays 6 crores of rupees annually in wages and strategically is of the greatest importance to India. It is only natural that Government should see that the legitimate earnings of the railway are not filched by a competitive service working under preferential conditions.

There are many places where buses and lorries can now operate without competing with the railway and by doing so they would be developing the country and bringing traffic to the railway to the benefit of the people of India generally. If the country was rich enough to afford a duplicate transport service then by all means encourage both road and rail transport and subsidize them both, if necessary.

Extent of losses due to depletion of railway revenues.

It is very difficult to get any accurate figures of losses, but estimates prepared by the N. W. Railway put the figures at Rs. 93,38,000 passengers and Rs. 10,52,000 goods or about 5% of gross earnings of the Railway. It is easier to estimate the losses from passengers than goods. The traffic is more regular and is limited to certain routes which are obviously competitive. On days when there have been motor transport strikes the N. W. Railway has noticed a considerable increase in the number of passengers booked and earnings collected at stations where there is competition.

On the 1st January, 1938, there was a motor transport strike. At certain stations on the Lahore Division of the NorthWestern Railway the number of passengers booked was 10,000 more than the daily average of the previous week, and the earnings exceeded the daily average by Rs. 9,000. It is fair to assume that this additional traffic would have been daily attracted to railways if there was no road competition and when one considers that these figures refer to only a few of the competitive points on the railway, it is fairly obvious that railway earnings are being encroached upon to a considerable extent.

With goods traffic at present it is perhaps not the amount of the loss on traffic filched by lorries as the loss on account of the reduced rates which railways have been forced to quote in an attempt to keep the traffic. Recently the N.W.R. quoted a reduced rate of 20% on pressed cotton to

Cawnpore in response to a threat from traders to use road motor transport. It is estimated that this has caused a loss of nearly 3 lacs of rupees to the N. W. Railway. The more important firms dealing in cotton would much prefer to send their cotton by rail, in fact their Agents suffer from sleepless nights when they send their cotton by lorry ; but if one of their competitors attempts to steal a march on them by getting reduced rates by lorry, they must follow suit. In the end, who has scored by the 20% reduction in freight on pressed cotton? Not the agriculturists and I very much doubt if the consignor has scored ; the mill owner to whom the cotton was sold probably scored more heavily than anyone, but the price of the manufactured article will not be any the less.

This particular reduction in freight by the railway has not resulted in the roads between Khanewal and Cawnpore being strewn by the wayside with "out of work" lorries. The lorries have doubtless got some other traffic for which in due course the railway will be asked to reduce rates again and so the vicious circle continues. There is a very good railway system connecting stations in the Punjab with Cawnpore and there is no violent urgency to transport pressed bales of cotton rapidly between these two places. The country in general is not benefiting and the railways are losing money to enrich a few capitalists.

Traffic in commodities carried at the 2nd class rate and above accounts for 22 per cent of the total tonnage on the N.W. Railway and 53 per cent of the earnings ; and if a small percentage of this high class traffic is encroached on by the motor vehicle it entails a considerable loss to the railway.

Action taken by Railways to combat Road Motor Transport.

Railways have realized the inroads made on their earnings by road transport and have attempted in many ways to prevent the diversion of their traffic to the road. The following steps have been taken on the N.W. Railway and most other railways have taken similar action :—

- (1) Train Services have been improved ; faster trains have been put on between important centres.
- (2) 11 Diesel rail cars are on order and it is hoped to give a faster and more frequent service on certain competitive sections.
- (3) Many reduced fares and cheap return tickets between competitive points have been introduced. This is probably the most expensive way of retaining the traffic to the rail. Cut-throat competition is generally ruinous to both parties.

- (4) Unmanned halts of trains at level crossings. These have attracted passengers, but the number of people concerned is small and the railway earnings are not materially affected.
- (5) Through Rail-cum-Road tickets have been instituted and have had a publicity value besides being appreciated by the travelling public.
- (6) The N.W. Railway has entered into a new venture by participating in road motor transport itself. A limited liability company has been formed to work buses on the Lyallpur-Jhang Road, the N.W. Railway holding a large financial stake in the company. Rail-cum-Road tickets will be issued in conjunction with this company and in due course it is hoped goods booked at, say, Lahore, may be delivered direct at some village between Lyallpur and Jhang.
- (7) The collection and delivery of parcels and goods at a few stations has been arranged; this facility enables the railway to give the same service as the lorry. It is intended that all large towns should be given this facility in due course.

Is Co-ordination Possible ?

As regards passenger traffic it should be possible for road motor transport and railways to co-operate. The difficulty at the present moment is that there are so many owner-driven buses that it is difficult to form any combination. On one section of the N.W. Railway, due to motor competition, the fares were reduced from annas 7 to annas 5. An attempt was made to make an agreement with the bus owners to increase the rate to annas 7 by road and rail. The idea was that both services would at least earn 40% more on the traffic they were carrying, but the thirty-five owners of buses on that section, much as they would have liked to join in with the scheme, dared not agree as they could not stop a pirate vehicle coming in and undercutting the rates and taking the traffic; so nothing was done. Until these small men are absorbed into larger companies it is difficult to deal with them.

The competition with buses is, however, on a much fairer basis than it is with lorries. The railway fare structure is not so complicated. If railways quoted the minimum fare permitted, namely $1\frac{1}{2}$ pies per passenger per mile, there is little doubt that buses on certain competitive routes would soon be carrying fewer passengers. They could not make much profit at $1\frac{1}{2}$ pies per passenger per mile. But the railway would also lose money and there would be, therefore, no sense in such cut-throat competition.

To get the maximum good from both the road and rail services they should be combined. Prior to any combination, the road motor transport should be more rigidly controlled.

Buses should be licensed for definite routes. The number of licences should be controlled.

A partial monopoly should exist on each route.

The maximum rate for charge should be laid down by Law in order to stop exploitation where rail competition does not exist. In addition, it is just as essential to adopt regulations for public safety for travel by road as by rail and the following measures should be adopted :—

- (a) a reasonable standard of maintenance of vehicles,
- (b) the medical inspection of drivers,
- (c) insurance against passenger and third party risks, and
- (d) adequate inspection and the enforcement of regulations.

It is perhaps harder to enforce these regulations by road than by rail because the road services are spread over such vast areas, but a deterrent punishment for any disregard of the rules would have the desired effect.

It is accepted that over certain distances and between certain points the bus has an advantage. For that advantage the rate by bus should be slightly higher than by rail, in fact it would be considered a "service de luxe". By extra taxation on the bus the Government could make good the losses in the passenger earnings of railways.

The charge will at once be made that this action would be "bolstering up railway finance". Actually no favour is being asked for the railways. It would be the whole country which would benefit.

As regards goods traffic the present railway rates structure is responsible for the competition between lorry and rail. Road transport has certain advantages but the real reason for its popularity is that it underquotes the railway in the higher grade commodities. I have explained earlier that this is not due to any inherent excellence of road transport but due to the regulations governing road transport being of the nature of preferential treatment and the failure to enforce rigidly the motor vehicle rules that do apply under the present regulations. One way to improve the economic position of railways would be to increase the charges on all low grade and long distance traffic such as coal, etc., which the lorries do not touch. This would affect the whole country adversely but would certainly increase the railway revenue. The cut-throat competition that exists today will continue as long as the present railway rate structure is in existence. The only hope is to make the conditions between the two services more even.

