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TRANSPORT DEVELOPMENT AND CO-ORDINATION

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To My Parents

PREFACE

An attempt has been made in this book to survey the whole field of transport development and co-ordination. But the subject is so vast that it is not possible to do full justice to it in a small volume like this. Consequently the treatment has been very brief and in places there may seem to be a lot of compression and condensation which can be justified only on the ground that it is intended to give the general reader, who has not much time at his disposal, a bird's-eye view of the subject and to give the students just a background for their study of this vast and interesting subject of transport. It is, however, hoped that the treatise will afford to students and transport men in general a rudimentary idea of the economic principles of different forms of transport and how these can best be co-ordinated to the benefit of the community as a whole.

The author desires to render his grateful thanks to his old student and now his colleague, Mr. Amar Narain Agarwala, M.A., B.Com., who very kindly went through the proofs and thus performed a very arduous job.

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CHAPTER I

RAILWAY TRANSPORT

Railway Capital.—One of the characteristics of railway capital is its immensity. A very large amount of capital is required to provide and equip a railway in a proper manner before even a single train can be run. In Great Britain the capital expenditure has amounted roughly to £1100 millions and in U.S.A. the same has amounted approximately to \$23,000 millions and in India the total capital expenditure has amounted to something like Rs. 850 crores. From all these it is absolutely clear that a very large expenditure on railroad is a condition precedent to its efficient working. But once this expenditure has been incurred, the railway is capable of dealing with a very large amount of traffic, or, in other words, the normal carrying capacity of a line, when properly constructed, is quite considerable. So long as this normal carrying capacity is not reached, it is evident that the larger the amount of traffic, the less is the cost per unit of traffic so far as the capital charges are concerned. This means that the law of decreasing cost is applicable to the capital expenditure of a

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railway to a very considerable extent. Apart from the huge capital expenditure, a railway requires a very considerable amount of annual expenditure in the shape of general charges, maintenance charges and operating expenses. A greater portion of this annual expenditure is necessary, whatever the amount of traffic may be, and in consequence the law of increasing returns or decreasing cost is applicable to all these different items of expenditure to a greater or less degree.

Another point which has to be noticed in this connection is that much of the expenditure, both capital and working, is incurred for the traffic as a whole and it is not possible to allocate this expenditure against particular units of traffic, or, in other words, railway expenditure consists of general expenses and special expenses, the former being incurred for the traffic as a whole without any means of being set against any particular item of traffic and the latter being incurred for each separate item of traffic. The general expenses, however, form the greater part of the railway expenditure, while the special expenses form a comparatively smaller proportion of the total expenses of a railway. This again makes proper allocation of cost between different items of traffic on a railway very difficult. These

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important economic characteristics of a railroad have got to be borne in mind while considering the charges to be levied for the services rendered by a railway.

Theoretical Basis of Railway's Charges.—Various theories have been advanced in connection with the fixation of railway charges, the more important being the cost of service principle, the value of service principle and the zone method of charging.

Cost of Service Theory.—This implies that railway charges should be based on the cost incurred by the railway in rendering the service. On the face of it this seems to be so simple and reasonable that it can hardly be challenged. But a little examination of the theory reveals its utter unsoundness as a basic principle for railway charges.

Cost for different items of traffic, in the first instance, is not definitely ascertainable as the greater part of railway expenditure is incurred for the traffic as a whole without any means of a fair allocation between different items of traffic. Special expenses for different items of traffic can be found out, but these are small compared to the general expenses on a railway and consequently a fair share of the general expenditure has got to be calculated before arriving at a reason-

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able figure of cost incurred for a particular service. This means that the cost, when calculated with all possible care, can at best be only an approximate figure, the general expenses being divided between individual items of traffic on merely some haphazard basis. Apart from the fact that the cost cannot be exactly determined but at best can only be approximately known, another consideration which is even more important than the previous one is that this approximate cost can only be known after the service has been rendered whereas the charge has got to be quoted beforehand. The cost of service theory, moreover, emphasizes one aspect of the question, the supply side, and does not take into account the demand side and to this extent is defective. These considerations make it quite clear that cost by itself cannot be made the basis of railway charges. Does it mean, then, that cost has got no influence on the fixation of railway charges? While absolute cost, because it is indeterminable, cannot have much influence on the fixation of railway charges, comparative costs have got a great influence on the fixation of relative charges; because cost incurred for a certain service rendered under certain circumstances is more than when the same service is rendered under different circumstances, the charge is more

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in one case than in the other. It is true that the cost of service, as a sole reliance, cannot be made the basis of railway charges, yet in the case of a public utility service like the railway, where the service is rendered mostly under monopolistic conditions, it is always necessary that this principle should be kept constantly in view as a safeguard against the vagaries of the railway authorities who always try to invoke the value of service principle in order to extract as much as possible out of the available margin resulting from the conveyance of articles from place to place. The cost of service principle, moreover, affords protection not only against unreasonably high charges but also against unduly low charges. This cost factor is also more and more being emphasized by the regulative bodies like the Railway Rates Tribunal in England and the Interstate Commerce Commission in U. S. A. in the matter of fixation of railway charges.

Value of Service Theory.—Value of service theory, on the other hand, emphasizes the other aspect of the question, *viz.*, the demand side and is, therefore, defective like its counterpart, the cost of service theory. Value of service theory seeks to base the railway charges on the value of the service rendered by the railway, which is sometimes expressed by the phrase “charging

what the traffic will bear." This, no doubt, sets the higher limit to railway charges, as the railway cannot possibly charge beyond the value of service rendered by it. In any case the value of service theory also fails to provide a basis for railway charges.

The prices of railway services, *i.e.*, railway charges, like the prices of other articles, are determined by conditions on the side of demand as well as by conditions on the side of supply; the former determine (a) the maximum charge in any particular case and (b) to a large extent the differential charges; the latter govern (a) the minimum charge in any particular case, (b) the general level of charges and (c) to some extent the differences in the charges made for various services. Thus the conditions on the side of demand and on the side of supply act at one and the same time and railway charges are fixed by the interplay of these conditions though one set may have a more predominating influence than the other in any particular case.

Zone System of Charges.—Under this method, the area served by a railway is divided into a number of zones. There is only one charge within a particular zone, the distance factor being ignored so long as the traffic travels within one zone. The charge, however, will vary if the

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traffic travels from one zone to another. The great merit of the zone method is its simplicity. It is easy to remember when there is only one charge for a particular zone and it is not necessary to maintain an elaborate rate-book. But the method contains within itself germs of its own destruction. If there is going to be one charge, that charge evidently must be based roughly on the average distance of the zone. This means short distance traffic within the zone will have to pay more than its due share while the long distance traffic will pay less than its proper share, the railway making up the loss in one case by the gain in the other. But the theory proceeds on the assumption that both types of traffic will be forthcoming. But what happens actually is that short distance traffic, which has to pay more than its due share, is discouraged and gradually eliminated whereas the long distance traffic, which has to pay less than its due share, is encouraged and gradually increases in volume. The result is that the traffic on which the railway loses goes on increasing and the traffic on which the railway gains decreases in volume. Thus the zone method brings into play forces which make for unstable equilibrium inasmuch as the charge has constantly to be increased, thereby disturbing the stability in charges and ultimately the

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method has to be given up in favour of a less simple but a more reasonable one based on distance.

Tapering Rates.—Under this system, the charge per mile decreases as the distance increases. The longer haul by securing a better utilisation of railway plant is comparatively less costly to perform than the shorter haul and, therefore, it is only fair that charge for the long distance traffic should be proportionately less than that for the short distance traffic.

Rate-making in Practice.—In theoretical discussion railway may be considered a monopoly business which is able to charge differential prices. On such a basis, the railway charges would be so adjusted as to yield a maximum aggregate monopoly net revenue. In practice, however, the railways cannot be said to possess a complete monopoly; their charging powers are restricted in various ways, such as by direct competition between themselves and by indirect competition between them and other means of transport, by statute and custom. Nevertheless in practice the railway charges are differential charges though modified to certain extent by other factors such as legislation, custom, cost of service, etc. The carrying into practice of the system of differential charging generally takes place through a system

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of classification. The classification consists in grouping the great variety of articles into classes, because to have a separate rate for every separate article is almost an impossible task. Hence the need for classification on railways.

In classifying articles, conditions on the side of demand as well as conditions on the side of supply have to be taken into consideration. The main condition on the side of demand is the ability to pay, which is largely dependent on the value of the article, and this means that articles of high value, other conditions being the same, will be placed in higher classes and articles of low value will generally find their places in lower classes. The main condition on the side of supply is the cost factor, *i.e.*, the cost incurred by the railway in rendering the service. The cost factor, in its turn, is influenced by various considerations, such as bulk in proportion to weight, liability of an article to damage, method of packing, size of the consignment, regularity of shipment and the time within which the consignment has to be despatched.

After classification the next step consists in fixing the charges for the different classes. Various considerations have to be taken into account in fixing the rates for the different classes, such as provision or non-provision of trucks,

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distances to be covered, terminal charges, both station and service.

Ordinarily the fixation of the class rates ought to be sufficient, but sometimes it is necessary to adjust rates to the special conditions of some particular traffic. This gives rise to the problem of special rates, which have to take into account both conditions on the side of demand as well as conditions on the side of supply, the main factor being the existence of competition in some form or other, though other factors are also present.

Extent of Railway Development in Different Countries.—Railway construction generally began in the first half of the nineteenth century in the more advanced countries, the actual date, of course, varying from country to country. Since then there has been a rapid growth in mileage in most countries, the rate of progress again varying from country to country. In terms of absolute mileage, the United States of America tops the list, but mileage figures are no real indication of railway expansion unless these are studied in relation to area and population. Looked at from this angle, Belgium surpasses any other country in the world as it has about 40 miles of railway per 100 sq. miles of area, followed by the United Kingdom and Germany which have roughly 20 miles of railway lines per 100 sq. miles of area.

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When the mileage figures are studied in relation to population, Canada heads the list showing roughly about 465 miles of lines per 100,000 inhabitants, followed by U.S.A. and South Africa which have roughly 224 miles and 164 miles of lines respectively per 100,000 of population. India, in respect of mileage, presents a good picture as it has roughly about 41,000 miles of lines, but she occupies a very low position in comparison with other more advanced countries when the mileage figures are studied in relation to area and population. She has roughly 2 miles of lines per 100 sq. miles of area and roughly about 11 miles of lines per 100,000 of population. This shows that India lags behind many countries in respect of railway mileage when this is studied in relation to area and population. In fact the Mackay Committee considered that this country should have considerably more miles of lines considering its area, size and population and its vast resources. But any great expansion at the present time may not seem advisable in view of the advent of mechanical road transport which may create problems for our railways to an extent hitherto not experienced in this country.

History of Railway Development in India.—

In India, originally, the railways were built by companies just like those in Great Britain and in

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U.S.A., with this difference that whereas in Great Britain the private companies did not get any financial or other aids from the state, the companies which proposed to build railways in this country obtained numerous aids including guarantees of interest from the state. In U.S.A. certain land grants were made for railway development in undeveloped areas, but there were no other aids except those land grants which were also stopped after a time.

Lord Dalhousie wanted railways to be built in India through the agency of companies as he was of opinion that the great drawback of Indian people was that they depended for everything on the state. His idea was that even if foreign companies could be induced to take up this work in this country, they would set an example which in course of time would be followed by Indian initiative and enterprise and thus the way for Indian Companies taking up this work would gradually be paved. But the foreign companies did not want to invest their capital in a land, the possibilities of which were as yet unknown, unless some guarantee of interest on capital was given. There was a great controversy over this question of guarantee, but ultimately this had to be given or there was hardly any possibility of railway development through the agency of companies.

