

Railway Accounts and
Finance .

January - March 1937

V. S. No. 17.



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TRANSPORT DEVELOPMENTS IN AMERICA.

I.

THE FEDERAL CO-ORDINATOR OF TRANSPORTATION.*

Some time ago an attempt was made in these pages by the present writer to review the developments which led to the appointment of a Federal Co-ordinator of Transportation in the United States. In that paper were summarised the circumstances which led to the passage of the Emergency Railroad Transportation Act, 1933, and the endeavour made to meet some of the problems which faced the American railways. The main purposes of the Act were:

(i) "to encourage and promote or require action on the part of carriers and of subsidiaries . . . which will (a) avoid unnecessary duplication of services and facilities of whatsoever nature and permit the joint use of terminals and trackage incident thereto or requisite to such joint use, (b) control allowances, accessorial services and the charges therefor and other practices affecting service or operation; and to end that undue impairment of net earnings may be prevented, and (c) avoid other wastes and preventable expense; (ii) to promote financial reorganisation of the carriers, with due regard to legal rights, so as to reduce fixed charges to the extent required by the public interest and improve carrier credit; and (iii) provide for the immediate study of other means of improving conditions surrounding transportation in all its forms and the preparation of plans therefor."

The Act required for its administration the appointment of a Federal Co-ordinator of Transportation and Mr. Joseph B. Eastman, Member of the Interstate Commerce Commission was appointed to this office. The initial activities of Mr. Eastman and his organisation were already dealt with. The appointment was created in the first instance for a period of one year only from June 16, 1933. The office was extended by two extensions of one year each and it finally expired on June 16, 1936. The cost of the Federal Co-ordinator's organisation was obtained under the Emergency Act by an assessment on the railways on a mileage basis. During the first year the assessment was made at the rate of \$1.50 per mile of road. During the second and the third years the assessment was raised to \$ 2 per mile. In the first year the cost amounted

*" *Railway Finances during Depression* "—A study in method, page 9-24. January, 1934.

to \$398,000. During the second and the third years the cost amounted to \$500,000 each year. The total amount* raised was about \$1,350 million or expressed in Rupees 37 lakhs. This, however, represents only the direct expenses incurred by the Co-ordinator's organisation. In addition to this amount the compliance with the provisions of the law and the numerous requirements of the Co-ordinator in connection with his work have cost the railways further substantial expenditure. The cost of many investigations of which there were, according to Mr. Harry Guy Taylor, Chairman, Western Association of Railway Executives, approximately 2,200 in Western Territory alone, must have been much more. An estimate of this additional expense for the Western Roads up to October, 1934, was almost \$1.5 million. The total cost during the whole period for all the American railways has been estimated at \$5 and 6 million.

Wherefor has all this colossal amount of expenditure been incurred in the United States? Some idea as to the scope and magnitude of the work undertaken may be gathered from the large number of voluminous reports and collection of data brought forth by the Federal Co-ordinator's organisation. The Addresses, Questionnaires, Reports and miscellaneous Statements of the Federal Co-ordinator and his Officials and Staff from June 1933 to June 1936, represent an enormous volume of literature on the different phases of American Railway Working, Management and Administration. Mr. Eastman's prepared addresses to the different Chambers of Commerce, Associations of Industries and Financial and Traffic Associations numbered more than 50. His questionnaires issued on the different aspects of transportation were as follows:

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|--------------------------|---|
| 1. Air, 3. | 7. Organisation and Marketing Survey, 25. |
| 2. Equipment, 14. | 8. Passenger Traffic, 13. |
| 3. Freight Traffic, 46. | 9. Water Lines, 5. |
| 4. Labour, 11. | 10. Miscellaneous, 15. |
| 5. Emergency Traffic, 7. | |
| 6. Motor, 9. | |

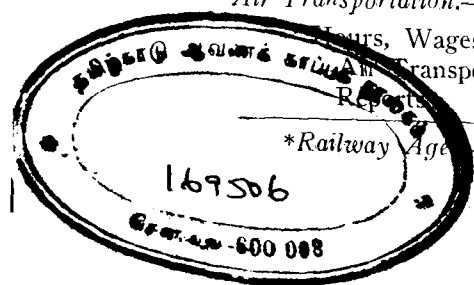
The reports issued by the Co-ordinator and his organisation were as follows:

Air Transportation.—

Hours, Wages, Working Conditions in Scheduled Air Transportation (Entered also under Labour Reports)

.. Mar. 31, 1936

*Railway Age, 1936, Vol. 100, p. 799.



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239

Co-ordination Projects.—

Report on Economy Possibilities of Regional Co-ordination Projects ..	Feb. 18, 1935
Second Report on Economy Possibilities of Regional Co-ordination Projects ..	July 12, 1935
Consolidation or Joint Use of Railroad Major Shops ..	June 16, 1936

Cost Finding.—

Cost Finding in Railway Freight Service ..	June 5, 1936
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Equipment.—