To help towards this end :—

- (a) lorries must not be overloaded and
- (b) the abuse of the private lorries must be firmly dealt with.

Short journeys by rail, particularly if several important junctions are passed, do take a long time and may be considered legitimate traffic of road transport, but long distance traffic by lorry should be heavily taxed. Lorries should be licensed to ply in a limited area.

If the railway can supply reasonably efficient transport between two points, lorries should not be allowed to compete unless they compete as an "Express Service" at higher charges, and the higher taxation recovered from such lorries would help to meet the deficit on railways, due to encroachment on their traffic by another transport service working under preferential conditions.

To enforce the orders will not be easy, but the appointment of Central and Local Road Transport Boards, a largely increased Traffic Control Police Force, and deterrent punishment would make it possible.

The Transport Board would grant licences for lorries as follows :—

Licence A to ply from the village to the railway station purely as feeder services.

Licence B to ply within a radius of 10 miles from the centre of the town.

Licence C to ply in the area of the Local Transport Board issuing the licence. This would be more expensive than Licences *A* and *B*. If a lorry desired to ply in the area of any other Transport Board a separate licence from the Central Road Transport Board would be necessary for the area through which the lorry would run.

Licence D to ply as a private lorry; commodities to be carried will be specially mentioned on the licence and would consist of articles required in the business of its owner.

The taxation on lorries plying under Licence *C* should be so fixed that it would be necessary for the lorry to make a charge in order to pay its way, equivalent to the charge per maund mile of commodities booked under Class 4A on railways, plus anna one a maund. The taxation would help to make good any loss to Central Revenues due to railway revenues falling off on account of traffic being diverted from the railways to the road. The revenue from this taxation will be needed in years to come; of that there is no doubt.

In conclusion, I would like to point out that although all the papers and pamphlets written on this subject treat it as a problem of railways *versus* roads, the real problem is not what will benefit the railways or the road transport but the country generally. Both the railways and the roads belong to the public in India. Both are essential to the country. The tax-payer has spent crores of rupees on both and is continually spending more. The Bill to amend the Motor Vehicles Act is aimed at placing both services on a more even footing. The fear that motor transport will suffer by the passage of the Bill is, I consider, unfounded. The present state of the service is unsound and uneconomical. Greater control over road transport should result in better vehicles, more comfort for the passengers, a higher standard of wage for the drivers and is in the interests of road transport generally. India is an enormous country. There are many parts still to be developed. Both services are necessary to this development and both must be maintained.

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STATEMENT A.
CHARGES FOR TRANSPORT BY LORRY AND BY RAIL PER MAUND.

Rate.	Mileage.									
	50	75	100	125	150	200	300	400	500	
	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	
Lorry { 30 cwt. lorry carrying 3 tons	0 2 5	0 3 8	0 4 11	0 6 1	0 7 4	0 9 10	0 14 8	1 3 7	1 8 6	
Lorry { 30 cwt. lorry carrying 5 tons.	0 1 6	0 2 2	0 2 11	0 3 8	0 4 5	0 5 11	0 8 10	0 11 9	0 14 8	
Full parcel rate.	0 13 0	1 2 0	1 8 0	1 14 0	2 2 0	2 9 0	3 4 0	4 0 0	4 14 0	
1/4 parcel rate.	0 7 0	0 9 6	0 12 6	0 15 6	1 1 6	1 6 0	1 10 6	2 0 6	2 7 6	
1/2 parcel rate.	0 4 0	0 5 3	0 6 9	0 8 3	0 9 3	0 11 0	0 13 9	1 0 9	1 4 3	
3/4 parcel rate.	0 2 6	0 3 1 1/2	0 3 10 1/2	0 4 7 1/2	0 5 1 1/2	0 6 0	0 7 4 1/2	0 8 10 1/2	0 10 7 1/2	
Goods 10th Class.	0 9 9	0 13 4	1 1 3	1 5 2	1 9 1	2 0 10	3 0 5	4 0 0	4 15 7	
Goods 9th Class.	0 7 2	0 9 6	0 12 1	0 14 8	1 1 4	1 6 6	2 0 11	2 11 4	3 5 9	
Goods 8th Class.	0 6 3	0 8 2	0 10 4	0 12 6	0 14 8	1 3 0	1 11 8	2 4 4	2 13 0	
Goods 7th Class.	0 5 11	0 7 8	0 9 8	0 11 8	0 13 8	1 1 8	1 9 8	2 1 8	2 9 8	
Goods 6th A Class.	0 5 8	0 7 3	0 9 1	0 10 11	0 12 10	1 0 6	1 7 11	1 15 4	2 6 9	
Goods 6th Class.	0 5 5	0 6 10	0 8 7	0 10 4	0 12 1	0 15 6	1 6 5	1 13 4	2 4 3	
Goods 5th Class.	0 5 2	0 6 6	0 8 1	0 9 8	0 11 4	0 14 6	1 4 11	1 11 4	2 1 9	
Goods 4th B Class.	0 4 11	0 6 2	0 7 8	0 9 2	0 10 8	0 13 8	1 3 8	1 9 8	1 15 8	
Goods 4th A Class.	0 4 9	0 5 10	0 7 3	0 8 8	0 10 1	0 12 10	1 2 5	1 8 0	1 13 7	
Goods 4th Class.	0 4 6	0 5 7	0 6 10	0 8 2	0 9 5	0 12 0	1 1 2	1 6 4	1 11 6	
Goods 3rd Class.	0 4 4	0 5 4	0 6 6	0 7 9	0 8 11	0 11 4	1 0 2	1 5 0	1 9 10	
Goods 2nd C Class.	0 4 2	0 5 1	0 6 2	0 7 4	0 8 5	0 10 8	0 15 2	1 3 8	1 8 2	
Goods 2nd B Class.	0 4 0	0 4 10	0 5 10	0 6 11	0 7 11	0 10 0	0 14 2	1 2 4	1 6 6	
Goods 2nd A Class.	0 3 10	0 4 7	0 5 6	0 6 6	0 7 5	0 9 4	0 13 2	1 1 0	1 4 10	
Goods 1st Class.	0 3 8	0 4 4	0 5 2	0 6 1	0 6 11	0 8 8	0 12 2	0 15 8	1 3 2	
Schedule C/B/C/K	0 3 6	0 4 1	0 4 10	0 5 8	0 6 5	0 8 0	0 11 2	0 14 4	1 1 6	
" C/L	0 3 4	0 3 9	0 4 5	0 5 2	0 5 10	0 7 3	0 9 0	0 10 1	0 11 0	
" C/R	0 3 6	0 4 1	0 4 10	0 5 4	0 5 9	0 6	0 8 6	0 9 7	0 10 8	
Minimum rates by rail	0 2 2	0 2 3	0 2 6	0 2 10	0 3 1	0 3 7	0 4 6	0 5 5	0 6 4	
	0 1 5	0 1 8	0 1 10	0 2 1	0 2 3	0 2 8	0 3 6	0 4 4	0 5 2	

- NOTES:—1. Cost by rail includes 0-1-0 per maund as incidental charges at both ends.
 2. Line of crosses (x) indicates extent of traffic vulnerable to 3-ton loads by lorry at double rates to cover empty return haulage. Rates below this line are in favour of the railway.
 3. Line of circles (oooo) indicates extent of traffic vulnerable to 5-ton loads by lorry at double rates to cover empty return haulage. Rates below this line are in favour of the railway.
 4. Line of stars (***) indicates the mean of the two rates indicated by line of circles and line of crosses. Below the line of stars rates are in favour of the railway.
 5. Black line (—) indicates extent of traffic vulnerable to 3-ton loads by lorry. Rates below the black line are in favour of the railway.
 6. Dotted line (....) indicates extent of traffic vulnerable to 5-ton loads by lorry. Rates below the dotted line are in favour of the railway.