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The guarantee took the form of $4\frac{1}{2}\%$ to 5% interest on capital and free grant of land for railway purposes. There were, however, provisions for sharing surplus profits and for purchasing lines after 25 or 50 years on terms specified in the contracts.

A change was, however, effected in the policy of giving guarantee in 1869 at the instance of Lord Lawrence who advocated a policy of construction by the state as there was not much difference between direct borrowing and raising money through companies with guaranteed interest on capital. Accordingly a policy of state construction ensued from 1869 onwards. But the state could not provide sufficient funds for railways during the seventies of the last century on account of various reasons such as famines and fall in exchange due to continued fall in the gold value of silver.

This necessitated another change in policy in the early eighties of last century and henceforward the construction of railways was undertaken by the state, the companies and also by the Indian States. The new companies at this time were given guarantees on a modified basis which were much more favourable to the state. The evils of the original guarantee system had been fully realised by then as that had led to extra-

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vagance and waste which after all had to be made good by the state under the terms of the original contracts. During this period, the state also adopted the policy of purchase from companies, though in most cases the railways were handed over to companies for the purpose of management after their purchase.

The Indian railways did not pay their way during the nineteenth century and consequently the state lost a considerable sum of money over the railways. The Government, however, began to make profits after 1900 and, on the whole, has made more profits during the twentieth century than it had to pay in losses during the nineteenth. Consequently funds were also provided on a more generous scale during the early part of the present century, though the recommendations of the Mackay Committee could not be given effect to fully in this respect.

During the last Great War, the railways seemed to be prosperous, but the seemingly good returns did not indicate the true position, as repairs and renewals had been postponed for various reasons such as lack of funds and non-availability of materials. But this made the condition of the railways more precarious after the war as a great leeway had to be made up before the railways could cope with the traffic.

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The Acworth Committee made its report in 1921 and among its many recommendations, three might be regarded as of outstanding importance; *viz.*, (1) Separation of Railway Finance from the General Finance of the State, (2) State Management of Railways and (3) Reorganisation of the Controlling Authority of the Railways. Effect was generally given to these recommendations, though a little modification took place in the case of the last one which was not fully accepted by the Government of India and also no final commitment was made as regards the policy of state management though the East Indian and Great Indian Peninsular Railways were taken over by the state for the purpose of management.

A sum of Rs. 150 crores was voted by the Legislature to be spread over a period of five years for the purpose of rehabilitating the railways and not for the purpose of extension as a result of the Acworth recommendations. This was a period of prosperity for the Indian railways and additions to capital were made freely without any consideration for the future.

The advent of the great depression in 1930 found the Indian railways unprepared for the blow and an era of retrenchment and curtailment of all possible commitments ensued. During this

period of depression there was practically no development and the railways not only exhausted their reserve fund which had been built up during the previous prosperous years, but also failed to make the required contributions to general revenues under the separation convention; and even the railways had to raid the Depreciation Fund which had been provided during the previous period of prosperity.

Since 1936, however, a period of recovery for the Indian railways has begun and the railways are now able to make a partial contribution to general revenues though the arrears are still there both in respect of the Depreciation Fund and part contribution to general revenues. The railways are, however, expected to show very good results during the present financial year (1941-42), partly due to increased charges, but mainly due to increased trade, occasioned chiefly by war activities on a large scale.

State Regulation of Railways in Different Countries.—In Great Britain railways require special parliamentary sanction before construction and are subjected to considerable regulation of their activities by the state afterwards. From the very beginning, the state attempted to curb the activities of the railways through the dual processes of competition and control. On the

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one hand the building of competitive railways was encouraged and on the other regulation became a settled policy of the state. The regulation did not only relate to the charging powers of the railways but also to such matters as standard of construction, provision of safety devices, labour welfare schemes and the like. The charging powers of the railways both in respect of goods rates and passenger fares were regulated from the very beginning. The Railway Rates and Charges Order Confirmation Acts, 1891 and 1892, laid down the maximum charging powers of the railways in respect of goods traffic. The general classification consisted of eight classes, *viz.*, A, B, C, 1, 2, 3, 4, 5, *i.e.*, three lettered classes and five numbered classes, No. 5 being the highest class and A being the lowest class. Of course the railways were not bound to charge the maxima laid down in the schedules, but they could not go beyond them. As a matter of fact, in many cases, the charges were considerably below the maxima allowed by the Acts. The number of classes was raised from eight to twenty-one under the Railways Act of 1921 which provided that the new classification, when effected, was to come into operation "on and from the appointed day," which was subsequently fixed as the 1st of January, 1928.

In 1894 another Act had been passed which laid down that the railways would have to justify any increase in charges as reasonable, and for this purpose it would not be sufficient to show that the charge was within the statutory maximum. The Act, though intended to safeguard the interests of the customers of the railways against the arbitrary rate increases on the part of the railway management, had the effect practically of stopping all experiments in reduction in charges as there would have been difficulty in effecting an increase if a reduction was found not justified by actual experience. An amending Act in 1913, however, provided that an increase in the cost of labour due to improvement of conditions for the staff would be regarded as valid justification for a reasonable increase of charges within the legal maxima.

During the Great War (1914—18), the railways were taken over by the state and they were not handed back to companies till 1921, when the Railways Act was passed. The act is regarded as a great charter for the railways in England as it recognised that the railways were entitled to a reasonable return on the capital invested by them; and machinery was devised to give effect to the same. The Act contained three main provisions, *viz.*, (1) the amalgamation

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provisions; (2) the creation of a Railway Rates Tribunal; and (3) the creation of Central and National Wages Board.

Under the amalgamation provisions, the railways in Great Britain, with a few minor exceptions, were to be compulsorily amalgamated into four big groups by a special Amalgamation Tribunal created under the Act, unless the amalgamations were voluntarily effected before the 31st of December, 1922. The main purpose of these amalgamations was to do away with the wastes of competition to a large extent and to effect considerable savings in working expenditure of the railways.

The creation of the Railway Rates Tribunal was an epoch-making event in so far as it meant the creation of an independent body charged with extensive powers over the activities of the railways. The main function of the Tribunal, in broad outline, was "to fix such rates and charges as would enable the railway companies with efficient and economical working and management, to earn a revenue sufficient to remunerate the invested capital at the prewar rate." In other words the Rates Tribunal was expected to fix such charges which, subject to efficient and economical management, would yield a revenue equal to that earned in the pre-war year, *i.e.*,

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1913 plus the normal rate of return on any additional capital invested since then. The revenue so fixed was known as the Standard Revenue and the charges fixed for realising the Standard Revenue were known as Standard Charges.

Criticism has been levelled against the Act on various grounds. Firstly, the Act provided no point of contact between the Railway Rates Tribunal on the one hand and the Wages Board on the other, though wages were a very important item in expenditure. Secondly, during period of trade depression, charges would have to be raised to yield the Standard Revenue, but this would have a contrary effect since rate increases at such times would cause traffic to fall off still more and would thus adversely react on trade activity. As a matter of fact neither the Rates Tribunal has been able to see its way to allow such increases nor the railways themselves have insisted on their pound of flesh under the Act as it was clear that such a demand would recoil on them ultimately.

The railways in the United States are privately owned and operated, but their activities are greatly controlled by the Federal Government through the Inter-state Commerce Commission. Besides the Central Government, the various State Governments also exercise jurisdiction over

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them on specific matters occurring within the States. The powers of the Inter-state Commerce Commission, which was created in 1887, have been extended gradually till under the Transportation Act of 1920, these have become quite considerable so that the transport industry in the United States is now subject to rigid regulation by the Federal Government. The State intervention, however, is not accompanied by any guarantee as to capital, interest payments or security to the financial interests of the railways. The railways further have to bear certain financial obligations for the state inasmuch as they, apart from payment of taxes, have to carry troops at 50 per cent and mail at 80 per cent of commercial rates.

In India the railways were originally constructed by private companies getting considerable assistance from the state in various forms. It was, therefore, natural that the state would regulate their activities not only to safeguard the interests of the general public but also to protect its own interests especially as the state had taken financial commitments on its shoulders on behalf of the railways. It may, however, seem strange that apart from regulation in such matters as standard of construction, provision of safety appliances and the like, the state did not

at first interfere very much in the activities of the railways in the matter of fixation of their charges, apart from laying down certain maxima and minima charges. The Indian Railways Act did not define the charging powers of the railways. These were governed by the terms of the contract between the Secretary of State for India and each company.

An attempt was made in 1884 to have a uniform classification when the matter was taken up at a Traffic Conference, but not much progress could be achieved in this direction.

The Government of India, however, enunciated in 1887 four principles in connection with the fixation of rates on railways, which may be summed up as follows:—

- (1) That the state should fix maximum and minimum charges to protect the interests of the public.
- (2) That such charges should be capable of being divided under two heads—
 - (a) mileage charge and (b) terminals.
- (3) That once the maxima and minima charges were fixed, no further interference should take place as that would act as a restraint on trade.
- (4) That the state should see that no undue

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preference was shown by the railways to particular persons or bodies and that all reasonable facilities were granted by them for movement of traffic.

Attempts were made from time to time for effecting a uniform classification, but these generally were unsuccessful. The efforts of the Indian Railway Conference Association were very laudable in this connection as it attempted to effect a uniform classification through a Goods Classification Committee constituted for the purpose. But the early efforts did not meet with success as the Railway Board did not accord its sanction to the proposed classification. The persistence of the Association, however, in the end bore fruitful results and in 1915 the Railway Board eventually accorded their sanction to the new classification which now consisted of six classes Nos : 1 to 5 and a special class, X.

Rates in Pies per Maund per Mile.

Class.	Maxima.	Minima.
1st	·333	·100
2nd	·500	·166
3rd	·666	
4th	·833	
5th	1·000	
X	1·500	

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After the Great War, it was clear that some increase in railway charges was overdue and this was effected by means of an increase in the number of classes. Accordingly a new classification was made in 1922 consisting of ten classes (1 to 10)—

Rates in Pies per Maund per Mile.

Class.	Maxima.	Minima.
1st	·38	
2nd	·42	
3rd	·58	
4th	·62	
5th	·77	
6th	·83	
7th	·96	
8th	1·04	
9th	1·25	
10th	1·87	

	} 100	
	} 166	

A further change was effected in the classification in May, 1936, by interpolating six more classes, thus raising the number of classes to sixteen and the classification consisted of 16 classes.

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Rates in Pies per Maund per Mile.

Class.	Maxima.	Minima
1	0'38	} 100
2	0'42	
2A	0'46	
2B	0'50	
2C	0'54	
3	0'58	} 166
4	0'62	
4A	0'67	
4B	0'72	
5	0'77	
6	0'83	
6A	0'89	
7	0'96	
8	1'04	
9	1'25	
10	1'87	

The provision of minima charges is a unique feature of the Indian railways. This was necessary because the state had to safeguard its

own interests against reckless competition by the railways inasmuch as the state had to make good the loss in the case of railways not earning the guaranteed interest.

Controlling Organisation for Railways in India.—The control and regulation of railways in India necessitated the creation of an organisation for that purpose from very early times. Control over the activities of the earlier guaranteed companies was secured through the appointment of a Government Consulting Engineer of Guaranteed Railways.

But the policy of state construction adopted in 1869 contributed to rapid development of railway construction, which made it necessary to have a more permanent organisation for control, and accordingly in 1874 a State Railway Directorate under a Director of State Railways was established. In 1877 a further change was effected and three Directors of Territorial Systems and one Director of State Railway Stores were appointed. But this arrangement did not prove successful and consequently various modifications were made from time to time till at last a new organisation was created in 1905 as a result of the recommendation of Sir Thomas Robertson who was appointed by the Secretary of State for India in Council as Special Commissioner for

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Indian Railways in 1901 to enquire into and report on the working of Indian railways.