Steam Locomotives ..	Nov. 8, 1933
Summary of Results of Questionnaire on Box Cars ..	Nov. 25, 1933
Depreciation ..	Dec. 22, 1933
Results of inspection of Freight Cars and Locomotives by Bureaus of Safety and Locomotive Inspection of the Interstate Commerce Commission ..	Jan. 4, 1934
Freight Train Car and Retirement Program, Southern District ..	Feb. 15, 1934
Freight Car Repair & Retirement Program, Eastern District ..	Apr. 2, 1934
Steam Locomotive ..	Apr. 24, 1934
Freight Train Car & Retirement Program, Western District ..	May 5, 1934
Repair Costs on Locomotives ..	June 11, 1934
Freight Car Arch Bar Trucks with Cast Steel Side Frames ..	July 23, 1934
Cross-Haul Movement of Empty Cars ..	Aug. 3, 1934
Freight Car Pooling and Plan for Proposed Box Car Pool ..	Oct. 23, 1934
Movement of Box Cars ..	Dec. 18, 1934
Repair & Retirement of Freight Cars ..	Dec. 21, 1934
Freight Car Ownership vs. Car Hire ..	Feb. 11, 1935
Freight Car Construction Costs ..	Feb. 25, 1935
Technical Improvement in railroad equipment, roadway and structures ..	June 27, 1935
Motive Power Equipment Report (Excerpt from Appendix II, Freight Traffic Report)	
(Entered also under Freight Traffic Reports) ..	Sept. 20, 1935
Comparative Costs of Steam Locomotive Repairs ..	Nov. 27, 1935
Freight Car Supply, Effects of operation under per diem Plan ..	May 14, 1936
Container Report ..	June 15, 1936

Freight Traffic.—

Freight Traffic Report, Vol. I ..	Jan. 7, 1937
Freight Traffic Report, Vol. II ..	Jan. 7, 1937

Freight Traffic Report, Errata	..	June 11, 1935
Freight Traffic Report, Vol. III	..	July 25, 1935
Railway Traffic Organization	..	Aug. 2, 1935
Motive Power Equipment Report, Excerpt from Freight Traffic Report, Appendix II, (Entered also under Equipment Reports)	..	Sept. 20, 1935
Freight Traffic Report, Appendix I	..	Nov. 2, 1935
Freight Traffic Report, Appendix III	..	May 20, 1936
Freight Traffic Report, Appendix II	..	June 1, 1936
Freight Traffic Report, Appendix IV	..	Oct. 1936

Labor.—

Application of N.R.A. to the Railroads	..	Sept. 1, 1933
Cost of Railroad Employee Accidents	..	May 21, 1935
Annual Earnings of Railroad Employees, 1924-1933	..	May 29, 1935
Employment Attrition in the Railroad Industry	..	Jan. 27, 1936
Hours, Wages, and Working Conditions in Scheduled Air Transportation (Entered also under Air Reports)	..	Mar. 31, 1936
Unemployment Compensation for Transportation Employees (Entered also under Legislation)	..	Apr. 7, 1936
Extent of Low Wages and Long Hours in the Railroad Industry	..	June 10, 1936
Rules Survey in Train and Engine Service	..	June 10, 1936
Hours, Wages and Working Conditions in Domestic Water Transportation	..	Sept. 1936
Hours, Wages and Working Conditions in Motor Bus Transportation	..	Sept. 1936
Hours, Wages and Working Conditions in Inter-city motor Truck, Transportation and considerations common to Bus and Truck	..	

Legislation.—

Regulation of Railroads, First Report to the President and to the Congress, Senate Document No. 119, 73rd Congress 2nd Session	..	Jan. 20, 1934
Regulation of Transportation Agencies. Second Report to the President and to the Congress, Senate Document No. 152, 73rd Congress, 2nd Session	..	Mar. 10, 1934
Report of the Federal Co-ordinator of Transportation, 1934. Third report to the President and to the Congress, House Document No. 89, 74th Congress 1st Session	..	Jan. 30, 1935
Fourth Report on Transportation Legislation, House Document No. 394, 74th Congress 2nd Session	..	Jan. 21, 1936
Unemployment Compensation for Transportation Employees (Entered also under Labour Reports).	..	Apr. 7, 1936

Merchandise Traffic.—

Merchandise Traffic Report	..	Mar. 22, 1934
Conclusions of the Federal Co-ordinator of Transportation on Merchandise Traffic	..	May 29, 1936

Passenger Traffic Report.—

Passenger Traffic Report	..	Jan. 21, 1935
Passenger Traffic Report, Appendix I	..	May 3, 1935
Passenger Traffic Report, Appendix II	..	May 3, 1935
Views of Passenger Traffic Officers on Short haul Passenger Traffic	..	May 1, 1936
Conclusions on Passenger Traffic	..	June 12, 1936

Passenger Service.—

Proposed discontinuance of through Passenger Service over the Chicago and Eastern Illinois Railway in connection with the Louisville and Nashville R.R. Report and Order, (Entered also under Passenger Orders)	..	Oct. 25, 1934
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Miscellaneous.—

Railroad Owned Grain Elevators	..	Aug. 30, 1934
Centralized Scientific Research for Railroads	..	Oct. 16, 1934
Clearing House for Railroads	..	Nov. 27, 1934
Summary of the work of the Federal Co-ordinator of Transportation from June, 1933 to June, 1935.	..	June 12, 1935
Scrap Survey Report	..	June 19, 1935
Railroad Fiscal Work	..	June 25, 1935
Handling of Railway Stores Material	..	Oct. 7, 1935
Preservative Treatment of Railroad Ties	..	Mar. 27, 1936
Report on Leasing of Railroad Grain Elevators	..	May 29, 1936

The reports numbered sixty-eight and if these were not sufficient there were orders, and several statements of the Co-ordinator and staff on such matters as Co-ordination, Labour, Passenger Service, Equipment, Grade Crossings, Purchases, Rates Charges and Services, Staff Announcements, etc.

The list of the reports presented earlier affords clear light as to the comprehensive character of the Co-ordinator's enquiry. An adequate summary of the facts, analyses and conclusions contained in these reports would require an independent volume, and we can only attempt a brief indication of the nature of the enquiries under the major aspect of railway working and the important recommendations.