DISCUSSION.

The **Author** while introducing his Paper said that when he was asked to write a paper on Road-Rail Competition he agreed to do so with some diffidence as it was a very contentious subject. He added that it was a matter that must be of interest to every one present as they were all vitally affected by the condition of their railways. If the Railways failed to pay their way and were unable to add to Central Revenues, there was every prospect of their being subsidized at the expense of the tax-payer.

Mr. Hawkes went on to say that the problem had been receiving the attention of Governments in all countries for some years, but a satisfactory solution had not so far been found and it was not likely to be found suddenly. Some system would in time grow out of the present chaos in much the same way as the present classification of goods on railways had 'grown up' rather than come into 'being' by an executive order. The latest development came from the British Railways who had asked the Government for a 'square deal'. They were pleading to be relieved of the regulations and restrictions which hampered them in their competition with Road Services. Some of these points had been mentioned in the paper under the head "Unfair Competition". If the plea were granted, the Railways would be placed on a fairer basis to compete with Road Transport; but the Author doubted very much if it would increase their earnings very considerably so long as the quantity of transport available was more than the traffic offering, which was the case at the present time.

The Author felt that Motor Transport was used because of its cheapness, there might be other advantages, but cheapness was the main criterion. Actually no true comparison could be made between the two services until they both did identical work under the same regulations. The Author had tried to show that the cheapness is very largely due to the fact that Motor Transport was not tied down with the regulations that bind a railway, that it had not to carry everything offered, much of it at extremely low rates, as in the case of railways, and that in many cases competition was only possible by evasion of the law. There was another point he added, that needed emphasizing. 75% of the cost of Railway Transport was fixed cost, that is, it did not vary with the traffic carried. If traffic left the railway for the road, that irreducible railway cost had got to be paid for. The merchant who used the motor lorry might score by a cheap lorry rate but the nation had still to pay for the irreducible railway cost or the amount had got to be paid for by the commodities that remained on the rail which was not practicable.

Continuing Mr. Hawkes stated that it might interest the members to know that Railways were at time being pressed to build new lines which in their opinion were not commercially justified. One of the main points of those advocating the construction was that it would keep the

rates by motor transport low. It was an argument that did not appeal to railways. If Road Transport provided a better service, there should be no reason to press for railways.

There were a number of people who did not want the problem solved. They preferred to play off the Railway against the Motor Transport. The Author felt that so long as cut throat competition was possible, conditions in the two services would not be satisfactory.

In certain places motor transport was essential, in others, where there was competition with the railways, it was not; the country did not appear to be wealthy enough to support competitive transport systems at present.

Railways since their construction had contributed to Central Revenues the sum of Rs. 894 crores as interest charges and Rs. 110 crores in addition.

Mr. Hawkes then speaking enquired what the future of the Railways would be. Were Railway Revenues going to diminish until the taxpayer had to subsidize the Railways? Meanwhile the road bill would go on increasing and the money from road taxation and the Petrol Tax would have to be spent to keep the roads in order and there would be nothing left for other services, such as, Health, Education, etc.

The Author advocated that where there was competition between Rail and Road, the charges by road should be higher than by rail. If Road Transport had the superiority over Railways, which its supporters maintain, it should be able to ask a higher price for "quality", in fact, let it be a "de luxe" service when in competition with the Railway. The extra taxation on that "de luxe" transport could help towards subsidizing Railways and provide money for education, health and other services.

Mr. D. P. Nayyar said that he had read Mr. Hawkes' paper with peculiar interest, because so far as he was aware it was perhaps the first occasion when an attempt had been made before the Punjab Engineering Congress to put up a case for the co-ordination of the two means of transport available in the country. Ever since the question of road and rail competition was taken up in 1932 by Messrs. Mitchell and Kirkness at the instance of the Government of India, a good deal of importance had been attached to that aspect of the problem, and rules had been laid down whereby the financing of the construction of a road out of the Central Road Fund was subjected to certain limitations based on its probable or even remote competition with the existing Railways. It was however to be regretted, went on Mr. Nayyar, that hitherto that co-ordination had been sought by tightening the control over road transport and thus stifling private venture to the great detriment of the individual capitalist. It was not only in this country but even in the West, it appeared to him, that

Railways had so far been guiding the Policy of Government, and the poor road man had been driven to the wall under the all potent influence of financial interest in the Railways. Cases could be cited where many a road project had been shelved or turned down, because of its possible effect on the existing railway earnings in the area.

Continuing his remarks Mr. Nayyar stated that it was true that no country could afford to pay for a duplicate system of transport, but where money was so scarce, it was a question of pure economics to the private enterprising person as to what was going to cost him less. He could hardly be expected to look at the problem from a national point of view. What he was mainly concerned with was the cheaper mode of transport for him. If as he generally found, that road transport cost him less in money and gave him more of convenience there was no earthly reason why he should be debarred from getting an advantage out of it. Mr. Nayyar enquired whether it was upto the State to force the enterprising person down to a certain mode of transport which was not acceptable to him. The new motor vehicles act which in the speaker's opinion aims at tightening the control over road transport to the utter benefit of the railway, had received a lot of criticism in the Press, but to what purpose? Road transport must be stifled because otherwise the 800 Crores invested in the state Railways would be blown up altogether. The speaker asked what interest the average tax-payer had got in the Railway earnings. It was a well known fact that the amount of contribution by the Railway budget to the Central Revenues was much less than the amount of Petrol tax alone. If to that tax was added the amount earned by the Railway on the transport of materials connected with the road transport and the dues on account of Customs on those articles, it was quite easy to see that the total revenue derived by the country from the road transport is quite ample to make out a case for sympathetic consideration at the hands of Government.

It had been stated in the paper, the speaker added, that the bus fares were increased after railway trains had left a station. The number of buses in the country had grown so much that he did not believe that such a thing was possible at all; at any rate it could not have been very common. To cite the experience on the Lahore Pathankote section the bus fares per passenger was only about 12 annas for 100 miles or $1\frac{1}{2}$ pies per passenger mile as against the railway rate of 3 pies which was just double of the other. He could not imagine that the bus proprietors lost on that rate because not only was the number of buses ever on the increase, but the services had been so scheduled and timed that one could hope to find a conveyance on the road at any time of the day without waiting for long. There were over 200 buses plying daily on that section of the road. The speaker enquired if there was any justification that the people on the line should have to continue to pay double the amount for their conveyance, simply because an over-capitalized railway was in

existence. Again it was argued that the road transport had not to pay for its trackway. Whatever might have been the policy in the past all new roads were constructed out of the Provincial share of the Central Road Fund, which derived all its assets from the Petrol tax. The maintenance of the road was of course a Provincial concern, but the benefits derived from the road were not confined to the economy in transport thereon. They were both direct and indirect. It was the sum total of both benefits that more than justified not only the maintenance but even the construction of roads out of Provincial revenues.