The result of the recommendations of Sir Thomas Robertson was the abolition of the Railway Branch of the Public Works Department and the creation of the Railway Board consisting of three persons, a Chairman and two members. The Board was placed under the Department of Commerce and Industry of the Government of India for administrative purposes.

It was, however, soon found that the intervention of the Department of Commerce and Industry between the Railway Board and the Governor-General in Council was hampering the work of the Board and as a result of the recommendations of the Mackay Committee, the following changes were made in 1908:—

- (1) The designation of the Chairman of the Railway Board was changed into that of President and increased powers were given to him.
- (2) The Board became the Railway Department of the Government of India and though it remained under the charge of the Hon'ble Member for Commerce and Industry, yet it was separated from the Department of Commerce

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and Industry which had no further control over it.

- (3) The President of the Board was henceforth given a direct access to the Viceroy on the same basis as Secretaries to the Government of India.

Certain minor changes in the constitution of the Board were effected from time to time, but no major changes took place in the organisation of the controlling authority for railways in India till the Acworth Committee made its report in 1921.

The Acworth Report recommended the following among other matters:—

- (1) That a new Department of Communications should be created.
- (2) That under the Member of Council for Communications, on the Railway side, there should be a Chief Commissioner and four other Commissioners, one of the latter being designated as Financial Commissioner in charge of finance and organisation and staff of the office and the other three being in charge of three respective divisions, Southern, Eastern and Western.

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The first recommendation of the Acworth Committee was not accepted by the Government of India at the time, though this had to be accepted at a much later date on account of pressure of public opinion voiced through the legislature year after year. The Government of India, however, accepted the recommendation of the Committee regarding the reorganisation of the Railway Board and appointed a Chief Commissioner in 1922, who was asked to submit his detailed proposals regarding the reorganisation of the controlling authority. He pleaded for the immediate appointment of a Financial Commissioner which was also strongly supported by the Incheape Retrenchment Committee. The appointment of a Financial Commissioner was accordingly made in 1923, but the proposal regarding the other three Commissioners being in charge of three territorial divisions was not accepted and only two Commissioners were appointed not on a territorial basis but on the basis of subjects. Subsequent changes were effected in the composition of the Board according to the necessities of the situation, but on the whole the structure of the controlling organisation remained intact.

Railway Rates Advisory Committee.—The Acworth Committee also recommended the

creation of a Railway Rates Tribunal in India on the analogy of a similar body created in Great Britain by the Railways Act of 1921, as it found that there was a growing dissatisfaction among the traders and the general public in this country regarding the activities of the railways especially in relation to its charging powers. The Committee, however, did not give sufficient indication as to whether it had taken into consideration the differences in the conditions existing in the two countries. In England the railways were privately owned and operated whereas in India the state was vitally interested in the financial success of the railways as it had invested a very large amount of capital in them. From one point of view, however, this might be construed as a point in favour of the creation of such a body because no large private interests would have been at stake by the adoption of the recommendation regarding the creation of an independent body invested with the powers of fixing the charges for the railways.

The Government of India, however, took a different view and as the activities of an independent body like the Railway Rates Tribunal might recoil adversely on the finances of the state, it wanted to go slow and merely created a Railway Rates Advisory Committee in 1926.

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consisting of a lawyer Chairman and two members, one representing the railways and the other representing the customers of the railways. The Rates Advisory Committee had very limited powers and its recommendations had no effect unless accepted by the Government of India and consequently its usefulness could not be very great. However, it was certainly an improvement on the old state of things in so far as the complaints from aggrieved parties could at least be ventilated before the Committee and redress could be had in certain circumstances. It was expected that in course of time the Rates Advisory Committee would be changed into a full-fledged tribunal. But the same policy of caution has always marked the decision of the powers that be and with the creation of the Federal Railway Authority, the existence of the Rates Advisory Committee has been perpetuated and the authorities have again failed to take courage in both hands and remove a long standing grievance of the public and the traders of the country.

Federal Railway Authority.—The Government of India Act of 1935 has, however, made another change in the controlling organisation for railways in India, as with the establishment of Federation, a Federal Railway Authority will

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be created which will be entrusted with the task of managing the railways in this country.

The Governor-General will appoint not less than three-sevenths of the Authority and one of the members will be appointed President by the Governor-General in his discretion. The Federal Government is to lay down the broad policy to be followed by the Authority and if any dispute arises between the Federal Government and Federal Railway Authority as to what constitutes a question of policy, the Governor-General is to decide the matter. The Authority is enjoined by the Act to manage the railways in India on business principles after paying due regard to the interests of agriculture, industry, commerce and the general public.

The Authority will have to make proper provision for meeting the working expenses, for the maintenance, renewals, depreciation and payment of interest to the Federation for the capital invested by it. The Authority will also be expected to raise additional capital for the development and extension of the railway system from time to time. Ability to raise capital at a reasonable rate of interest will be the real test of the credit of the Authority and this will certainly act as a great incentive to efficient working of the railways. If, however, the Authority is unable

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to raise capital on its own account, it will have to approach the Government, which will then naturally examine the position of the railways and exercise a check on its activities by scrutinising the accounts and dictating its views.

The actual administration of the railways will, however, be left to the Railway Board, which will consist of a Chief Commissioner to be appointed by the Governor-General, a Financial Commissioner to be appointed by the Federal Government and as many other Commissioners as may be necessary, to be appointed by the Authority on the recommendations of the Chief Commissioner.

Problem of Reasonable Rates.—The problem of reasonable rates has engaged the attention of authorities in all countries, but it has been attempted to be solved in different ways in different countries. In U.S.A. the principle of a fair return on fair valuation of railroad property has been regarded as the most proper one and consequently the Transportation Act of 1920 empowered the Inter-State Commerce Commission to take into consideration all relevant factors in arriving at a fair valuation of railroad property and, further, fixed $5\frac{1}{2}\%$ as a fair rate of return for two years, beginning with March, 1920, with powers to the Commission to change the same

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within moderate limits for certain specific considerations. The problem, however, is not an easy one as difficulties are bound to crop up in the matter of fair valuation of railroad property. But at any rate the Commission, as a rate-fixing authority in U.S.A., has to tackle the problem and has tried to do its very best in the matter.

In Great Britain, the problem of reasonable rates has been solved in a conservative but essentially practical manner. The American method of a fair return on fair valuation of railroad property has been given up in favour of a standard revenue based on the revenue of a normal pre-war year. The Railway Rates Tribunal has been empowered to fix standard rates so as to yield the standard revenue and thus the interests of both the railways and their customers are safeguarded. Consequently the rates fixed by the Rates Tribunal would be regarded as reasonable rates, so long as the contrary cannot be proved.

In India the problem of reasonable rates presents great difficulties in so far as the state cannot be regarded as an arbitrator in this matter on account of the fact that the state itself is a party, being the owner of the greater part of the railways. The Acworth Committee attempted to solve the problem by recommend-

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ing the creation of an independent rate-fixing authority on the analogy of the English Railway Rates Tribunal. But this was not accepted by the Government of India and, instead, a Railway Rates Advisory Committee was appointed with powers to consider complaints regarding reasonableness of rates when referred to it by the Railway Board. This is, however, not a very satisfactory method of solving the problem of reasonable rates and the creation of a Railway Rates Tribunal may yet solve the problem of reasonable rates on the same lines as in England. The fear of the Government of India that the activities of an independent tribunal might upset the finances of the Government is totally unjustified inasmuch as an obligation might be laid on the tribunal, by statute, to see that a rate of $5\frac{1}{2}\%$ return on capital invested on the railways is obtained as recommended by the Incheape Retrenchment Committee.

Advantages of Rail Transport and its Economic Sphere.—Railways, in spite of the confident assertions of many, have yet a part to play, in any national system of transport in all countries, which is still unrivalled. It is true that the advent of mechanical road transport in modern times has to a certain extent challenged the previously unrivalled supremacy of

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the railways, but as yet the railways are unbeaten for long distance journeys and for the carriage of heavy and bulky articles especially when these pass in bulk. Road transport is as yet not very suitable for long distance heavy goods traffic or even for long distance passenger traffic, though in some countries long journeys are being performed by this means of transport in recent times. The reason for this is not far to seek. Railway speed is greater than that of motor transport, though this advantage is somewhat lost due to terminal, transshipment and other delays which are usual features of rail transport. But on a long journey the greater speed of the railway can to a large extent make up for such delays and consequently journeys can be performed in less time by railway than by mechanical road vehicles. The speed of a road vehicle has, however, got to be limited in the interests of public safety and also to prevent unnecessary and excessive damages to road surfaces. The advantage of greater speed has enabled the railways to meet road competition especially over long journeys, though both in Great Britain and in U.S.A. attempts are now being made by mechanical road vehicles even to capture the traffic over long distances. Such competition, when offered by road transport, is not due to any inherent merit

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of that form of transport for that type of traffic, but is mainly due to cheaper charges made by mechanical road vehicles. The railways in many countries are at present making a serious attempt to capture their lost traffic from road transport by accelerating their trains and by offering cheaper rates and fares. The Wedgwood Committee recommended in 1937 that the Indian railways should seriously consider the speeding up of trains in order to meet road competition, though they were against any general reduction in charges in this country.

Another advantage, which the rail transport possesses, is in regard to the handling of bulk traffic. It is true that inland waterways and coasting vessels sometimes offer considerable competition in this field and they are also very suitable for carrying certain particular types of low grade traffic where speed is not the primary consideration. These forms of transport can only offer competition on certain specified routes where such facilities exist, but even the greater organisation of the railways may to a certain extent overcome such competition on the part of these rival means of transport. Railways are particularly suitable for dealing with heavy and bulky articles especially when these pass in quantity

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and also for heavy passenger traffic. Railways have to spend a large amount of capital and the expenditure once incurred is mostly for the traffic as a whole without any means of allocating the same among individual items of traffic. Consequently the larger the volume of traffic the cost per unit goes down. Hence railways can carry traffic at low charges provided heavy traffic is attracted thereby.

It may, therefore, be confidently asserted that the economic sphere of rail transport is over long distances and for heavy and low grade traffic, when it passes in bulk. Indian railways need not be in despair over road competition, which is as yet in its infancy, because in this country, unlike Great Britain, the traffic is generally for long haul and the greater part of it is in respect of low grade agricultural and mineral products.

India does find a parallel in this respect in U.S.A. where the traffic is generally for long haul, but in that country the competition is more from private cars on account of the greater wealth of the country and consequently the greater number of cars possessed by private individuals; and is also due to the cheaper fares offered by mechanical road transport over long distances rather than any inherent defect of the rail transport.

CHAPTER II

MOTOR TRANSPORT

Road Transport Charges.—In the case of a road transport concern, the amount of capital necessary is small when compared to a railway company which has not only to lay the expensive permanent way but has also to provide elaborate appliances in the shape of signalling and the like. On the other hand, the roads are provided either by the state or local authorities and anybody can run his vehicles on them so long as he pays the necessary dues and complies with the necessary regulations for their use.

This means that the capital expenditure as well as the operating expenses of a road transport concern are much smaller than those of a railway company and the result is that greater competition is to be met with in the case of the former than in the case of the latter.

In road transport charges, the main thing is the cost of service. This is not the case with rail transport where it is very difficult to allocate the cost of any particular service with a fair degree of accuracy as the greater part of the expenditure is incurred for the traffic as a whole.