The Federal Co-ordinator's organisation was divided broadly into three divisions: Central, Regional and Research. The Central

staff was in charge of the work which was not localised but of nation-wide importance. The Regional staff undertook the study of possible economies in operation which are localised to particular places, lines or territories such as terminal unification, joint use of various facilities, pooling of train services, the elimination of wasteful routes and the like. To carry on this work the Co-ordinator had regional directors at New York for the East, at Chicago for the West and at Atlanta for the South. The Research Staff was in charge of the study of matters bearing on the need for further legislation to improve transportation conditions generally. The Co-ordinator in addition, had his own personal staff which was confined to two Executive Assistants; one a Legal Adviser and the other a Private Secretary. A few words may be offered as regards the methods of work adopted by the new organisation. Much of the actual investigation of the Central and Research staffs was done by means of questionnaires sent to the railways, to other transportation agencies, to State Commissions, to Shippers and to the travelling public. Only the railways were under a legal obligation to answer the questionnaires but the others also responded very freely and generously. The Co-ordinator also enlisted the help of Advisory Committees made up of the Carrier Officers who were selected by the Co-ordinator himself. The principal work of consolidating the data and carrying out analyses were done by the Central Staff and it is proposed to review their work in the Co-ordinator's organization. The Central Staff were divided into a number of Sections each of which was devoted to the examination of a specific field of enquiry indicated. These Sections were:

- (i) Section on Transportation Service which undertook the merchandise traffic survey, the passenger traffic survey, the carload traffic survey and the marketing survey.
- (ii) Section on Car Pooling which constituted amongst other things the empty car mileage, freight car repair and retirement, private cars, check of the condition of store equipment and express refrigerator car pool.
- (iii) Section on Purchases which dealt with problems of standardisation and simplification, improvement in purchasing methods, investigation of new materials, devices and methods.
- (iv) Section on Labour Relations.
- (v) Section on Cost Finding.
- (vi) Section on Scientific Research and Enquiry.
- (vii) Section on Regional Operations.

The most valuable of all these studies to foreign students of transportation are those instituted on passenger, merchandise and freight traffic by the Section on Transportation Service. Elaborate questionnaires were distributed to the railways, shippers, travellers, the express companies, the Pullman Company, car forwarders, truck operators, water carriers, pipe lines and equipment manufacturers. The objectives in the answers sought were more economic operation, better service and rates adapted to present-day needs.

The Report on Passenger Traffic was issued in January, 1935. In view of the steady and severe decline since 1921 in the volume of passenger traffic on the American railways and the operation of the service at a loss, estimated at \$ 200 millions in 1932, the report emphasised the necessity of clarifying the principles to be adopted as regards the operation of the service, particularly in the light of the effects of the automobile competition. It was shown how the automobile itself has contributed towards an enormous increase in the travel habit. A great reservoir of passenger traffic has been created which the railways can utilise if they can meet the service and the rate requirements of the public. The report indicates what those requirements are, and especially the maximum limits which are set for fares by the present ability of people to use their own automobiles for travel. The passenger ballot—an elaborate and detailed questionnaire dealing with every phase of transportation from the viewpoint of the traveller—elicited most interesting replies from travellers from every station in life and every part of the country, and the analyses showed the following general specifications of a successful travel service:

1. Safe, clean, convenient, comfortable, speedy, complete and hospitable carriage, specifically designed to meet the needs of each travel class;
2. Diversified charges, designed to attract the great mass of people who of necessity are thrifty, as well as the few who can afford luxury, and each other special type or group of travellers;
3. A development and sales campaign, intelligent, informative, motivating, courteous and impelling.

To arouse dormant travel desire, passenger carriers—railway, highway and airway alike—must not merely meet what the private automobile now offers, they must offer something substantially more attractive and distinctive in service and price; and by an intelligent and aggressive, sales campaign must convince the public of that fact.

The programme which should be followed is one well-known in other industries. First, present service demands of the market are thoroughly

explored and classified and future demand anticipated, next, the prices which a customer *who does not have to buy* is willing to pay are carefully ascertained, then a type of service filling each demand and within the price limitation is designed; and finally, and by no means least, this service is sold through an intelligent and planned method of sales promotion."

The Report examined each of the recommendations at considerable length and recommended as to what should be done. Thus on the subject of hospitality, it is stated that "a well-nigh universal criticism of rail passenger transportation is the absence of personal helpfulness. . . . Instead of being dumped out into the vast area of bustle and confusion without sign, compass or direction, the distance traveller should find readily available a courteous employee who will ascertain his wishes, take care of his luggage and intelligently direct—if necessary escort—him to a nearby location from which he can conveniently board the train." Again on the subject of "tipping," apart from the petty annoyance and unnecessary expense it causes, the report indicates how it substitutes the incentive of personal gain to render real service, resulting in the extravagant treatment of one passenger and discourteous treatment of another. "A trip on the rail reveals open palms extended at every step—taxi, 'red cap', porter, waiter. In addition to the quite sizeable amounts which these gratuities aggregate, there is always the worry—particularly on the part of the inexperienced traveller—of inciting an insolent stare or remark, if the recipient feels he has been 'chiselled'." The instances mentioned show with what thoroughness and out of reach of most people and as being in many instances more freshness the entire problem of passenger traffic has been dealt with. The present high fares are criticised as putting rail travel than the cost of travel by private automobile. This has been largely responsible for making rail operation unprofitable. A new and largely unexplored market is indicated by periodic cheap excursions, quantity discounts for families, parties and habitual travellers and by All Expense Trips and Train Cruises.