Mention was made in the paper of accidents and the consequent liability of the Railway in the matter as a reason for the increase in fares. The speaker called that reason as a purely imaginary one. He could not conceive of a Railway Administration taking into account a large number of accidents. If such was the case the sooner such a railway was scrapped the better it would be for the country.

Mr. Nayyar went on to say that it had been stated that overloading of lorries made the competition with the Railway unfair. So far as the road structure was concerned, there was no deterioration caused to it by the overloading complained of. As a matter of fact the Motor Vehicles Act had limited the maximum axle weight of vehicles and had thus imposed an unnecessary limit on the road transport. Mechanized transport was ever on the increase in all countries and if India was to keep pace with the rest, it must improve its transport. In Germany and Italy, where Railways are as much the concern of the State as here, it is a common sight to see 15 or 20 ton Tractor Units hauling heavy loads on the new roads at 55 miles per hour. The cost of transport is so reduced, and the speed of conveyance has been so much increased, that roads have begun to be realized as a national property. If in this country all the unnecessary railway lines were filled with concrete, and converted into roads, the speaker imagined that a really national highway system could be evolved which would be of real benefit to the individual in the country. It was not unlikely that even coal might be transported at a cost less than that at which it was being done by the Railways so far.

Mr. Nayyar continuing his remarks said that it was generally argued that the road carried the cream of traffic and left the mineral and the low rated traffic to the railways. That argument was also misleading, because not only could the road handle all classes of traffic but it did so better and more cheaply than the rail, in spite of the handicaps against which road transport had to be counted—penal taxation and bad roads among other things.

The value of transport to the State lay not in the revenue it derives from the transport itself, but in that which it derives from the industries it serves. Transport was not meant to be a money-making business. It could not be made to pay by an increase of transport charges: Such a policy brought about the reverse result.

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Railways had grown and prospered on monopoly. They had perhaps grown beyond the normal healthy business unit size ; they were in fact gigantic and a giant was always at a disadvantage amongst his fellows. If the rail were so superior to the road, then it would retain the traffic, but the railways themselves were inclined to swing over, as rapidly as they could find it convenient, to road transport. There was no possibility of an immediate supersession of one form of transport for the other, but unless something unforeseen happened, there could be but one end to the present trend of development—Shrinkage of rail transport and expansion of road transport. Legislation might prolong transition, it could not stop it. The speaker then enquired how in the circumstances the ideal of co-ordination was to be brought about and added that this could certainly not be done by a direct and indirect penalization of the road transport. Perhaps science might be invited to attempt to find a solution of that most intricate problem.

Mr. **G. R. Sawhney** said that the Author had done the Railways and the Public quite a good turn by bringing the paper for discussion before the Congress.

The difficulties of the Railways were no doubt multitarious but there was still room for improvements in their working and backed by the introduction of stricter legislation by the Government controlling the lorry traffic in the Province things should improve considerably.

Talking about Railways increasing freight on coal was hardly a practical way of dealing with the situation. If such a drastic step was ever taken the Railways would be forcing people to run oil Engines as well as retarding progress in the various industries, while the closing down of any lines or branches would amount to nothing else than an acknowledgement of the defeat of the Railway by the Lorries.

Actions 1, 2, 3, 5, 6 and 7 were really good and should improve matters while 4 was liable to cause all sorts of troubles without bringing in much return.

The speaker suggested the running of regular daily one or two bogie service by Diesel Engine from and to each District head-quarter to bring in litigants as well as other people to the District head-quarter in the morning and take them back home after office hours. That should help a lot.

Mr. Sawhney added that combination of Rail and Road service would only be a dream for some time, but more rigid control of road motor transport would no doubt improve matters. He, however, suggested that the number of licences to be issued on definite routes should also be fixed. In his opinion the fixing of any minimum or maximum rates

for a public vehicle plying for hire on the roads in the country was hardly a practical proposition, while the regulations suggested by the Author were indeed very good and should be enforced at an early date. The speaker further suggested that lorry owners should be made to deposit at least Rs. 1,000 per lorry as a guarantee so that in case of accident resulting in loss of life or in injury to passengers or pedestrians if the damages are not recoverable from the insurance companies they should be met from this sum of Rs. 1000 deposited by them after a decree to this effect had been passed by a competent Civil Court. Of course the money deposited would bear the usual rate of interest till it was drawn on to meet any charges in which case the sum drawn must be again made good by the owner within a fixed time, otherwise the balance should also be liable to be confiscated and the lorry-owner debarred from being given another licence for at least five years.

The speaker complained that the manners of the lower staff of the Railway had no doubt been for years ridiculously off-handish, if not altogether objectionable. This draw-back was being more acutely felt by the public who having now got the vote were going all out to assert themselves in every possible way especially when they got addressed and treated by the average lorry driver or his mate quite differently. The Railway required a good deal of improvement just as much for the sake of the travelling public as for their own good name.

The speaker suggested that Hony. Non-official Inspectors should for the purpose be appointed as was being done in the case of Jails.

Mr. R. Trevor Jones said that speaking as a road man Mr. Hawkes' paper was a very welcome contribution to the papers for the Engineering Congress, and was a great step towards a Road and Rail "entente". "Appeasement is better than war", he added. It would appear that most of the Author's suggestions for the control of long distance goods traffic would be provided for by the new Motor Vehicle Act. The speaker thought that most reasonable people agreed that long distance goods traffic was unfair, and it was surprising that Government with their immense Railway system had not prevented the growth of such an industry at the outset. It was also reasonable, and Mr. Hawkes' statement at page 22 was very welcome, that railways had to some extent admitted the propriety of passenger traffic by motor vehicle and it was greatly to be hoped that the railways would be able to compete and participate successfully in road motor transport.

2. The speaker added that the fact that they had parallel systems almost everywhere throughout the Province, was largely a legacy of the past. In fact many of the routes which were now metalled had carried heavy traffic of a diverse nature for time immemorial. There had been railway opposition to road improvement, bridging and widening and this opposition appeared an unsatisfactory type of "rearguard" action. "For

the motor lorry is a pioneer and it is amazing the obstacles and discomforts it overcomes" added Mr. Trevor Jones. He continued that it was no use saying, as it had been said, that India is a poor country and could not afford dual transport facilities. 'Where there is a will there is a way' and if the human element experienced a demand for motor roads, they would have to be provided in due course. But Mr. Hawkes appeared to acknowledge that fact and agreed that both services were necessary.

3. Mr. Trevor Jones went on to say that Mr. Hawkes has given suggested regulations for public safety on page 21, but has omitted one of the most important items, 'the provision of a reasonable standard of highway construction to ensure safe passage and general public safety. For instance, the question of widening the metalling of roads. Unless metalling of our roads were widened to admit of two-way traffic the rate of accidents by collision and skidding, etc., must increase enormously. Perhaps it was to the advantage of the railway that such roads should remain as they were. Recently the speaker had met a retired Indian Officer who had come to see him from Jhelum and told him that he had come by train. The speaker asked the reason for it and the Indian Officer replied that he had survived 5 wars and got 13 medals and did not wish to be killed on the Grand Trunk Road in his old age! However if the railway administration would accept passenger vehicles as a normal and legitimate means of transport, it was undoubtedly a great concession.