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Moreover, theoretically speaking, the railway may be said to carry on its work under monopolistic conditions, and is, therefore, able to charge monopoly prices through a system of differential charges, though in actual practice this monopoly power is greatly restricted by such considerations as legislation, competition from other means of transport, custom, etc. In theory at least, therefore, the railway charges are differential monopoly charges in which a maximum aggregate monopoly net revenue is aimed at.

In road transport, on the other hand, competition is generally the rule, though differential charging is not altogether unknown in certain areas where conditions of monopoly reign supreme, and consequently charges generally tend to approximate the cost of service. Sometimes, however, keen competition may result in the forcing of charges below economic level. But such a state of things cannot continue for long, as it will mean ultimate bankruptcy for all and will lead in the long run either to the elimination of the financially weak among the competitors or to some sort of understanding or pool among the operators in the field. In this country, competition is sometimes so keen and ruinous in certain areas that not only no provision is made for

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depreciation and other necessary charges but the operator is sometimes not even able to get his remuneration.

Problem of Return Load.—In motor transport, the problem of return load is always a factor of very great importance in the determination of the cost of transport. Hence it is clear that return loads must be obtained if road transport is to be provided at low cost. Consequently traffic between big towns or between large towns and surrounding country districts has been facilitated since in the former case return loads can always be obtained between large towns and, in the latter case, rural produce can be conveyed to the towns by motor transport which would be utilised in bringing manufactured articles, farmers' requirements and the like to the countryside. In any case the problem of return load is of such importance that attempts have been made in some countries to institute freight exchanges in order to facilitate the problem of return load. But such attempts are not always conducive to good results as the establishment of such institutions may result in lowering return rates which may affect the ordinary rates in those districts where return loads are sought.

Advantages of Road Transport and Its Economic Sphere.—The main advantage which road

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transport offers is its flexibility. In a country where good roads are provided, door-to-door service is possible and this naturally tips the scale in favour of this form of transport in preference to others which are less flexible inasmuch as they are tied down to fixed routes. Another result of this flexibility is that experiments can be carried on, which is not possible in the case of other forms of transport. A road transport concern may be started on a particular route, but if it does not pay, another may be tried with hardly any loss of capital. With rail transport or even inland water transport, neither door-to-door services are possible, unless of course the goods are to be sent to special points along the fixed route, as there is a certain degree of rigidity with these forms of transport; nor can experiments be tried as permanent way has to be provided and this means expenditure of large amount of capital which may not find remunerative employment and consequently there may be total loss as such fixed capital is practically irrecoverable.

Apart from door-to-door service, there are practically no terminal or transshipment delays which make for fast service especially where distances to be covered are short. It is true that, on longer runs, the greater speed of railways

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can make up to a certain extent for these terminal and transshipment delays and the road transport cannot, therefore, compare favourably on long hauls, but on short journeys the mechanical road vehicle shows at its best and can certainly compare very favourably with rail transport.

Other advantages which the mechanical road transport possesses are that it can be started with comparatively small capital and that it can thrive on comparatively small traffic. These two qualities make this form of transport particularly suitable for rural areas where traffic is generally very small and conditions are absolutely unsuitable for large expenditure of capital which would be incurred if rail or inland water transport has to be provided. In certain countries, especially on branch lines where traffic is small, railways are experimenting with light steam or electric units with a view to meet road competition by providing fast traffic and also by avoiding loss due to unused capacity that occurs in the case of bigger train units. In India, the mechanical road vehicle has a special importance inasmuch as many rural areas can never dream of having either rail or inland water transport and the only means of communication, therefore, can take place through mechanical road transport which provides a fairly fast service.

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Motor vehicle possesses one more advantage over the railway, since it can stop to pick up or set down passengers at any point on the route. It can pass through towns and villages travelling through dense as well as sparsely populated areas whereas railways in many cases may have to be some distance away from the centre of activities in towns and villages. Thus the mechanical road vehicle has proved a very serious competitor to railways mainly due to its mobility and flexibility and the latter are hard put to it to meet the keen and increasing competition from the former in many countries.

Mechanical road transport has been found especially suitable for conveyance of perishable articles like milk, eggs, butter, vegetables, fish, etc., as these can be quickly transported to destination without much handling and so no special packing is required in many cases. The transport requirements of market gardeners, fruit growers, dairy farmers, etc., are very exacting since fruits, vegetables, etc., must be brought to the market in the shortest possible time so that the 'bloom' may not be lost and good prices may be obtained.

It is really difficult to define exactly the proper sphere of mechanical road vehicles in any national system of transport. It is abundantly

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clear that on long journeys and for heavy commodities especially of low grade nature, rail transport provides advantages hard to beat, though of course inland water transport may offer a cheaper form of transport where speed is not a great consideration. At the other end of the scale, the bullock cart or the horse transport has got distinct advantages where distances to be covered are very small and where streets are narrow and congested necessitating frequent stops and starts which make petrol vehicles especially expensive. It is true that electric battery vehicles are much better from this point of view and are generally in use by many progressive municipalities in the West especially in such work as collection of city refuse which was previously done by horse transport. But as yet the use of electric battery vehicle has not been much in favour on account of certain defects such as depletion of batteries necessitating recharging which is not possible at any and every place. This difficulty, however, can to a certain extent be got over by having extra batteries; but this is certainly not suitable for long journeys and hence this type of vehicles can only replace horse or bullock haulage.

It, therefore, seems that the proper sphere of mechanical road vehicle is somewhat interme-

diate between rail transport, suitable for long journeys, on the one hand, and horse or bullock haulage, suitable only for very short journeys on the other. It is not possible to lay down the sphere of mechanical road vehicle in terms of actual mileage; but possibly it would not be wrong to say that the sphere lies somewhere between 3 or 4 miles where animal driven vehicles are more economical and 100 miles beyond which rail transport begins to offer advantages which cannot be easily overcome. It is true that in Great Britain, U.S.A. and in certain other countries railways have now sometimes to meet competition even over greater distances than 100 miles, but this is probably due more to the cheaper charges in those particular cases than any inherent advantages which mechanical road vehicle possesses for this type of work.

Growth of Motor Transport in Several Countries.—There has been a phenomenal growth of both roads and road transport in the United States of America in recent years. That country at present possesses one mile of road per square mile of country as against the world figure of 1 mile per 5·4 sq. miles. There were 25,814,003 motor vehicles of all sorts in the United States in 1931, representing one vehicle per 4·7 of population against the world figure of one vehicle per

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57 of population. This shows the enormous growth of mechanical road transport in that country. The majority of the vehicles are in the hands of small owners, each individual owing one or two trucks each. The average radius of action has been calculated at 100 miles.

The British Isles possess a very good system of roads and at present there are about 177,000 miles of roads in that country, of which roughly about 43,000 miles are classified and the rest are unclassified. Of these 43,000 miles of classified roads, about 26,600 miles have been classified as first class and 16,400 as second class roads. Classification in Great Britain is based not on the quality of the track but on the amount of traffic passing on the roads, with a view to divide the cost of maintenance between the local and central authorities.

In 1931 the number of motor vehicles in use in Great Britain was 1,570,173. The railway companies complain that road hauliers have taken away a considerable amount of traffic from them, but this is rather a debatable point as the road transport has also been responsible for bringing a good deal of traffic to the railways. But there is no doubt about the fact that the passenger traffic of the railways has been very strongly hit.

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France has possessed a highway system worthy of the name since the eighteenth century. "In France," declares Professor Knowles, "the unity and welfare of the state was held to depend on smooth and rapid communication and transport has been under the peculiar care of the state during the eighteenth and nineteenth centuries, no matter how *laissez-faire* France might be in other matters. In France, transport developments came from above and were planned on a uniform system." The result was that there was a sound highway policy and consequent development of a national system of roads which contributed largely to the development of mechanical road transport in that country.

The rapid increase in the number of motor vehicles is indicated by the following figures:—

Year	No. of Motor Vehicles
1913	95,259
1920	235,948
1925	721,306
1928	1,089,253
1932	1,722,368

This works out at one motor vehicle per 24 of population which, though comparing unfavourably with the corresponding figure in U.S.A., is nevertheless quite considerable.

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In Japan the number of motor vehicles is not large. In 1932 there were only 100,100 motor vehicles, representing one vehicle per 640 of population. Commercial transport services have been placed under the control of the Railway Department and any application for opening a new service must receive its sanction. Naturally, therefore, the competition between road and rail is very limited in that country. The motor transport service is usually regarded as an auxiliary service of the railways and is not allowed to enter into keen competition with the other, though in goods services, there is a certain amount of competition which cannot altogether be eliminated, owing to the peculiar facilities offered by motor transport.

India has hardly any national system of roads worth speaking. Considering her vast size and extensive population, the mileage of roads, both metalled and unmetalled, is very meagre and the expenditure on development of roads may be considered insignificant when compared to that of other and more progressive countries which have got smaller areas and much less population. Before the appointment of the Road Development Committee in 1927, there was not much help from the central sources and the provincial revenues were not sufficient to meet the growing

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needs of road development. As a result of the recommendations of the Jayakar Committee a tax on petrol was levied and the proceeds, subject to certain conditions, were distributed among the provinces and centrally administered areas on the basis of their petrol consumption in order to assist them to develop and properly maintain their roads. But the available amount of money is really a drop in the ocean considering the vast size of the country and its population, though it must be admitted that the changes introduced did effect an improvement, however slight, on the old state of things. The Central Government derives a very large amount from various impositions on road transport and its accessories in the shape of petrol tax, custom duties on motor vehicles and their accessories, but spends comparatively little on the development of roads, as they are mainly under the charge of the Provincial Governments under the New Government of India Act of 1935. If roads are to be improved and the countryside is to be provided with a tolerable means of communication, and this is the only means of improving the rural areas as it is not possible to carry rail transport to every place, much larger expenditure on road development is not only a necessity but almost a crying need. Through road transport alone it is possible not only to bring the

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amenities of modern life within the reach of rural population, but also to convey the produce of the rural areas to distant markets within a reasonable period of time, thus enlarging the area for disposal and enabling the village producer to obtain better prices for his products. The methods of taxation of motor vehicles differ from province to province resulting in lack of uniformity and variation in the degree of development of road transport in various provinces. There has been some growth in the development of mechanical road transport in recent years as can be easily seen from the number of buses and lorries plying in different areas, but the growth is certainly not commensurate with the country's needs. It is true that the railways have raised the cry that uncontrolled road competition is threatening their existence, but such competition is due more to lack of co-ordination between road and rail transport than to any special reason which calls for a restriction on further development of road transport. As a matter of fact the railway interests clearly recognise the immense advantage that the country can derive from the development of this means of transport if there could be adequate co-ordination between these two forms of transport so that hitherto undeveloped areas could be brought within the orbit

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of a modern civilised life to the lasting benefit of the country as well as to the railways by providing feeder services to their lines.

Regulation of Road Transport Services.—In most countries regulation of mechanical road transport is imperfectly performed when compared to railways. The railway activities are generally carefully regulated in all countries. The complaint of railways has been that not only are their activities more strictly regulated and circumscribed in various ways but they are also subjected to greater taxation than their competitors, the road vehicles. And there is a large element of truth in this.

In U.S.A. there is not much federal regulation of motor transport, though there is a certain amount of regulation by the States, varying in degree from place to place. Consequently the vehicles operating mainly interstate services more or less escape the legal regulations existing in the various States. The result is that rail transport is considerably handicapped in the matter of competition with road transport; but on account of long distances and large amount of traffic passing in bulk the rail transport is able to hold its own in many spheres, though the competition from private cars is assuming serious proportion so far as passenger traffic is concerned.