The Passenger Report favours the consolidation of the functions of the duplicate and competitive traffic departments of the different railway administrations into a single joint organisation—such as the Association of American Railroads. As measures eliminating present waste, the abolition of complex multifarious and unnecessary tariffs, unification of stations and terminal consolidation of duplicate train services and reserved accommodations services and substitution of highway for Local

and Limited services are suggested. Towards a closer adaptation of the supply to service is recommended a better conformity of size and appointments of trains, power and vehicles to the particular service in which they are used. Mention should also be made of the illuminating analysis of the operating revenues and expenses of each branch of passenger service, the scope indicated for the use of new types of motive power and equipment, and the suggestions as to changes in operating practices.

MERCHANDISE TRAFFIC.

The Transportation Section studied goods traffic under two heads: Merchandise and Freight. Merchandise traffic is taken to include less than carload freight hereinafter referred to as l.c.l., express and the traffic handled by car forwarders. The Report on Merchandise Traffic was completed and published in May, 1934.

The survey of the present conditions with which the Report started showed that in 1932, rail l.c.l. and express tonnage was less than 37 per cent. of the average handled in 1923-25, a decrease much greater than was suffered in carload freight traffic and greater than warranted by depressed business conditions. About two-thirds of the rail l.c.l. and express traffic lost was found to have gone to other transportation agencies, including motor vehicles, freight forwarders and water carriers. The merchandise handled by highway in 1932, was over twice that carried in rail l.c.l. service. The motor vehicle was found to be superior in speed to the freight train and faster than rail express service for distances under 150 miles. Collection and delivery service was also an important factor in the growth of highway transportation. The principal causes which explained the diversion of merchandise traffic from the rails to the road were stated to have been complex rail classifications and tariffs, burdensome packing requirements, incomplete transportation, higher rates and the rigidity as well as the structure of the rail rate systems. The level of the rail l.c.l. charges, as indicated by third-class rates, was higher than the cost to the shipper for highway transportation over distances ranging from 280 miles in the East to 950 miles in the South-West.

While the highway freight carriers were operating at a small but inadequate margin of profit, the freight forwarders were found to operate at a profit to themselves and the railway they patronized, but the section reached the conclusion that their

operations were detrimental to competing railways and conducive to rate demoralization. The railways earned from the l.c.l. traffic in 1932 only \$ 107 millions in excess of the so-called "out-of-pocket" cost of providing the service but failed by \$ 80 millions to earn the full proportion of the total operating expenses and taxes. The Report found that "while at present highway transportation of merchandise is relatively more economical than rail transportation for all distances, possible improvements in rail service and methods could make rail transportation generally the more economical for distances over 150 miles. The indications were, however, that highway transportation would continue to hold its advantage for distances less than 75 miles."

The conditions requiring correction were practices causing preventable wastes, the handling by one agency of traffic which could be more efficiently handled by another, and competitive and indirect rate-making which threatens rate demoralization. The causes which brought about this situation were found to be lack of integration of traffic, organization, facilities and services, inferiority of rail services in speed, completeness, convenience and protection of lading, and higher total rail charges due in part to complexity of classification and tariffs, burdensome packing requirements, incomplete transportation, multiple rate scales, rate rigidity and rate levels. The Section on Transportation Service proposed four recommendations:

1. That rail l.c.l., express and forwarder traffics be consolidated and that all rail merchandise service be pooled in the hands of two competing railway-owned merchandise agencies, each national in scope, of comparable strength and operated by independent managements.
2. That merchandise be collected and delivered at the patrons' doors and transported by the railways in shock-proof equipment at over-all speeds of at least 200 miles per hour.
3. That a simplified classification, with reasonable packing requirements be established and the express system of charges adapted for application to all merchandise traffic with rate scales based upon cost plus a fair profit. The proposed classification would contain the standard class and two limited classes or groups of exceptions.
4. That rail and highway transportation be co-ordinated, to provide concentration and distribution by truck and movement between concentration points by rail. This plan secures for the public the benefit of the natural advantages of each type and would, besides, secure large economies through elimination of duplication and reduction of stations.

As some of these proposals were deemed too drastic, they were examined in a Report by a Joint National Committee appointed by the Railroad Regional Co-ordinating Committees and this was again reviewed by a Special Committee of Railroad Officers. The Special Committee's Report left the accomplishment of many of the suggestions to the efforts of railways themselves individually, acting in groups or regionally.

FREIGHT TRAFFIC.

Under the head Freight Traffic, the Section on Transportation Service examined the handling of freight (excluding merchandise) on railways, waterways and highways and in pipe lines. The Report on Freight Traffic was completed and released in June, 1935. In the main reports and appendices is contained a tremendous amount of detailed information which has not been hitherto available, particularly with respect to the operating costs of each form of transportation. The costs of every phase of operation are shown so that comparisons can be made all down the line.

The Report examines the principal elements of freight transportation service and finds from the views of the shippers that they are, in order of importance, speed, completeness, schedule correlation and adaptness. The present speed of movement of freight between the consignor and the consignee works out at the rate of 5 miles per hour on rail, 3 to 10 miles per hour on water, and 1 to 5 miles per hour by pipe lines. Compared to this the motor vehicle is found to provide the speediest over all land transportation, averaging on the whole over 15 miles per hour. No wonder the shippers replied that a tonnage equal to nearly one-sixth of the entire rail tonnage in 1933 moved by highway because of speedier service. Completeness of service means that the shipment will be received from the consignor at his door and delivered to the consignee at his door. The rail transportation under present conditions is not offering such complete service as the motor vehicle which renders practically universal collection and delivery service. Schedule correlation indicates the degree to which the movement schedules of the carrier are correlated to the patrons' production or business needs. This correlation is important and depends on the frequency of the schedules, the time or times of day they are operated and their dependability. Correlation of schedules is vital to industries where transportation functions as part of their

business, such as mines, paper mills, packing plants, textile mills, refineries and handlers of iron and steel articles. The fourth requisite is adaptness, which is taken to signify the ability of the transport agency to move freight safely and securely, with a minimum expenditure of time and money and to protect it during shipment. Thus adaptness refers to the use of better equipment which reduces the need for packing and crating by being shock-proof, protects against temperatures by having cooling or heating devices, and eliminates undue expense in loading and unloading by being designed to facilitate mechanization of those operations in every possible way. The need is found to be most keenly felt by the packers, bakers, grocers, iron and steel handlers and automobile dealers, shippers who find trucks permitting more economical packing and crating preferring the highway to the rail.