4. Mr. Jones observed that Mr. Hawkes had stated that there were many parts of India to be developed. That was undoubtedly true, but feeder roads which might open up vast sections of a country to the railway system, would also connect up with the parallel road system in the majority of cases. It had been laid down by the Traffic Advisory Committee that 25 per cent of new construction should be feeder roads connecting up undeveloped areas to the road rail system.

5. One of the difficulties of short feeder roads was, in the opinion of the speaker, in the maintenance of the same. It was beyond the financial powers of the local bodies to undertake such short lengths and also inconvenient and difficult for the Government to build and maintain such roads. Therein would appear to be a problem which had never been seriously and satisfactorily tackled by the road and railway engineer.

6. Another point to which the speaker drew attention and on which there had been some opposition from the railways was the provision of roads with short circuit existing railway systems. Yet it was obvious that there was a large section of the public who would risk a dangerous and possibly uncomfortable journey of an hour's duration rather than the safer and more leisurely railway trip of several hours. Mr. Trevor Jones enquired if such roads were never to be improved or made safer and easier.

7. The speaker continued that there were two points in the paper which called for comments. At page 11, the author had stated that only a small proportion of the expenditure on roads was being paid by the motor transport. In the Punjab these days motor transport pays almost entirely for any new development as the only means of construction is from the Central Road Fund. There was no doubt however that motor transport, in fact any public transport, did not realize how much they were indebted to the magnificent heritage from the past which had been passed down to them from by-gone days. Moreover it must not be forgotten that the railways themselves had played an immense part in developing their roads during this century. Without the assistance or the existence of the railway, many of the bridges carrying roads over the Punjab rivers, could not possibly have materialized and in a way the railway have generously or unwittingly contributed to the present day competition.

8. Finally Mr. Trevor Jones remarked that on page 12 had been suggested that as additional roads were constructed, the money should be budgetted for the extra Police. It was difficult to know from where it was to come and it would seem that if it could be enforced it would create a strangle-hold on further construction and improvement. But one thing was obvious that both road and railway had come to stay and that it was absurd for them to be competitive and adversaries.

Mr. J. Halcro Johnston said that the paper had given very clearly the case for the Railways, and with many of the Author's conclusions he agreed. The Author had shown that laws and regulations that were necessary and fair fifty years ago were now hopelessly out of date and acted to the detriment of the Railways. It was generally accepted that reforms were urgently called for; but he enquired what the basis of these reforms was to be and on what principle or principles was action to be taken? That was a question that the Author had not discussed and the omission to the mind of the speaker reduced the value of the paper. He, the Author, appeared to base his case on the accepted fact that road transport was taking trade away from the Railways. This transfer, however, might be for the benefit of the Public, or it might not be so; in itself it was no argument for new legislation.

The speaker observed further that if a case for reforms was to be made out, it should be made out on accepted economic principles. They all agreed with the Author that a proper standard of maintenance of all kinds of transport should be enforced; that all passengers should be ensured, that overloading should be stopped, and generally that the high standards required in the case of Railways should apply also to road transport. The speaker did not think however that the Author had made out a case for the control of carriage rates apart from that exercised by the law of supply and demand.

SECTION OF A BUTMENT

SCALE = 1/200

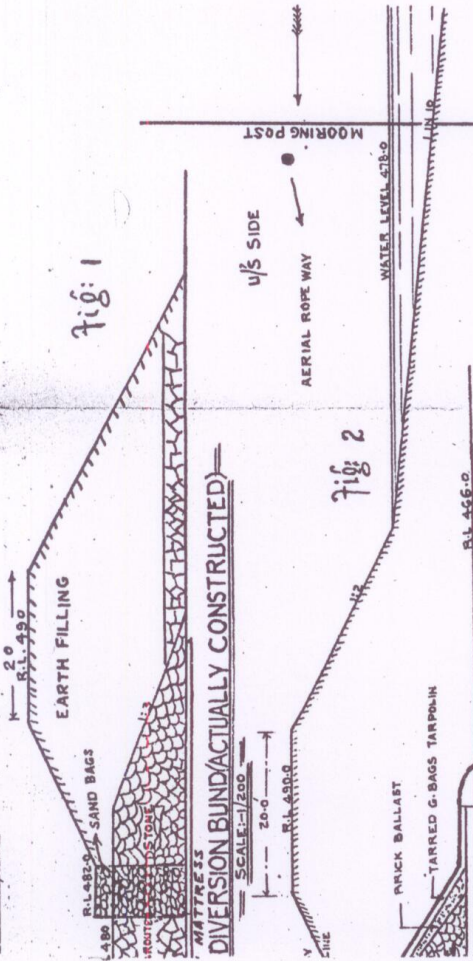
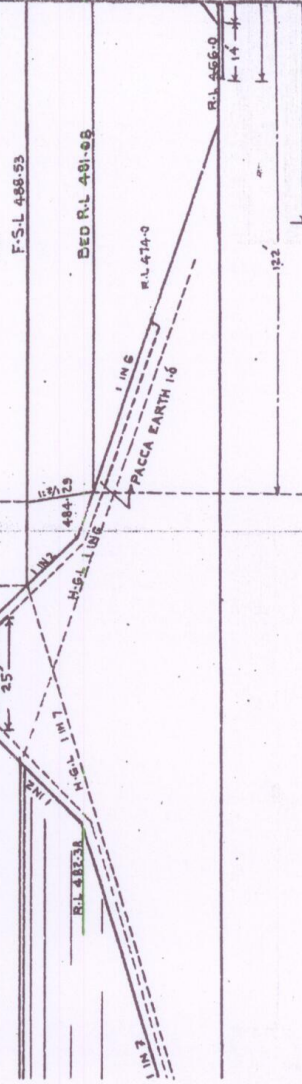