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In Great Britain, the road and rail problem aroused public interest from the beginning and attempts have been made to find a satisfactory solution as it was recognised that it was the duty of the state to hold the scale even between the two interests. Considerable regulation was, therefore, imposed on mechanical road vehicles in respect of load, speed, safety, working hours of drivers and other matters by the Road Traffic Act of 1930 which, however, left certain problems untouched. As a result of the Report of the Conference on Rail and Road Transport under the Chairmanship of Sir Arthur Salter, a Road and Rail Traffic Act was passed in 1933, which, though in no way hampering the development of road transport, was intended to regulate competition in such a way that such competition might take place under equal conditions for both the means of transport.

In Japan the motor transport is controlled to a large extent by the railways and though competition is not altogether eliminated, it is under strict regulation due to the fact that the railways are mainly owned by the state and consequently the financial stake of the state is considerable.

In India the regulation of road transport was not very considerable in the beginning, though as

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a result of agitation on the part of the railways and due mainly to the fact that the Central Government was vitally interested in the financial success of the railways on account of the large amount of capital invested in them by the state, there has been an attempt to regulate competition between road and rail transport on the lines adopted in Great Britain with a view to place the two means of transport on equal footing without hampering the development of either. But certain special difficulties have been encountered as a result of the Central Government being interested in railways and the roads being under the Provincial authorities. However steps are being taken to equalise conditions for both forms of transport so that one may not be penalised by the state while the other may escape scot-free.

CHAPTER III

INLAND WATER TRANSPORT

The great merit of inland water transport, like ocean transport, is its comparative cheapness compared either to road or to rail transport. The reasons are not far to seek. In the case of rail or road transport, the permanent way costs a large sum of money and, when made, also requires a large annual sum to maintain it. With regard to water transport, at least in the case of sea and large navigable rivers, the permanent way is provided by nature and, therefore, comparatively little expenditure is incurred to make them suitable for use. It is true that considerable cost has to be incurred in constructing navigable canals with all their appliances such as locks, hydraulic lifts, incline planes and other necessary appurtenances, but even then the cost is small compared to that of rail transport. It has been estimated that an expenditure of Rs. 100 crores can give such a vast country as India a very good system of waterways which will provide an efficient and cheap form of transport, especially for heavy commodities of low grade nature that pass in bulk. Another reason for

cheapness of water transport is that water resistance is low and consequently it costs less to carry a certain load by water than to carry the same over land.

Limitations of Inland Water Transport.— Though there are certain advantages for inland water transport, it also suffers from certain limitations which make for its limited use in the case of certain special types of traffic. The slowness of speed of water transport, especially in canals, is a serious limitation under modern conditions when the demand is for quick deliveries and rapid services all round. Consequently their use is possible only where delay in transit is not a material factor. Moreover construction of canals is generally possible in flat countries without much expense; otherwise considerable expenditure has to be incurred in providing such devices as locks, hydraulic lifts, incline planes, etc., which will not only mean large initial cost but also additional operating expenses. In certain cold countries, canals may suffer from the further defect that during winter navigation may sometimes be impeded by ice. In other countries, sufficient water may not be available, especially in summer, when conditions of drought may prevail. Thus it is clear that in spite of certain advantages possessed by inland water transport,

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it also suffers from serious limitations which cannot altogether be ignored.

Inland Water Transport Charges.—Owners of inland water ways generally charge tolls to meet the interest as well as the maintenance charges for their works. Any carrier who is willing to pay the requisite toll is allowed to ply his vehicle on the canal and to act as carrier for others. Transport charges thus consist of two parts—the toll paid to the owner of the canal, and a payment for the services rendered by the actual carrier. Thus it is possible to distinguish between the capital charges and working expenses in a particular manner since the ownership of the canal is in separate hands. Generally a system of classification, like the one prevailing on the railways, is enforced so as to effect some sort of differential charging so far as the toll is concerned. As a matter of fact, the British railways based their early classification on the then existing canal schedules.

Inland Water Transport in Certain Countries.—Inland waterways are of considerable importance in certain countries as the traffic passing on them is considerable. In Canada and U.S.A. the great navigable rivers, the great lakes and the artificial canals provide cheap and easy means of communication and these are utilised

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largely for transport of goods and materials as well as passengers.

On the Continent of Europe, both Holland and Belgium have good systems of water communication. Though the state charges dues, these are so regulated as just to pay for the expenses and no profit or return on investment is expected by the state. They also see to it that railroad competition may not crush the water transport.

In France the Government have spent large sums in improving natural waterways and in constructing navigable canals. The canals are generally toll-free and carry a considerable amount of traffic.

In Germany the waterways have been fully organised and harnessed to the requirements of the nation. It is true that Germany has been favoured by Providence by a number of good and navigable rivers; but artificial waterways have also been constructed and developed in a manner characteristic of that wonderful people, with perfect thoroughness and planning. On the free rivers like the Rhine and the Elbe, there are no dues and the German waterways carry a large volume of traffic at cheap rates which relieve the railways of the carriage of much of the low grade traffic which may have otherwise created conges-

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tion on them necessitating considerable expenditure on their expansion and improvement.

In Britain before the railway era began, artificial waterways in the shape of navigable canals were constructed especially in the Midlands Area which was then already an industrially developed region. The canals were a considerable improvement on the previously existing means of communication and afforded easy and comparatively cheap means of conveyance of passengers and goods in those days. But the canal companies were thoroughly disorganised and there was no attempt either at facilitating through traffic or instituting a system of clearing-house facilities to maintain common action in common interest. On the top of this the appearance of the railways brought in an era of rapid communication and canals were simply overwhelmed by the greater advantages afforded by this new means of transport whose hostility to the canals added to their misfortune. Some of the owners of the canals were shrewd enough to sell their interests to railways in time and this enabled the railways to get possession of the important links in the canal system which they utilised to prevent any possibility of through traffic, thereby sealing their fate altogether.

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Though the hostility of the railways was a potent cause in the destruction of the canals, yet it must be admitted that the canal interests also showed utter lack of enterprise and initiative in face of new dangers which simply seemed to have overwhelmed them.

A Royal Commission on Canals was appointed in 1906 and its report, which came out in 1911, made some half-hearted suggestions for the improvement of British waterways. It seemed that the Commission was not very hopeful about the future commercial possibilities of the waterways though it had made some recommendations for their improvement, both in construction and organisation, with the special emphasis on the creation of a Waterways Board to deal with all matters concerning waterways if the principle of unification, as suggested by it, was adopted. The future of British canals is, indeed, dark due not only to the greater advantages offered by the railways but also due to deficient organisation and lack of initiative shown by canal interests.

Inland Water Transport in India.—India is blessed with a number of good rivers especially in the northern region where navigation can take place throughout the year. As a matter of fact water communication was very flourishing both in Hindu and Muslim periods, but unfortunately

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there has been a considerable decline in it after the British occupation of the country. The rivers like the Ganges, the Indus and the Brahmaputra in the north are perennial streams which offer facilities for navigation without much capital investment on them. But even in the less favourable regions of the south, the rivers like the Kishna and the Godavari can be kept open to navigation over considerable distances only with a comparatively small expenditure of capital. It is true that canals have been constructed especially in the Punjab and in certain other regions, but these are mainly for irrigation and not for navigation purposes.

India is a poor country of great distances, producing large quantities of food grains and other raw materials which demand cheap and easy transportation, and waterways, if properly developed, can certainly offer services which in many cases may prove unrivalled. Why, then, the waterways in this country are so neglected? The reason is not far to seek. The state is vitally interested in the financial success of the railways having invested something like 760 crores of rupees in them. Sir Arthur Cotton, who was a great supporter of improved water communication in this country, advocated the construction of navigation canals for the carriage of raw

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materials and food grains at cheap rates from one part of the country to another. He stated before a Parliamentary Committee in 1872, which is worth quoting :—

“My great point is that what India wants is water carriage; that the railways have completely failed; they cannot carry at the price required; they cannot carry the quantities and they cost the country three millions a year, and increasing, to support them. That steam boat canals would not have cost one-eighth that of the railways; they would carry any quantities at nominal prices and at any speed; and would require no support from the treasury and would be combined with irrigation.”

There is scope for both railways and waterways in a country of such size as India, and in any planned system of communication and means of transport, the railways, the roads, the waterways and the airways should all find their respective places. It is not yet too late to develop the waterways in this country and if the experience of countries like Germany and Belgium is any guide, the future of waterways, if properly tackled, is almost assured without

CHAPTER VI

COMPETITION BETWEEN DIFFERENT. FORMS OF TRANSPORT

Road and Rail Transport.—In recent years, in most countries, there has been very keen competition between rail and road transport due to certain advantages possessed by the latter, especially in short distance traffic. The road transport is a very flexible form of transport, capable of rendering door-to-door services and, over short distances, on account of absence of terminal and transshipment delays, can perform journeys in less time than rail transport. Apart from these advantages, road transport is especially suited to certain types of traffic such as dairy produce, eggs, fish, etc., which require quick dispatch in order to arrive at the market in fresher and better condition to realise higher prices and which need not be handled till they reach their destination, thus making it unnecessary to incur heavy expenses in packing and also avoiding the danger of pilferage. The road transport is at present not only offering keen competition to its rival over short distances, but also in countries such as Great Britain and U.S.A., the competition

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is being felt over considerably longer distances.

It is true that rail transport possesses special advantages in carrying long distance traffic and in the carriage of low grade heavy articles, such as iron, coal, etc., but even in these fields, mechanical road vehicles are gradually making their appearance, though it is not easy for them to compete on very favourable terms. The railways complain that the road hauliers generally choose their traffic and usually select the cream while the railways, as common carriers, have to accept whatever is offered, if they have space to carry them. Further, they maintain that they sometimes have to pay local rates which are utilised to provide roads for the use of their rivals whereas they are required to pay entirely for the construction and maintenance of their permanent way. The road vehicles generally get their permanent way provided for them either by the local authorities or by the state and there is thus an unfair competition between the two forms of transport.

The road interests, on the other hand, retort that the rail transport is already an obsolete form of transport and no efforts should be made to bolster up an effete means of transport if it cannot meet legitimate competition from its rivals.

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They maintain that the roads are used by everybody such as foot passengers, cyclists and even by water, gas and electric companies as way-leaves and the community is interested in the provision and maintenance of roads; it is only fair that a part of the cost should be borne by the community. They recognise that the mechanical road transport should bear their legitimate share of the expenses of road construction and maintenance; but they maintain that at present they are doing this to the fullest extent.

The question is, however, to decide what would be the legitimate share that should be borne by this new means of transport. The road interests generally maintain that they should be called upon to contribute the additional cost of maintaining the roads due to their appearance. This, however, would be an unfair advantage given to them as they could legitimately be called upon to bear a part of the cost of construction as well. The difficulty of determining the proper share of each has led to the suggestion that a better division would be that the community should provide the roads while the mechanical road transport should bear the cost of maintenance only.

Whatever may be the conflict between the rail and road transport, it is certain that both of

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these have come to stay and it is the duty of the state to hold the scale even between the two so that one may not be favoured at the expense of the other.

It has, however, to be borne in mind that all traffic carried by motor vehicles is not taken from the railways. Some of it has been taken undoubtedly from horse or bullock haulage and some of it also is entirely new traffic which might or might not have gone to the railways in the absence of motor transport. The mechanical road transport has been a great instrument in developing outlying areas and has thereby created a considerable amount of new traffic and where it acts as a feeder to the railways, it certainly is responsible for creating traffic for the railways. Thus the mechanical road vehicle not only takes away traffic from but also creates traffic for the railways. Further, the development of mechanical road transport has been responsible for a considerable amount of additional traffic on the railways as motor cars, accessories, petrol and road materials have to be carried by railways.