The Report contains a remarkably able and penetrating examination of the freight rates structure in connection with the costs of railway operation and the comparative costs of competitive forms of transport.

As regards Classification, the Report suggests that all cost elements be eliminated and the value of service element alone taken in a revised classification. "All commodities first be classified into primary groups upon the basis of utility in order to prevent discrimination between commodities having a similar use, and to effect reasonable opportunity to mill homogenous things, and then their primary groups be collected into a limited number of general rating groups, substantially in accordance with the stage of processing reached in the transition from rough materials to luxuries or accessories." Such groups are to be rated solely with respect to their potentialities to produce the maximum volume of profitable traffic. There is a remarkably good discussion of the rate levels and the price structures, as revealed by the data adduced, indicate different carrier rate structures in different territories, which are no longer warranted by the present conditions. The present commodity structures are found to be basically unsuited to present conditions and the rate structure is suggested to be re-adjusted to evaluate the distinctive cost characteristics of shipments.

As the improvement of the freight service on more economical and efficient lines implies the utilization of adequate equipment, the Report discusses the problems of operating the

service. Thus by means of containers service can be given to fractional carload units at carload rates and with a general increase of revenue per car. A careful study of the use of containers in other countries suggests that these containers standardized in two sizes and made interchangeable between all carriers can accommodate practically every kind of freight and permit ready transfer between the rail car to the chassis of a lorry and thus provide store-door service.

The cost to the railways themselves in the handling of freight traffic is found to be capable of reduction. The analysis of railway costs shows the tremendous expense and delay entailed by yard and terminal service at origin and destination and *en route*. The Report suggests means of reducing this expense by the unification of terminal operations, by the use of trucks, in terminal service, by the use in certain instances of shorter and more flexible trains and by the movement of trainload quantities at cargo rates. The existing situation with reference to inter-railway operations is also considered gravely defective. The present policy of wide open routing has afforded scope for preferential treatment of shippers, undue prolixity and complexity in tariffs, circuitous routing, unnecessary interchanges, excessive terminal delays, and thus burdening industry as well as the railways themselves with great avoidable waste. In conclusion, a complete co-ordination of transport agencies is recommended. Wherever necessary for serviceable, efficient, or economical operations, all carrier equipment, terminals, and facilities are recommended to be used jointly and interchangeably by carriers of all types, under appropriate and fair user arrangements.

So brief a summary hardly affords even a bare indication of the scope and comprehensiveness of the discussion of every phase of railway passenger, merchandise and freight transportation. The Reports themselves are a model for clarity, presentation and able discussion. After a brief summary of the principal contents of each section, follows the general Report. The Report is accompanied by succeeding volumes of reports and, as on freight, appendices. They contain a further amplification of the Report itself and the Statistical analyses, factual data, and the detailed figures for each region and railway. The reader is likely to stagger at the sight of the enormous volume of statistical data. The labour of assembling all this detailed information,

marshalling them in proper form and order, compiling the factual summaries and preparing analyses even on one subject alone, such as the Passenger Traffic or Freight may be imagined. There can be hardly any doubt that the Federal Co-ordinator's Reports on passenger and goods traffic will long remain a valuable quarry for students of Transportation in other countries, besides United States, as well to dig with confidence.

L. A. NATESAN.

RECONCILIATION OF JOB TIME AND WAGES WITH MUSTER ROLL TIME AND WAGES IN RAILWAY WORKSHOPS.

Every Workshop Accountant is aware of the necessity of maintaining the accounts of the cost of labour in two ways, one, for the purpose of disbursement of wages, and the other for the distribution of the cost of labour among jobs. The latter serve to determine the correct cost of jobs of which labour cost forms an important part, and therefore the importance of ensuring the correct apportionment of labour cost to the works on the one hand and of correct payments on the other can hardly be belittled. The two sets of records whereby this end is achieved are called *Muster Rolls and Time-Sheets* respectively. The former record the attendance of the labour staff on the basis of tickets issued and returned by the workmen on entering or leaving the shops and the latter account for the time as spent on the various jobs on which workmen are employed from day to day.

In order to serve the interests of an employer of labour on a large scale it should be the duty of the Management to see that satisfactory arrangements exist in respect of the following:

- (1) That labour are paid the correct amount due to them for the work performed.
- (2) That labour have been systematically distributed to the jobs and a proper record of their employment on different works is maintained.
- (3) That the correct proportion of wages has been allocated to the respective jobs.
- (4) That the time of labour is usefully spent and waste of labour avoided.