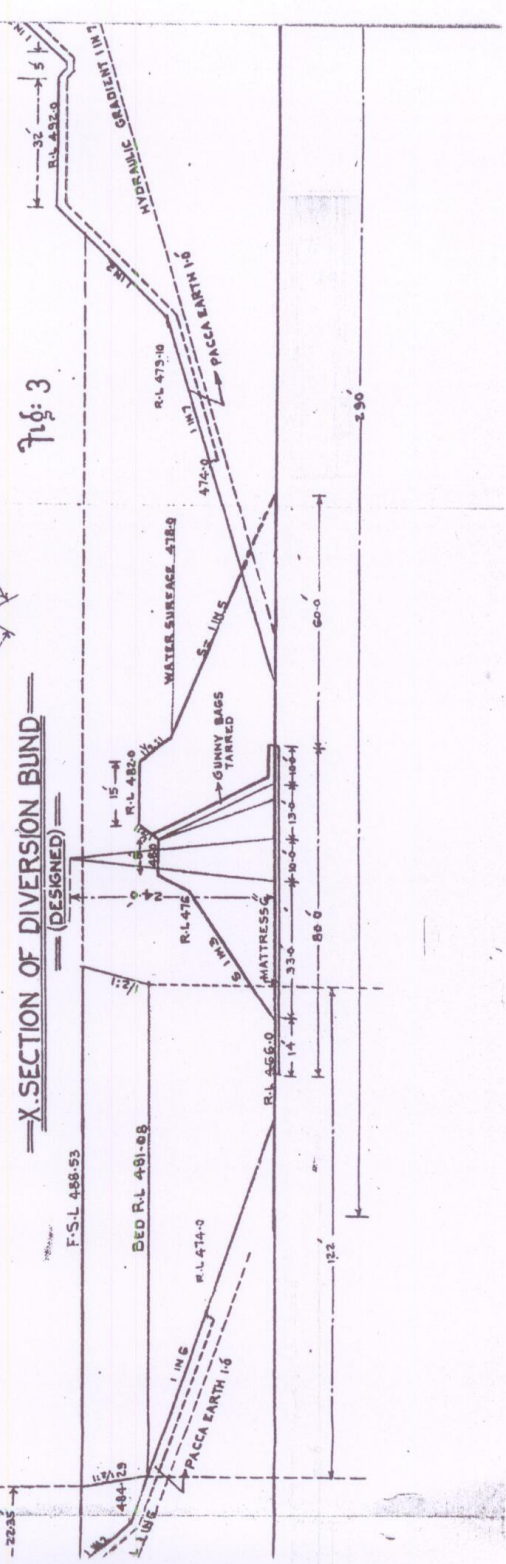
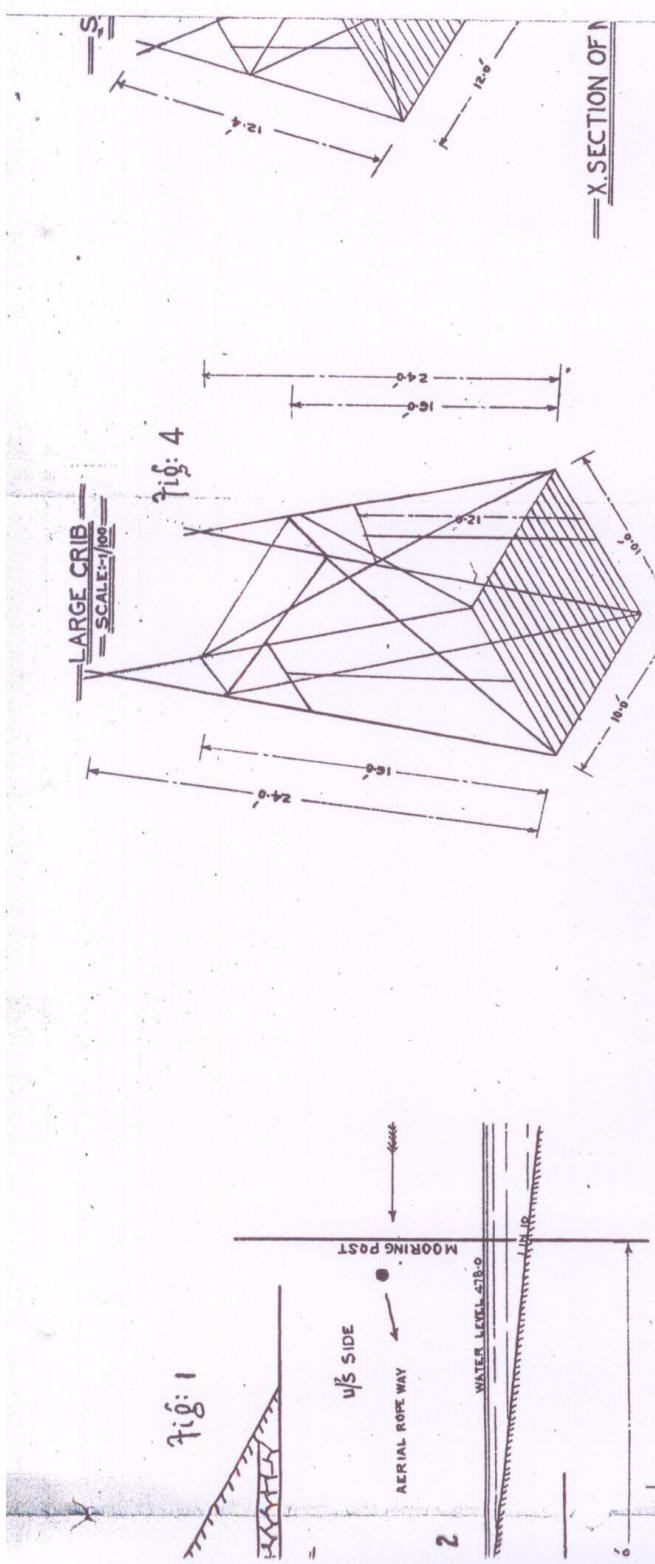
Fig. 2



X-SECTION OF CANAL BANK

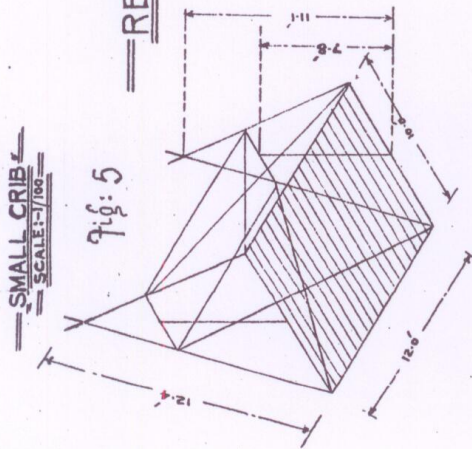
X-SECTION



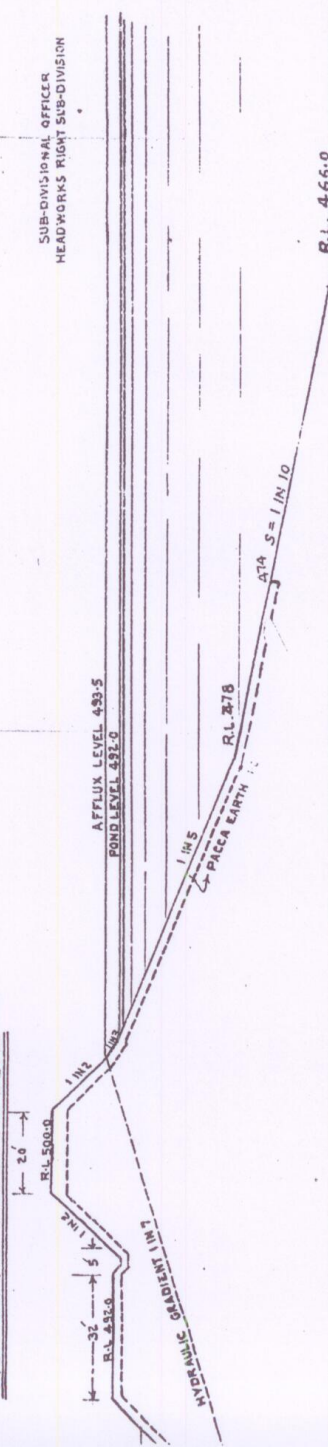


SECTION OF DIVERSION BUND
— SHOWING —
RELATIVE POSITION OF CANAL & MARGINAL BUND

SCALE: $\sqrt{V} = 1/200$
 $\sqrt{H} = 1/400$



X. SECTION OF MARGINAL BUND



Continuing his remarks the speaker said that properly speaking to apply economic principles they required statistics and measurements: without them their efforts were mere guesswork; the Engineer bases his superiority over other people on his knowledge of measurement and calculation; and that knowledge should be accepted as the only basis for a discussion of a paper of this kind before an engineering Society.