It may, however, be contended by the railways that on balance they have lost traffic to the roads. This may be true, but no means of transport can be given absolute monopoly for all times even if it is found not to render efficient

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service to the community. If this were done, it would be, as Professor Lionel Robbins points out, "the very negation of progress. For progress necessarily involves destruction of existing capital values."

Extent of Competition in Different Countries.

In Great Britain, the railways estimate that the loss due to road competition is about 16 million sterling annually. The effects of competition have been more severe in the case of passenger traffic than in the case of goods traffic, though the latter traffic is also feeling the pinch considerably. In recent times, the competition has extended to wider fields and the road hauliers are offering services over longer distances with the result that long distance traffic is also being lost, though to a small extent, to the railways. The governmental authorities in that country, however, made early attempts to put the two means of transport on an equal footing by passing legislations such as Road Traffic Act of 1930 and Road and Rail Traffic Act of 1933. The two Acts made elaborate provisions for regulation of road vehicles and the taxation of the same so as to equalise opportunities for both of them.

In the United States, the competition is a growing menace to rail transport, as in most countries. The road interests, as in Great

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Britain, are now challenging the railways even for long distance traffic, though in this field, the competition is more severe in the case of passenger than in case of goods traffic. Though the railways possess superior advantages for long distance traffic, the lower cost of road transport has enabled it to successfully challenge the railway supremacy even in this field. United States possesses the greatest number of motor vehicles in proportion to population (1 vehicle per 4.7 of population whereas the world figure is 1 per 57 of population) and naturally the competition is very keen. Moreover, the large number of private cars in that country has added considerably to the difficulties of the railways as long distance, higher class passenger traffic is being largely affected on this account.

In Germany the railways were constructed by the states, but the German constitution of 1871 gave the Empire the right to regulate the railways. It has been rightly pointed out by Dr. Sir Ziauddin "that the German railways are centralised in their administrative organisation and decentralised in their economic functions. This situation results in a happy combination of unity of management and flexibility of operation." This has certainly enabled the railways in that country to put up a stronger resistance than elsewhere.

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In Germany various laws have been passed from time to time for the regulation of road traffic and steps have been taken to construct special roads for fast motor traffic. This is an innovation in which Germany has practically taken the lead, setting up an example to other countries in this respect. For short distances, the mechanical road transport enjoys special freedom from regulation as it is recognised that this form of transport has certain inherent advantages while for long distance traffic, the motor transport is subjected to various regulations in order that the rail transport may not be unduly hampered by this new means of transport.

France, more than any other country, has taken special steps for the development of her roads for a very long time and consequently the country is provided with a national system of highways. Naturally, therefore, the advent of motor transport made its presence felt to the railways which found in this new method of transport a very keen and serious rival which needed special attention on their part. The Government, on its part, had to promulgate the Decree of April, 1934, to determine the conditions which should govern the relations between road and rail transport. The object of the Decree is to facilitate a suitable apportionment of traffic

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between the two by means of regional agreements among them, wherever possible, the public authorities coming into the picture only to settle differences whenever they arise.

In Japan, the competition between road and rail is somewhat limited. The reason for this is that the railways, which are owned by the state, have the power to regulate commercial motor transport under an Act of 1931, and any application for authority to open a new service must be made to the Department of Railways. The state railways in Japan, on their part, have regarded motor transport as auxiliary and feeder service of the railways and consequently taken steps to see that the two methods of transport do not enter into keen competition with each other.

The problem of competition between road and rail transport is not so acute in India as in other progressive countries. The main reason for this is that the road system of the country has not been properly developed, though some steps have been taken since the report of the Jayakar Committee in 1927 by the creation of a Central Road Fund. Even then only the fringe of the problem has been touched and India suffers from paucity of goods roads. This is a lamentable situation as it is evident that in a poor country of this size, it is not possible for the railways to

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penetrate into every nook and corner on account of the immense capital cost that would be required in the process, if for nothing else. A proper development of roads and road transport may, therefore, be considered a crying necessity not only for bringing the outlying rural areas into touch with more prosperous towns, thereby bringing the amenities of the town life within the reach of rural folk, but also for the greater need for providing facilities for the marketing of agricultural produce which would raise the standard of life of the rural population by increasing the price of their produce.

Viewed in this light, a co-ordinated plan of development of all forms of transport including road transport is a matter demanding urgent solution in this country, which can, however, be tackled by a national government on account of the various considerations involved in this matter.

Though the paucity of goods roads has naturally restricted road competition with railways, yet this is a growing menace which can be overlooked by railways only at their peril. According to Mitchell-Kirkness Report, one-half of the total mileage of railways in British India has metalled roads parallel to and within 10 miles of them and most of the roads were there before the advent of the railways. Consequently the

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railways apprehend keener competition in future from this new means of transport.

At the present moment, the light railways and the branch lines have suffered more from road competition, but the main lines have not altogether been immune from this attack. According to the calculations of Messrs Mitchell and Kirkness in 1933, the annual loss to Indian railways was something to the tune of Rs. 190 lakhs a year. The Wedgewood Committee estimated the loss at Rs. $4\frac{1}{2}$ crores in 1937, Rs. $3\frac{3}{4}$ crores in the case of passenger traffic and Rs. $\frac{3}{4}$ crore in the case of goods traffic. Though the Committee admitted that the basis of calculation was not quite correct and the figures given might not be absolutely accurate, yet it was apparent that the railways were fast losing traffic to the roads and that in a few years' time the loss might easily be doubled.

Economics of Road and Rail Competition.—

It is necessary to examine the economics of road and rail competition in order to appreciate the problem in its true perspective. The method of charging is different in the two cases and gives rise to competition and creates problems which defy solution. It has already been pointed out in a previous chapter that railways are more or less monopolistic undertakings which are able to

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follow the principle of differential charging which is reflected in classification of articles. Thus the more valuable articles have to bear a proportionately higher charge than the heavy, low grade commodities which do not bear the full share of the overhead charges. The road hauliers, on the other hand, base their charges mainly on the cost factor, which enables them to take away the more valuable traffic from the railways which complain that they are thus dispossessed of the cream of the traffic while the road hauliers are not under any obligation to carry the low class commodities like the railways which are common carriers. Railways maintain that if this competition continues unchecked, they would be compelled in self-defence to revise their policy of cheaper rates for low grade articles, thereby upsetting the present arrangements for movement of goods and crops. Thus it is apparent that the road and rail competition is really the result of a clash between two economic principles, *viz.*, value of service principle and cost of service principle.

Measures Taken by Railways to Meet Road Competition.—The growing menace of road competition has compelled the railways to adopt measures in self-defence and the steps adopted have varied in different countries according to the circumstances prevailing in each. But the

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usual methods have been to provide greater facilities and cheaper rates and fares in order to recapture the traffic already lost to the roads.

Thus the railways in most countries are reducing their charges in the sense that they are offering various sorts of concession fares to their customers in order to induce them to travel by rail instead of by road. It has already been seen that road transport causes greater discomfort and takes more time on a long haul, and yet in Great Britain and U.S.A., it has been able to capture long distance passenger traffic to a certain extent due to its ability to offer lower charges. Therefore, the reduction in charges is a device which has been adopted by railways in many countries with good results to meet road competition in passenger traffic.

As regards goods traffic, various devices have been adopted to meet road competition. The greatest advantage possessed by road transport over short distances is quick delivery, besides other advantages such as less handling, less packing needed, greater personal attention and less liability to pilferage. The railways are making strenuous attempts to speed up their trains and by means of such devices as rail-head delivery and use of containers and auxiliary motor services, they are trying to improve the quality of their

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service by more rapid delivery, door-to-door services and other facilities.

Indian railways have in recent years taken steps to meet the growing competition from roads. In connection with passenger traffic, the policy has been generally to speed up trains, improve connections and intensify the services and provide greater amenities for lower class passengers. General reduction in fares is not aimed at, though reductions are made according to local circumstances when such a step is considered necessary. Similar steps have also been taken regarding goods traffic by acceleration of services and provision of greater facilities, such as reduction in transit time by reducing clerical formalities and in some cases by the introduction of the use of the containers which will enable the railways to render door-to-door services like their rivals. But here again no general reduction in charges has been effected though reductions are made in individual cases to meet special circumstances.

.. **Competition between Rail and Inland Water Transport.**—The railways have to compete with inland water transport wherever it is possible to send goods either by railway or by an alternative means of transport. The water transport, whether by river or canal, is cheaper than rail transport and, consequently, can compete with it

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in the case of low grade articles which cannot bear heavy charges and are, therefore, content to accept slower speed. In Great Britain, the inland water transport is not in a flourishing condition, due partly to lack of organisation and partly to the hostility of the railways.

In countries like France, Belgium, Holland and even in U.S.A. and Canada, where inland waterways are in a more flourishing condition, the railways naturally have a good deal of competition with water transport, especially in the carriage of cheap and bulky commodities. In India the development of inland waterways has been neglected and consequently no great competition is to be found between rail and inland water transport.

Competition of Road Transport with Inland Water Transport.—The flexibility of road transport has been responsible for the loss of some traffic by inland waterways in western countries even in cheap and bulky commodities where inland water transport may be regarded as having a special advantage. The question, however, does not arise in this country where road transport has not developed to any great extent and inland water transport is also not in a flourishing condition.

Competition between Rail Transport and

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Coastal Shipping.—There is a considerable amount of competition between railways and coastal shipping in all countries where seas abound. The railways cannot compete with coastal shipping in the conveyance of low grade heavy commodities not requiring quick dispatch, as water transport is generally cheaper than rail transport. Such competition has generally been met by the railway by the quotation of special rates between competitive points. In Great Britain the special interests of the coastal shipping has been safeguarded by the insertion of clauses in the Railways Act of 1921 whereby the Rates Tribunal can look into the question of special rates when the legitimate interests of coastal shipping are jeopardised by the unreasonable activities of the railways. In India, the railways, too, offer competition to coastal steamers by quotation of special rates between such ports as Bombay and Calcutta, Bombay and Madras, Bombay and Karachi, Calcutta and Madras and *vice versa*.

Competition between Rail Transport and Air Transport.—The rapid development of commercial aviation is creating problems for rail transport, though as yet not to so great an extent as has been done by road transport. Yet the position is not free from anxiety for the railways

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which are already taking steps to meet this new menace. In U. S. A. and Germany, where progress in commercial aviation has been considerable, the railways have to compete with air transport over long distances especially in higher class traffic and efforts are being made to effect co-ordination between these two means of transport so that there may not be any wasteful competition. In Britain, the railways sought to take air powers with road powers in 1928, when they introduced private legislation for the purpose. The railways did not want to be left in the same position when air transport developed as they were when competition from road transport became very keen. Air powers would enable them to effect co-ordination between the various forms of transport by starting their own services and by entering into agreements with other air transport concerns.

CHAPTER VII

CO-ORDINATION OF DIFFERENT FORMS OF TRANSPORT

The word "co-ordination" has been used in different senses on different occasions. When the railway authorities talk of co-ordination, they generally mean elimination of road competition which they regard as wasteful. But surely this cannot be the meaning of the term. Co-ordination has been defined by one writer as "a relation between two or more transport agencies. It may apply between similar agencies, as between two railways; or between dissimilar agencies as between a railway and a bus company. Its aims are to provide the consumer with a service at minimum cost through the elimination of technically inefficient methods and to ensure that services which are jointly demanded, or complementary to each other, are supplied in harmony." In other words, co-ordination is nothing but the adjustment of the different types of transport facilities to public needs. If a particular form of transport is suitable for a particular type of work having regard to its

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cost and efficiency of service, that form of transport should be allowed to work unhampered in that field of operation. Co-ordination would not eliminate competition altogether, but it would certainly seek to regulate competition to public advantage.