The fulfilment of the above conditions can be successfully watched by enforcing a proper reconciliation of time and wages booked in the Muster Rolls and Time-Sheets respectively. The *modus operandi* of effecting the above as a test of the accuracy of wages paid and distributed varies considerably in detail in different Railway Workshops in India. Thus some shops restrict the reconciliation to a mere comparison of the gross wages paid through the Muster Rolls with the wages apportioned to jobs

through the Time-Sheets without exercising a check on the time allocated to jobs with the time paid for. Then again, the detailed processes also by which reconciliation is carried out vary to a great extent—for example, some shops employ the same rates for computation of wages in the two sets of records while others employ rates specially worked out for the Time-Sheets.

It may be pointed out in this connection that mostly the shops employ labour on monthly rates of pay and pay through the Muster Rolls for working days, Holidays, Saturdays, Sundays or leave, if due, at a uniform rate per diem. The Time-Sheets, however, record by hours the distribution of time to jobs on which labour is engaged every day. The daily working hours also vary in different shops on the various Railways. Thus while the N.W.R. Shops at Moghalpura, and G.I.P. Loco shops at Parel work for 48 hours a week, E.B.R. Shops at Kanchrapara 46 hours a week, the E.I.R. Shops at Jamalpur and Lillooah work for 45 hours a week only. Again, while the number of daily working hours in the N.W.Ry. and G.I.P. Shops is $8\frac{1}{2}$ hours on all days except Saturdays and $5\frac{1}{2}$ hours on Saturdays, the E.I.R. Shops work for 8 hours on Monday to Friday and 5 hours only on Saturdays.

The Time-Sheets being a record of the actual work done only, wages for Sundays and holidays or leave will not form a part of the wages charged to jobs. Sunday pay, however, is included in some shops in the rate adopted for calculation of Time-Sheets wages. Pay for the period not timed through the work-done sheets are allocated to the general charges of the shops concerned and wages for the time worked in excess of the normal working hours are treated as overtime and allocated to jobs in some shops and to shop on-cost in others.

It is not difficult to comprehend that short time working on Saturdays would present a difficulty in effecting a proper reconciliation of wages in the two sets of records.

Theoretically the calculation of time-sheet wages for purposes of reconciliation can be made in one of the following ways:

- (a) By arriving at a rate for the working days including holidays but excluding Sundays assuming every working day to be equivalent to a certain number of hours. This can be done by arriving at the total number of working hours in a month, dividing the same by 8 to get the equivalent number of working days, and arriving at a daily or hourly rate by

dividing the monthly rate by the equivalent number of working days arrived at as above. Obviously Sunday pay being included in the rate would be automatically charged to the jobs.

- (b) By adopting the same rate per day as applicable to Muster Rolls and apportioning the wages for Saturdays just like other working days at the same rate per hour.
- (c) Same as (b) with the difference that Saturday short working hours are evaluated just as the greater number of hours on other working days, i.e., by adopting an enhanced hourly rate for Saturdays.
- (d) By introducing a uniform rate per working hour, both for the purpose of time-sheets and for the sake of disbursement of wages to employees. The system would require the refixation of the present monthly wages standardised in terms of a certain number of working hours per month depending upon the average monthly working hours in the respective shops.

The various Railway Workshops in India have adopted one or the other of the above-mentioned principles of calculation of time-sheet wages, and as previously stated owing to monthly rates of salary being in vogue the first procedure or the second is generally followed in a number of shops.

A proper appreciation of the main features of the first system commonly in vogue would be possible from the following illustration:—

Let us suppose X to be the number of working days in a month, H the number of holidays, S the number of Sundays, N the number of Saturdays and M the period of leave availed of by an employee whose rate of salary per month is R.

Also let P be the number of Saturdays on which holiday occurs, P' the number of Saturdays during the leave period, and X' the number of Saturdays on which the employee was present.

It is easy to see that $N - X' = P + P'$

The number of working hours excluding Sundays = $8(X + H) - 3N$, assuming a working day of 8 hours and a Saturday of 5 hours.

And the number of working days = $(X + H) - \frac{3N}{8}$

Therefore, Daily rate of pay = $\frac{R}{(X + H) - \frac{3N}{8}}$

The working days that would be accounted for in time-sheets,

$$= (X - M) - \frac{3X'}{8}$$

The total amount of time-sheet wages would be equal to

$$R \left\{ \frac{(X-M) - \frac{3X'}{8}}{(X+H) - \frac{3N}{8}} \right\}$$

Difference between the amount paid through Muster Roll and Time wages.

$$\begin{aligned} &= R - R \left\{ \frac{(X-M) - \frac{3X'}{8}}{(X+H) - \frac{3N}{8}} \right\} \\ &= R \left\{ \frac{H+M - \frac{3}{8}(N-X')}{(X+H) - \frac{3N}{8}} \right\} \quad \because N-X' = P+P' \\ &= \left\{ \frac{(H - \frac{3P}{8})}{(X+H) - \frac{3N}{8}} \right\} + R \left\{ \frac{(M - \frac{3P'}{8})}{(X+H) - \frac{3N}{8}} \right\} \end{aligned}$$

The difference is made up of two expressions, the first one represents Holiday pay and the second 'Sick or leave pay' calculated in terms of the rate arrived at for computation of time-sheet wages.

It would be readily seen that the difference representing holiday and leave pay is not identically the same as the wages paid for this period through the musters which are equivalent to $\frac{RH}{X+H+S}$ and will have to be worked out in each individual case by multiplying the number of holidays with the rate of salary per day applied to time-sheets. It would be interesting to note that the difference in leave or holiday pay worked out in the manner explained above in the case of an employee on Rs. 32, per mensem, availing of holiday or leave for one day only would exceed the amount paid for by 4 annas, approximately. This difference would vary with the rate of pay and number of holidays or leave availed of.

The difference thus allocated to shop General Charges would appreciably differ from the amount paid for the same period.