The speaker remarked that the Author had suggested that if his recommendations were not followed it may be necessary to subsidize the Railways in case they are to avoid pulling them up and doing without them. A subsidy or the pulling-up of a line could be justified only if certain conditions had prevailed; only if the line had not given a fair return on any capital that could be used elsewhere. Judged by that criterion, however, there appeared to be a fair margin of safety even then.

Mr. Johnston went on to say that looking at the accounts of the N.W. Railway for 1936-37, for instance, they found that net earnings after allowing for depreciation represented a return of over $3\frac{1}{2}\%$ on gross capital. The gross capital was approximately Rs. 2.3 lacs. a mile and for every mile closed down probably 80% of that representing earthworks, bridges, station buildings, etc. would be left behind as useless. A return of $3\frac{1}{2}\%$ on gross capital, therefore, was equivalent to a return of about 20% on transferrable capital and closing down could not be justified unless the average earnings represented a return of gross capital of less than about 1%.

The speaker added that the Author's remarks on the fixing of rates were not very clear. He explained that a railway, as a common carrier, was bound to carry whatever was offered to it; but he had not shown that it was bound to carry certain traffic such as coal "at an uneconomic rate". He had explained that the Railways were allowed a certain latitude within which they must fix their rates; but he had also given figures to show that they were not always charging the highest rate allowed by the rules. In the case of coal, for instance, a charge of 10.4 pies per ton-mile was allowed; but actually only 3.19 pies per ton-mile was charged (P.13.) The speaker enquired if he was to understand that the lower rate was charged from sentimental reasons. If a higher rate were charged 'it would be ruin to the country'. It would certainly not be a ruin to the Punjab where the Government were trying to develop water power to take the place of coal and where there were also large potential sources of firewood. He further asked as to why subsidies should be paid to carry grain at a loss to countries like Great Britain where the farmers were being subsidized to meet unfair competition of that kind.

The truth appeared to be that the rates were fixed not for the good of the country but for the good of the Railways: if coal were carried at a higher rate the Railways would suffer more than the country. The speaker said that he will try to explain why that was so. He added "A carriage

rate must lie between two limits : a lower " limit representing the extra cost of carriage of one extra ton one mile, and an upper limit representing the maximum rate the customer can afford to pay. The lower limit is the slope of the curve we should get if the annual expenditure on goods traffic were expressed as a function of a supposed variable annual ton-mileage. The profit per ton to the Railway varies from zero at the lower limit to a maximum at the upper one ; the tonnage carried, on the other hand, varies from a maximum at the lower limit to zero at the upper one. It is the *product* of these two quantities that the Railway is interested in : and this product is zero at both limits and a maximum somewhere between them. The rate corresponding to this maximum was the rate that would give the greatest return to the Railway. The upper limit, however, is different for different classes of goods and this explains the rate structure adopted by the Railway. Different lower limits on the other hand, applied to roads and railways ; and that was why the roads had taken the more valuable goods only. Expenditure on broad-gauge goods traffic on the N.W.R. is shown as approximately 4 pies per ton-mile but this would not represent the extra cost of carriage of one extra ton one mile as not more than, say 40% of the cost is proportional to ton-mileage. This figure would not therefore exceed 2 pies per ton-mile and this roughly represents the lower limit below which it would not be economical to carry goods on the broad gauge. Above that figure it was more economical to carry than not to do so (on a line already in operation).

" The corresponding lower limit in the case of motor transport in the Plains may be put at about 12 pies per ton mile or six times as great. It surely followed that a railway could always have prevented the loss of goods traffic to the roads (under these conditions) by lowering that rate sufficiently ; and that would be more economical to do so than to lose the traffic. This is no doubt what the Author referred to as a policy of cut-throat prices ; but if by increasing traffic it increased profits it was financially sound and there was always the lower limit of 12 pies per ton-mile below which the road transport cannot afford to go."

Mr. Johnston went on to say that the Author had also referred to the actions taken in other countries. It appeared that the only country in which rates were controlled was Germany and if reports were correct the German railways were in a bad way. On the other hand he enquired whether it was not a fact that railway efficiency in India had increased as a result of road competition and that the Railways were now in a sounder financial condition than they had been before that competition started.

As a road engineer the speaker should welcome any legislation that would put roads on a commercial footing similar to the railways.

The speaker finally remarked that similar to the case put forward by the Author the Railway Companies Association of Great Britain had

issued a booklet in which they asked for the removal of certain restrictions

- (a) the cumbersome classification of goods required by the rules,
- (b) the necessity for publication of all rates; and
- (c) the restriction against preferential treatment of customers.

With these restrictions removed they were prepared to meet road competition without special control of rates.

Dewan Bahadur **Amar Nath Nanda** stated that he agreed fully with the Author in what he had stated on the last page of his Paper. The question of transport was one of the burning questions of the day and the problem was not of Railway *versus* Roads, as both the Railways and Roads belong to public in India. However State control by Acts of Legislature was necessary. The Motor Vehicles Bill recently passed by the Central Legislature was a step taken in the right direction and it would fulfil all the requirements put forth by the Author as needing State control. It was necessary to see what direct effect and indirect repercussions that would have on the transport problem.

As regards action taken by the Railways to control road motor and bus competition, it was necessary to pay attention to the following points:—

- (i) Overcrowding in 3rd class carriages.
- (ii) Lack of ordinary amenities in 3rd class travelling.
- (iii) More civility and spirit of helpfulness to this class of travellers.

Mr. S. Bashi Ram said that the paper raised very important issues of all India importance which had been agitating the minds of the politicians for some time and had led up to central legislation which had only recently been passed with general satisfaction of all the parties concerned. The problem had, therefore, lost its immediate interest so far as this country goes. Used as they were in this Congress to discuss papers dealing generally with provincial problems, it was most refreshing to open their proceedings to-day with a question which had taken us out of the parochial and strictly technical rut. Their thanks were therefore, due to the Author for lifting the discussions out of the usual B and R bricks and Irrigation silt.

Mr. Bashi Ram stated that he had had only a cursory look through the paper; therefore his remarks, would be very disjointed and based on rather hasty first impressions.