Economic Basis of Co-ordination.—In recent years there has been very great competition between different forms of transport especially between rail and road transport. Much of this is unhealthy competition and consequently wasteful. Overlapping is positively harmful inasmuch as it means that two sets of capital are trying to get remunerated where there is scope only for one. Costs are thereby increased and efficient service cannot be rendered under these circumstances. Under conditions of competition, the better paying routes would be over-provided with transport facilities, while leaner routes would be utterly neglected. There is thus every reason for substitution of competition by co-operation, so that rail and road transport could be utilised under the most suitable conditions. The fact that each type of transport has certain advantages and disadvantages for particular types of work provides the economic basis of co-ordination. That form of transport which is the most suitable for a particular type of work should be

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allowed to function without hindrance for that type of work.

Though it will be agreed on all hands that co-ordination is certainly desirable and all necessary and wasteful competition should be eliminated in public interest, the actual solution of the problem is not thereby rendered any the easier as it is difficult to find a scheme which would secure all the benefits of co-operation by adjusting transport facilities to public needs and at the same time would not restrict the legitimate development of new modes of transport. The complication really arises from the fact that it is really difficult to determine the exact sphere of each mode of transport. There is no clear line of demarcation regarding the usefulness of each form of transport with the result that there is a debatable margin of traffic where competition becomes extremely severe as large amounts of fixed capital have to be remunerated in each case. Co-ordination is also rendered difficult on account of existence of a large number of road transport concerns which certainly do not facilitate co-operation between different forms of transport. Certainly the work would be much easier if the competing units were large in each case.

Different Types of Co-ordination.—Co-ordination in the field of transport may take

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various shapes such as (1) voluntary co-ordination, (2) co-ordination through dependence, (3) co-ordination through nationalisation of all the different modes of transport and (4) statutory co-ordination.

Voluntary co-ordination takes place when the different forms of transport seek to make the necessary adjustment in the public interest as equal partners. Statutory co-ordination takes place when the needed adjustment is forced by legal measures. A certain degree of common management is sometimes enforced by some controlling body to safeguard public interest.

Again, there may be co-ordination through dependence, as for example, one form of transport, say, the railways may control the other forms of transport, like the road, air and canal services, either by providing these services themselves or through financial control of the same and, under such circumstances, the others would merely be subsidiary to the railways.

Finally co-ordination may be effected through nationalisation of all forms of transport as has been done in Soviet Russia.

Voluntary co-ordination, though desirable, would not achieve the purpose inasmuch as it is difficult to bring the different parties to a common understanding, and even when this is effect-

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ed it is difficult to maintain it for long, unless the parties are very few in number and are ready to sacrifice their personal gains for the sake of public necessity. Co-ordination through dependence is undesirable in so far as it seeks to make one form of transport the dominant partner in the show and the danger is that other forms of transport may unnecessarily suffer in the process of mutual adjustment to the detriment of public interest and consequently the full benefits of co-ordination may not be realised.

Co-ordination through nationalisation of all the different means of transport makes the solution of the problem easy inasmuch as the different forms of transport come under a single ownership, thereby setting at rest all rivalries between them and creating conditions for working them to the fullest advantage under the most appropriate conditions. But the danger lies in the creation of monopolistic conditions in the field of transport without any means of safeguarding the interest of the consumers inasmuch as the state might fail to protect the same in pursuit of its own gains, though, it must be admitted, it is too narrow a view to take, because the interests of the state and the people composing the same are one and the same in the long run. Socialisation of the means of transport, therefore, seems

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to provide to many people the proper method for effecting the desired co-ordination between all the different modes of transport, but the absence of an impartial body to adjudicate in case of disputes is a serious drawback, though a device to overcome the same ought not to be beyond the wit of man. But such a step is possible only in a socialistic state and may not be realised even in ordinary democratically governed countries where nationalisation may be a far cry.

This naturally leads to the conclusion that co-ordination through statutory regulation is possibly the best method of achieving the desired goal under the present circumstances. Under this, co-ordination would be effected compulsorily by regulating the activities of all the different forms of transport in public interest under some regulative body set up for the purpose. This would necessarily mean elimination of competition to a large extent and setting up a monopoly in transport services. Though monopoly has its dangers, yet it can be kept under control, if proper steps are taken so that evils of monopoly may be eliminated whereas its benefits may be realised. What is needed is proper vigilance which can be exercised through the setting up of regulative bodies which will safeguard public

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interests and will see that the co-ordinated system is worked to public advantage.

Railways and Road Powers.—The appearance of the mechanical road vehicles created conditions which the railways were not prepared to meet immediately, though they soon found that necessary steps must be taken unless they were prepared to lose a good deal of their traffic to the new-comer. Railways, therefore, sought road powers in Great Britain and in certain other countries in order that they might meet road competition either by providing road services themselves or through financial control of road transport concerns. In countries where the road interests were not as yet strongly entrenched, the railways generally attempted to start their own services in order to realise the advantages of the new mode of transport; but where the road interests were already strongly entrenched, as in Great Britain, attempts were made to achieve the same purpose through financial control of existing concerns. In reality both were the same, only different phases of one and the same procedure. In this country, too, the Wedgwood Committee strongly advocated the granting of road powers to railways in order that co-ordination might be effected between rail and road transport though railways were doubtful of the

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utility of such a step. In South Africa, the railways made good use of their road powers in effecting co-ordination between the two means of transport. The British railways also sought to take air powers along with road powers in 1928, so that they might not be caught unawares when air transport developed and they could meet the onslaught of air services through co-ordination by providing their own air services where needed. It is, however, clear that the granting of such road powers or air powers can only be means to an end and cannot be the end itself because the starting of such services by railways would, in the first instance, mean nothing but duplication of services and facilities, no doubt to the apparent temporary advantage of the users of such means of transport, but really to the disadvantage of public interest in the long run. So far as these powers are used in order to effect the necessary co-ordination between the different forms of transport, they are desirable and should be given, but steps must be taken to ensure that such powers may not injure public interests in the long run.

Co-ordination in Different Countries.—The growing menace of road competition in different countries has led the railways to devise methods to meet such competition and, if possible, to

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effect co-ordination between rail and road transport.

Great Britain.—In Great Britain, the railways attempted to bring about the desired co-ordination by obtaining road powers which were granted in 1928. The railways, however, found the road concerns already strongly entrenched and, therefore, adopted the device of securing financial interests in the existing concerns instead of starting their own services. By this means the railways have been able to effect co-ordinated road and rail services for passenger traffic to a certain extent. In the case of goods traffic, very little co-ordination has been effected so far.

The state in Great Britain also realised the nature of this competition and took early steps to equalise opportunities between the two means of transport. In 1928 Mr. Winston Churchill, the then Chancellor of the Exchequer, declared that it was the duty of the State to hold the scale even between road and rail.

Accordingly in 1930, the Road Traffic Act was passed for the regulation of road transport services. The Act certainly introduced order in a system which previously lacked organisation. But in spite of all its advantages, the Act of 1930 left many problems absolutely untouched.

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As a result of the recommendation of the Committee presided over by Sir Arthur Salter, a Road and Rail Traffic Act was passed in 1933, which was in no way intended to hamper motor transport services, but its sole object was to regulate competition between road and rail so that such competition might take place under equal conditions for all.

The railways in Britain attempted to take air powers along with road powers in 1928 so that they might not be caught unawares when air transport developed and the necessary co-ordination between rail, road and air services might be effected.

The railways in Britain are also in competition with coastal shipping and the interests of the latter have been sought to be safeguarded against undue railway competition by means of a clause in the Railways Act of 1921 which provided that the Rates Tribunal was to consider any special rates which might be instituted by railways to meet competition from coastal shipping.

France.—In France, co-ordination between road and rail transport was sought to be effected by the decree of April, 1934. The object of this decree was to effect a suitable division of traffic between road and rail which was sought to be accomplished through regional agreements enter-

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ed into by the representatives of the two forms of transport, the public authorities only intervening in case of differences of opinion.

The scheme of co-ordination was to be carried out under the direction of a Co-ordination Committee consisting of five experts, who were representatives of rail and road interests, and an arbitrator. The main work of the Committee was to bring about regional agreements between the road and rail interests. If agreement could be reached, it was to be laid before the Minister of Public Works for approval, otherwise the arbitrator submitted his own proposals which were considered by the Minister who passed order afterwards. But since the users of transport services had no direct representative on the bodies appointed to make the agreements, it was necessary that the Minister of Public Works should give due consideration to their interests when the agreements on the arbitrator's proposals were submitted for approval.

Germany.—In Germany, the competition from road transport services was mainly felt by the railways for short distance traffic. The reduction in charges by the railways was not sufficient to meet this competition and, therefore, in 1924, the railways made agreements with all the large road transport undertakings, which were

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combined into one concern. Co-ordination was, thus, effected between the two groups of interests and in many areas joint rail and motor services were organised both for passenger and goods traffic.

U. S. A.—In U. S. A., severe competition from motor transport undertakings forced the railroads to devise methods for meeting such competition. The necessary co-ordination they tried to effect either by operating their own bus services or by forming agreements with other motor transport undertakings. In many cases the railways closed the existing branch lines and substituted motor buses in their place and even where the branch lines were not entirely closed, buses were being utilised at period of slack traffic and the trains were run when the traffic was heavy. Feeder road services were also being organised by the railways to increase their traffic.

Attempts were also made by railways to develop co-ordinated rail and road transport services for the carriage of goods and merchandise, and in this connection the adoption of the container system helped a good deal.

In the regulation of public motor vehicles in the United States, complications arose on account of the fact that the member States had the power

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to regulate the motor transport within their own area. These states were very keen in maintaining their power and consequently different regulations were in force in different states, giving rise to diversity rather than uniformity in the matter of regulation of transport services.

• The Federal Government, however, was empowered to make regulations for transport undertakings which operated in more than one State. The inter-State traffic was dealt with by the Inter-State Commerce Commission.

South Africa.—The competition between road and rail transport was very severe in recent years due to the fact that motor transport undertakings operated mainly in the railway area instead of developing their activities in outlying areas owing partly to defective state of the roads and partly due to sparsely populated nature of the countryside. The railways, therefore, had to adopt a number of devices to meet this growing competition and they sought road powers which they obtained and inaugurated road services with a view to bring about the necessary co-ordination between rail and road transport.

Japan.—The problem of road-rail competition did not assume any serious proportion in Japan, where the commercial transport services were placed under the control of the Railway

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Department, which was very careful to see that the two means of transport did not enter too keenly into competition with each other. The road transport was encouraged to act as feeders to the railways in Japan and thus provided an example where the necessary co-ordination was effected through dependence on railways.

India.—In India, the road competition has not assumed the same proportion as in the West. This is partly due to the poverty of the people but mainly due to the want of a proper road system and the unsatisfactory manner in which most of the roads are generally maintained in this country. None the less it is quite apparent that road competition is bound to increase in future and the railways would be better advised to put their houses in order. The institution of a Central Road Fund out of the proceeds of a special tax on petrol has enabled the Central Government to offer certain assistance to the provinces for the development of roads.

Though the development of her road system has not been commensurate with the size and population of the country, yet according to the Mitchell-Kirkness Report nearly one-half of the total mileage of railways has metalled roads parallel to and within 10 miles of them and most

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of these were there before the railways were constructed.

The light railways and the branch lines have been the greatest sufferers from motor competition, though short distance traffic on main lines of railways has also been affected by motor competition.