A resumé of the essential features of the process explained above may be given as follows:—

- (1) A monthly rate is arrived at on the basis of actual number of working hours and a reckoner different from the pay-sheet reckoner is to be employed to determine the cost chargeable to the respective work orders.
- (2) A comprehensive list is compiled from the pay-sheets showing the rates of pay and the number of days for which holidays or leave were availed of by the various workmen in all the shops.
- (3) Aggregate holiday and leave pay is then arrived at by calculating for each individual employee with the help of the time-sheet reckoners.
- (4) Sunday pay is charged through the time-sheet to the jobs.
- (5) Any overtime worked has to be calculated at the monthly rates of salary with the help of the pay-sheet reckoners.
- (6) The calculated holiday pay allocated to General Charges by this method is different from that paid for through the musters.

The inconvenience of maintaining and constantly referring to two sets of reckoners is in itself open to objection. Besides, the tremendous amount of labour involved in calculating the holiday and leave pay on the basis of the time-sheet reckoners is a clear disadvantage which seriously militates against the usefulness of this process of reconciliation.

Exactly working on the above lines it can be deduced that the difference in the second case would be equal to

$$\frac{RH}{X+H+S} + \frac{RS}{X+H+S} + \frac{RM}{X+H+S} + \frac{\frac{3X'}{8}}{X+H+S}$$

The above four expressions denote respectively the holiday pay, the Sunday pay, the leave pay and a difference due to Saturday's short working hours.

The holiday, leave and Sunday pay appear to be identical with those drawn in the pay-sheets.

The difference on account of short working hours on Saturday can be similarly allocated to the General Charges of the shops by working out the number of Saturdays worked by each employee. The fractional difference from the above expression could be eliminated if the amount charged to jobs for Saturdays in spite of the short working hours is the same as for other working days. In this procedure Sunday pay is not allocated to

the work orders but appears as a difference chargeable to shop on-cost.

The above method while having the merit of simplicity in adopting a single rate leaves a margin of difference, which, though correctly chargeable to jobs, has to be elaborately calculated and allocated separately or, in the alternative, leads to disproportionate debits to works for short time working on Saturdays.

The last, but not the least important, is the system in which the wages are actually paid for the time worked and the monthly wages are fixed for a definite number of hours per month. Without much consideration the method appears to have the following merits:

- (1) It applies a uniform rate for payment as well as allocation of Time wages to jobs.
- (2) Provides for payment for the time actually worked and dispenses with Saturday short working, the *Causa sine qua non* of complication in the other systems.
- (3) Sunday pay can be treated as merged in the hourly rate allocated to jobs.
- (4) It ensures a better control over Labour Cost by enabling the management to regulate the shop working hours.

The application of the above principle might be a matter for serious consideration by the Railway Administrations where monthly rates of pay are in force. It might be argued that such a change would involve a reconsideration or refixation of pay of the employees on an hourly basis which although being the same as the monthly rate of pay may yet result in shorter payments in some months than in others, but if the fixation is made with due regard to the average number of working hours on all days excluding Sundays, the apprehensions of the labour organisation as representative of workmen on this score may easily be set aside.

The change would warrant some minor modifications in the overtime and leave rules in the event of this scheme being adopted. Railways on which it is the practice to allow overtime for extra work with reference to the number of working hours on a particular day will have either to continue the practice of allowing overtime irrespective of the total number of hours worked during a month or make due allowance for the same in determining the rate of salary.

The inclusion of Sunday pay in the hourly rate would apparently be a change in favour of the employees who could avail of

rest on both Saturdays and Sundays without losing pay for Sundays or having the same debited to the leave at their credit; or, in the event of leave not due, loss of wages on Saturdays would be for 5 hours only against one day's wage under the monthly rate.

In actual practice when reconciliation by shops is effected, the other causes which vitiate the comparison of time-sheet wages with pay-sheets wages may be enumerated as follows:—

- (a) The staff of Indian Railways are on incremental scales of pay, and the failure to apply the same rates of pay, owing to increases or decreases being taken into account in one case and not the other, frequently causes differences which could not be conveniently traced without a check of the individual cases.
- (b) Discrepancies caused by more or less time booked in the time-sheets.
- (c) Errors due to pay of certain employees not being drawn through regular pay-sheets.
- (d) Discrepancies caused by arrears of pay drawn in the regular pay-sheets.
- (e) Ineffective check over the absentee statements with the time-sheets may also allow discrepancies to creep in.
- (f) Errors due to rounding off pias in calculation.

The above causes are no mean factors in affecting the usefulness of reconciliation and unless they can be properly analysed the fractional difference, small or large, would not afford positive proof of a satisfactory state of affairs or otherwise.

We therefore, come to the conclusion that a really suitable system of reconciliation both from an administrative and sound financial point of view should ensure:

- (1) That reconciliation is effected in the simplest manner and the shortest space of time.
- (2) That wages are paid for the actual time worked so that the unequal working days cause no discrepancy in the money paid and that charged to the cost of jobs.
- (3) That a reconciliation is made of the time booked in the time-sheets with that shown in the musters for each employee.
- (4) That a reconciliation is made of the wages allocated to jobs through time-sheets with those paid through the musters to each employee.
- (5) That reconciliation is effected before payment of wages is made.

The system involving the determination of pay as far as a definite number of working hours per month would, in my opinion, commend itself to every one as being capable of satisfying the above conditions and can be confidently recommended for adoption uniformly on all Indian Railways.

A successful operation of the system might perhaps necessitate the revision of the existing forms for time-sheets or even pay-sheets besides the use of calculating machines say, Comptometers, to enable the Workshop Accounting Sections to produce the desired results which any successful and efficient administration would normally look for.