To the speaker it appeared that the paper was a special pleading of the Railway case and it ignored entirely the point of view of the road user. He wished to emphasize that both forms of communications were of vital importance to the country and they equally brought it prosperity and benefits of civilization. Railways in this country had a pull over Roads in that they make a direct contribution to revenue, but it should not be forgotten that roads also bring to the Exchequer indirect revenues in the shape of custom duties on cars and accessories and direct gain to people in the form of increased income and amenities which make life worth-while. It had been stated in the paper that the huge capital of 800 crores of rupees had been sunk in the Railways and the public had been used in the recent past to loud lamentations regarding unproductiveness of the Railways. The capital sunk on roads, on the other hand, length for length of the country opened out, would probably be found to be less than one tenth that on the Railway. The speaker had no correct figures with him at the time but he believed that the length of Railways in this country is of the order of 40 thousand miles, whereas the mileage of metalled roads is 25 thousand. In other words the amount of money spent on roads might be assumed to be of the order of 50 crores of rupees. The custom receipts from cars and accessories are said to total Rs. 10 crores annually and this gives a return of over 20 per cent to the Treasury apart from indirect taxation. In the higher prices and increased incomes it was high time to realize that roads were a paying asset of the highest importance. This Congress might be interested to know that a few even years back they in the Buildings and Roads Secretariat calculated that a small traffic of only 15 bullock carts a day not only paid for the up-keep of a metalled road but also for the amortization of capital outlay. Nothing better if as much could be said for the Railways. The speaker added that he, however, must not be understood to have meant that this country could allow its Railways to go bankrupt and shut up shop. They must depend upon them for their defence, long distance traffic of heavy trade. Railway and road coordination was essential and let them hope that recent legislation would bring a satisfactory solution of this vexed problem. The speaker submitted that the attitude towards road transport which treats it as a service de-luxe' was not only short-sighted but unfair. The same arguments could have been used by the Bullock Cart or the Donkey Driver in the early days of Railway construction and on the same analogy it could well be argued that a common or a garden taxi carrying but a passenger or two should be so heavily taxed that the charges made by the Railway for a special train for the same service should not be unremunerative.

Overstatement of one's case had never helped in the past nor it would ever in future.

Mr. J. B. Vesugar who was unable to attend the Congress sent in a note which was read by Mr. Hawkes. This is reproduced below—
"Mr. Hawkes is to be congratulated on his paper especially as he

more than likely that it was costing the tax payers more than what the shippers could save by patronizing road transport. In the end, therefore, the general public paid more for its transportation rather than less.

Replying further Mr. Hawkes said no industry could be expected to withstand competition of other industries, a large part of whose service costs was paid from the public treasury. A sound public policy was one that would encourage fair competition among the various kinds of transportation a competition based upon the merits and advantages inherent in each form of transportation. Discrimination would have no part in such a policy. Regulation would be extended equally and impartially over all kinds of transportation. That was what the railways wanted and it would automatically halt the artificial diversion of traffic away from the railways. It would also preserve for the public the benefits of mass production of transportation. It would promote the fullest development of all forms of transportation in their own economic spheres.

Mr. Trevor-Jones had suggested that Provincial Governments were not able to pay for policing roads as constructed. The Author submitted that it showed that road transport was not paying its full share of working expenses. Railways were not permitted to be opened unless they were properly controlled by signals, etc.

Mr. Hawkes went on to say that Mr. D.P. Nayyar considered that the railway fares were too high and that was why traffic was being diverted. He agreed that the charges by bus were cheaper and the reasons for that the Author had already mentioned. Road transport did not provide all that the railways did in respect to Track waiting rooms, refreshment rooms and water supply, etc. The basis of fares in India was probably the lowest in the world barring Japan and it was difficult to agree with him. Before bus competition commenced the passengers' earnings were much higher than they are to-day.

Mr. Halcro Johnston had agreed that reforms were necessary but considered that these should take economic channels. He derived the percentage return that would justify pulling up a line. To the calculations he agreed but he regretted to state that there were sections where the net return on gross capital was less than even 1%. For instance, the K.V. Railway Accounts for the year 1937-38 showed that the earnings did not even cover the actual working expenses. If such lines were continued to be maintained for the good of the country the railways must be enabled to meet competition on fairer terms.

Mr. Johnston had not agreed that railways carried coal at uneconomic rates but that they did so at the rate most beneficial to themselves. True ; rates were based on what the traffic would bear, but coal was certainly an instance where they did not get the maximum they could but did sacrifice revenue. The Author was certain that coal could bear an enhanced

charge; in fact when a 15% surcharge was imposed it was borne but due to pressure from the public as well as from the industrialists, railways agreed to diminish the surcharge to 12½% and even now pressure was being brought to bear on railways to withdraw it altogether. This clearly indicated at least that coal was being carried at a rate lower than it could bear or, in other words, railways were actually sacrificing revenue for the good of the industries.

He agreed with Mr. Johnston that the greatest return to the railway was when the profit per unit multiplied by the number of units was the maximum, and rates were always adjusted keeping that in mind. At present, the profit per unit (ton-mile) on an average was 2·88 pies (Broad Gauge), excluding interest charges, and it was felt that if the rates were cut down appreciably it could so reduce the figure that the net return would be less. For instance, 22% of the goods traffic was carried at rates higher than the second class and accounts for 53% of the earnings. That kind of traffic was generally subjected to road competition. If the railway rates on these commodities were cut down to the level of the 'uneconomic' rates on the road, which would entail a cut of over 50%, the earnings on the extra traffic gained would not compensate for the loss in earnings on the total traffic carried at the reduced rate.

Mr. Hawkes stated further that the two limits derived by Mr. Johnston, viz. 2 pies per ton mile for the Railway as the cost of carrying an extra ton one mile and 12 pies per ton mile as the lowest cost on road might be correct. It must be remembered that no interest charges were included in arriving at the figure of 4 pies as the average working costs per ton mile, from which the figure of 2 pies had been derived.

The rate of 2 pies could not be applied to all traffic without a loss in earnings. It was only additional traffic that could be carried at a profit at this cost. For example, the Railway might be carrying 10000 tons of cotton, if 20 thousand tons were diverted to Road Transport, that diversion at once would vitiate the average cost per ton mile on the Railway. It might be possible to regain that traffic by reduced rates, but the loss on the 80,000 tons still carried by rail but at the reduced rates which would have to be charged would mean a heavy loss of Revenue.

The same might apply generally if the 20,000 tons was additional traffic. It was not possible to apply the reduced rates to the attracted traffic only the same rates would be applied generally. Again, the figure of 2 pies did not take into consideration the incidental charges; if they added the incidental charges it would be seen that the 12 pie limit of the road approached close enough to the 2 pie limit of the Railway and even worked out cheaper at certain distances.

The incidentals, that is cartage to and from the station, might amount

to ar.nas 2 per maund, i.e. 653 pies per ton and the respective rail and road charges work out as under:—

$$\text{Rail charge} = 2 \times D \text{ plus } 653 \text{ pies}$$

$$\text{Road charge} = 12 \times D$$

where D is distance.

Therefore, for distances up to 65 miles the road rates are cheaper than the out of pocket cost to the Railway.

Mr. Hawkes added that it was impossible to agree with Mr. Johnston that 'a railway could always prevent the loss of goods traffic to the road by lowering its rates sufficiently.' Above 65 miles it would appear that the Railway might be able to compete for additional traffic but, as stated earlier it was probable that the reduced rate would have to be applied to all the traffic in the commodity for which the reduced rate was given, which was a larger quantity than the amount carried by Road.

The Author pointed out that it was therefore, not a paying proposition to charge on the minimum limit unless the traffic was additional and unless the earnings at the reduced rates on the additional plus the existing traffic exceeded the present earnings.

In conclusion Mr. Hawkes said that he might be permitted to remark that road carriers were actually carrying traffic at costs much lower than 12 pies per mile and, as has been explained, such low rates were only possible as the buses and trucks used public property for carrying on their commercial business for private profit and did not pay to the extent of the total cost incurred in the plant used by them nor did they pay full cost of control, viz. the Police—and evaded the laws and regulations as regards load, speed, etc. which would, if complied with automatically, increase their costs.