According to the report of Messrs Mitchell and Kirkness, published in 1933, the annual loss to the Indian railways due to competition in passenger traffic from motor transport was something like Rs. 190 lakhs per annum. The Wedgwood Committee, however, estimated the loss in 1937 to something like Rs. $4\frac{1}{2}$ crores per annum of which Rs. $3\frac{3}{4}$ crores were in respect of passenger traffic and Rs. $\frac{3}{4}$ crore in respect of goods traffic. It is true that the figures are mere estimates but they certainly point to increasing competition from road transport especially in passenger traffic. Though the goods traffic has not yet been affected to any large extent, it is quite possible that road transport will also offer competition in this field in a greater measure in future.

The problem, therefore, is to effect a proper adjustment of road and railway facilities to public needs, if wastes are to be avoided in the interest of the nation. The matter is one of some

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importance in view of the fact that the state has invested something like Rs. 760 crores in railways which may not be properly remunerated if unrestrained competition is allowed to have its way. Critics of railway administration are not wanting who maintain that they are inefficient and out-of-date modes of transport and no efforts should be made to 'bolster' them up, if they are not in a position to hold their own under a system of free competition. Their argument is that road transport is a better method of transport and must, therefore, supersede the older and less efficient mode of rail transport.

It is true that road transport offers certain advantages such as flexibility, door-to-door services, etc., but it must be admitted that rail transport is as yet by no means superseded and can hold its own especially in the case of long distance traffic and in the case of low grade heavy commodities that pass in bulk.

In this country, the railways suffered in the beginning due to the fact that road transport was not properly regulated. The railways complained that while they were subjected to all sorts of regulations, their rival was let off with practically no control at all. This state of things has, however, been remedied to a considerable extent by the passing of the Motor Vehicles Act of 1939,

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which is going to regulate road transport in a manner likely to equalise conditions for road and rail transport in this country. But the Act is not going to stop road competition which, if anything, is likely to increase in the near future.

• What, then, should be done to prevent overlapping of services and avoidable wastes in the interest of the community? Co-ordination of the different modes of transport is the only remedy if the nation is to reap the full benefits from the different means of transport and this can be achieved in one of two ways. Either the state can assume the responsibility for all types of inland transport as in Soviet Russia and the necessary co-ordination will then be effected through the nationalisation of the different means of transport or the same object can be realised through a system of regulated competition between the different types of transport.

The first alternative, though desirable and more effective, cannot be contemplated, not only because of the vast size of the country and the immensity of the problem, but also because of the fact that while socialisation of the other instruments of production is not aimed at, the socialisation of the means of transport can hardly be realised. If the truth must be told, the socialisa-

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tion of the instruments of production, distribution and exchange and means of transport presupposes a socialistic constitution which is not likely to take place within a reasonable period of time.

One, therefore, has to fall back on the other alternative, *viz.*, a system of regulated competition whereby the avoidable wastes can be prevented and necessary co-ordination effected. Though the main criterion in this connection should be the adjustment of the different transport facilities to public requirements, yet one cannot shut his eyes to the existing conditions and a machinery has to be devised for the proper regulation of the different means of transport so that there might not be a sudden disturbance of the existing order of things, leading to chaotic conditions in the realm of transport.

A proper solution would take place if a co-ordinated development of all the different means of transport, such as water, rail, road and air was undertaken under the guidance of a central authority. But the difficulty arises from the fact that under the present constitution the responsibility for the railways lies with the centre, while the roads are looked after by the provinces. Consequently the necessary co-ordination can only take place by mutual agreement between the

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Centre and the Provinces, if disputes are to be avoided.

The principles that should be adopted by the central authority in a scheme of co-ordinated development, are that water transport should be developed for the carriage of cheap and bulky goods as far as possible, thereby freeing the railways to a certain extent from the carriage of heavy and bulky commodities and enabling them to devote more attention to articles that will pay them better and that railway and motor services should be made complementary and not competitive by the building of feeder roads especially connecting the railway stations with rural areas.

India is a vast country and railways will never be able to penetrate every nook and corner of the land. If the outlying countryside has to be developed, it can only be done by means of mechanical road vehicles which can reach even the remotest parts of the country provided good roads are available. Consequently railways in future should only be built after it is ascertained that road transport is not in a position to cater to the needs of the area in an efficient manner and that road transport services should not be allowed to function and offer competition in an area where efficient rail transport facilities already exist. Similar arguments will also apply to the

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provision of air services when they are developed in this country.

The proper control of road, water and air services can be effected through a licensing system where the grant of a license will depend only on the actual proof of public convenience and necessity which should be the sole criterion in this connection. If the existing transport facilities are not adequate to meet public demand, alternative means of transport may be allowed under proper safeguards so that the interests of the existing means of transport may not be adversely affected.

The scheme outlined above practically provides for monopoly services in different areas, by different means of transport, allowing competition only in exceptional cases on proved necessity, and it, therefore, requires careful safeguarding of the interests of the users of the means of transport.

It is an admitted fact that monopoly powers often breed inefficiency leading to stagnation and such a result will be suicidal if that is the outcome of the scheme of co-ordination that is visualised here. Hence the need for a proper regulative body, representative of all the interests concerned such as the Centre, the Provinces, the transport services and their users, which should lay down

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the principles on which the necessary co-ordination should take place and should also watch that the monopoly powers are used with care and that full efficiency in transport services are maintained, as the aim of co-ordination is to provide the service at the minimum of cost while the greatest efficiency is maintained.

While the central regulative body should have compulsory powers of enforcing the general principles which are laid down for the co-ordination of different forms of transport, the actual detailed regulations may be left to provincial boards and smaller regional committees which may be created for the purpose. But in order to effect a proper system of co-ordination between the different forms of transport, it is essential that the central organisation should have compulsory powers without which the scheme will not succeed at all. The actual enforcement of the scheme may be effected through a system of licensing in the case of all the means of transport.

The interests of the centre and those of the provinces are one and the same in the long run and both must be interested in the proper development of transport facilities in the country and though, in the immediate present, their interests may sometimes appear to clash, yet the larger national interests imperatively demand that these

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differences should be composed to the lasting benefit of the community under a properly co-ordinated system of transport services in the land.

CHAPTER VIII

CO-ORDINATION OF PASSENGER TRANSPORT SERVICES IN BIG CITIES

• There has been a recent tendency in all big cities of the world towards an effective co-ordination of the various types of passenger transport services with a view to eliminate wastes of competition which have been responsible for much of the chaotic conditions of the transport services in such cities. Not only such competition has rendered the development of proper travelling facilities almost impossible by making the financial condition in most cases very precarious, but it has also led to severe traffic congestion in city streets which slows down the rate of movement to a considerable extent and also adds to the dangers of the roads.

It is recognised on all hands that the various forms of urban passenger transport, such as steam, electric, underground railways, tramways and motor omnibuses have all a part to play and a contribution to make in the provision of adequate transport facilities in a city. Railways are generally essential for dealing with long distance suburban traffic. The tramways and

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the underground railways can deal with rush-hour traffic much better than the motor buses though the latter have their advantages in many fields. All these have their merits, their limitations and their own traffic requirements. It is only by a correct realisation of the economic characteristics and the traffic requirements of the different types of transport that an adequate transport system can be built up in big cities by a combination of the different methods. How to effect the necessary co-ordination between the different means of transport is a problem not easy of solution, though demanding immediate attention in many cases.

Great cities like Berlin, Paris, and others had to tackle the problem and to effect the necessary co-ordination. This was generally done by entrusting the different means of transport to a single control. Under a system of unrestricted competition, the better paying routes are overprovided with facilities, while other routes are practically neglected. Development services; therefore, become possible only when the city's transport system is viewed as a whole and provided on a systematic plan.

But such unification of a city's transport system, however necessary and desirable, has certain disadvantages which must be guarded

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against. Monopolistic powers granted either to a company or to a public body may lead to abuses and the interests of the consumers may suffer. There is, thus, an imperative necessity for the provision of some independent regulative body which should see that public interests are adequately safeguarded.

Traffic conditions in greater London always gave much trouble and for a long time committees and commissions were at work to suggest measures to effect an improvement in the situation. But almost all of them agreed on one point, *viz.*, the necessity of some form of a controlling body to administer the different forms of transport as a single entity in the interest of the passenger traffic of the greater London area.

But though there was agreement on this fundamental point regarding the creation of a supreme authority for the effective co-ordination of the various means of transport, there was no unanimity regarding the constitution or the powers of such a body. Some wanted a larger body representative of all the interests concerned while others favoured a smaller body of paid experts who would perform the work unhampered by any extraneous consideration. Some favoured compulsory powers for the authority while others advocated the grant of mere advisory

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powers. The result was that nothing tangible was achieved till 1924, when the London Traffic Act was passed.

By the London Traffic Act of 1924, the London and Home Counties Traffic Advisory Committee was set up to assist the Minister of Transport to administer the provisions of the Act. The main aim of the Act was to free the tramways from severe competition from which they were suffering by limiting the number of buses on certain routes so that they might meet the demand for higher wages.

Before the passing of the London Traffic Act of 1924 some of the London's transport systems had already effected a measure of co-ordination by the institution of a 'Common Fund,' by pooling their resources after paying all working expenses, meeting interest charges on prior securities and providing for the necessary reserve. The institution of the common fund, though its scope was limited, effected a considerable improvement on the then existing state of things.

As a result of the activities of the Traffic Advisory Committee, the number of buses was restricted on many routes and this did away with traffic congestion to a certain extent. But the Committee soon realised and reported that there could be only tinkering with the problem

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under the powers vested in the Act and the real solution of the problem lay in the adoption of unified management subject to public control. The powers conferred on the Minister were so insufficient that the elimination of all wasteful competition was out of the question.

• In 1927, the Advisory Committee put forward a scheme for the common management of all the various transport services operating in the London Traffic Area. The scheme involved the creation of a public authority to regulate and guide the activities of the various transport enterprises which were to remain the properties of their existing owners, but which were to be henceforward operated with a view to meet public needs subject, of course, to normal rate of return to the owners who had sunk their capital in them.

London Passenger Transport Board.—The Board came into existence as a result of the London Passenger Transport Act of 1933. The object of this legislation was to effect co-ordination between the different means of transport operating in the London area and to bring them under unified control. Before the Board was created, a large number of competitive services was operating in London with the result that each one was trying to get the better

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of the other by taking the cream of the traffic. The result was that the better paying routes were over-provided with services while the less paying routes were practically starved and development services were practically out of the question. The unification of the entire transport system of the London area under one management resulted in the provision of an adequate and efficient service to its citizens and also made it possible to undertake development services within its jurisdiction, which comprises an area of 1986 square miles. The existing services were acquired by the Board and for this purpose London Transport Stocks were issued.

The London Passenger Transport Board consists of a Chairman and six members whose terms of office vary from three to seven years. They are appointed according to certain procedure laid down and the members are generally expert with long and varied experience in industry, finance and transportation. Their tenure of office is dependent on good behaviour and ability to undertake responsibilities of membership. Thus efficiency in management is assured and the London area is provided with an adequate and efficient service.

The question now arises, What steps should be taken in cities like Bombay, Calcutta and

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Madras, for the proper co-ordination of the various forms of transport in these places? It is true that competition is not so keen in these places as in some of the cities of the West and consequently chaotic conditions are as yet not visible in the cities' transport services; but nevertheless there has recently been a keen competition between tramways on the one hand and buses on the other. If wastes are to be avoided and city's transport system is to be planned on a scientific basis, it is clear that some regulative body must be set up to effect the necessary co-ordination in transport services of these cities. But probably the best co-ordination can be effected through the municipalisation of all the transport services in a city, though it is a moot point to see whether the city councils, as they are at present constituted, are capable of efficiently managing the transport services if these are entrusted to them.

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