D. P. MATHUR.

REVIEWS.

Economics of Transportation: By D. PHILIP LOCKLIN.
(Chicago: Business Publications, Inc. Pp. xii + 788. Price, \$4.)

Prof. Locklin has made an important and valuable contribution to the study of transportation. In this book he has attempted "a study of the economic aspects of transportation" and has dealt with not only the internal characteristics of the industry, but also its broader relationship to the economic life of present day society.

In the opening chapter the author starts with a clear discussion of the "Economic significance of Improved Transportation". In the next two chapters are given a summary of transport conditions in the pre-Railway Age and the situation during the era of railway building in the United States. Chapter IV describes the Railway system of the United States. There is next a description of the Railway systems of the United States.

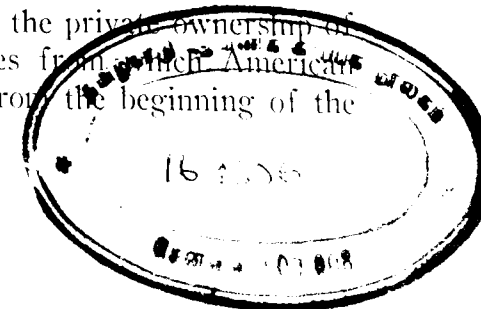
Prof. Locklin next proceeds to the principal subject of the work, namely, freight rates, the discussion of which in all their different aspects has taken 21 chapters, almost 450 pages. He has approached his subject by taking first of all the relation of freight rates to prices. The problem has been viewed and discussed from the standpoint of the economist. It is refreshing to note the application of the economic theory of value and the resort to concepts, such as the elasticity of demand and supply, long and short period effects, not usually found in books on transportation. Equally interesting is Chapter VI for the economic emphasis he has given to the examination of the effect of freight rates in the location of industries and market centres. The influence of location where the aggregate transportation charges tend to be least, the case of the weight-losing materials, the relation of rates on raw materials and finished products, the proximity of markets, importance of freight-rate structure and railway policies are all carefully discussed. The theory of railway rates is next developed and the principles of value and service stated. This is followed by a description of the rate-making practice in the

United States—classification territories, freight classification, freight, the class, commodity and distance rates, etc.

The author next turns to the subject of railway regulation, a field in which he has already distinguished himself. After dealing with the Charter regulation in the States in Chapter IX, he devotes three Chapters, X-XII, to the history of Federal Regulation. The circumstances which led to the passing of the Interstate Commerce Act, the subsequent refinements and amplifications contained in the series of amendments to sections, the Transportation Act, 1920, etc., are all clearly stated and the account is brought down to the Emergency Legislation of 1933 and the recent Railway Labour Act. How the controlling agencies have exerted their influence in public interest, in regulating railways is dealt with in Chapter XIII. There is an excellent summary of the work accomplished by the State Commissions, and Interstate Commerce Commission and its Bureaus. The foreign student of the problem of public regulation is always interested in the American device of Commissions and it is interesting to observe that the Interstate Commerce Commission has not succumbed to the two dangers they are apt to fall in—weakness of personnel and political interference. The danger of arbitrariness is provided against by the right of judicial review. There have been instances of legislative interference with the Commission such as the legislative attempt to abolish the Pullman Surcharges, to sell interchangeable mileage scrips and the Hoch-Smith Resolution. On the whole the record of the Interstate Commerce Commission has been exemplary and unique as an impartial regulatory authority. Prof. Locklin next turns his attention to the subject of railroad competition and its control by means of regulatory checks. Recently, however, the movement towards railway consolidation, as specifically referred to in the Transportation Act of 1920, has been gaining strength, and the Commission has had the rather difficult problem of reconciling the effort to consolidate with the legislative intent to preserve competition. The problem of rate level is next discussed in the light of ensuring an adequate return sufficient to attract capital to the industry. The importance of the subject is indicated in the emergence of the concepts of fair-value and fair return. The logical result of the attempt to ascertain it has been a clarification and uniformity of the accounting system. The attempt at Railroad Valuation has been the result of the desire

to ascertain the fair value of railroad property and in two chapters (XVI and XVII) the theory underlying it and the procedure followed are discussed. Valuation raises problems of fundamental principles of depreciation, etc., and the reader in India, where railway depreciation accounting has been recently simplified, will read with interest the procedure followed, and attempt recently completed has involved considerable expenditure and it has shown that the American railways are not as a whole over-capitalized. But during recent years on account of the endless interminable controversies which have followed the attempt to define fair value, the American railways are getting away from the fair-value standards in the determination of the rate level, which has rendered the results of the valuation of less importance. Even the carriers themselves to whom the fair-value rule is a protection from confiscatory rates have seldom invoked this. Somewhat different has been the concept of fair return which has not received as much attention at the hands of Courts and Commissions as that of fair value. In 1920 the Congress laid down $5\frac{1}{2}$ per cent. as a fair return which was raised to $5\frac{3}{4}$ by the Commission in 1922. The manner in which the implications of fair return and the legislative enactment differed in its attitude towards the railways as compared to that of the public utilities is brought out.

Professor Locklin next discusses in successive chapters the weak-and-strong-road problem, reasonableness of rates between commodities and points, personal discrimination, discrimination between commodities and places, and long-and-short-haul. We need only state that the topics have been dealt with exhaustively bringing the information down to 1935. There are two chapters on railway accounts and finance in which the existing system prescribed by the Interstate Commerce Commission is described. There is also a summary of the recent attempt to introduce depreciation accounting. On the subject of railway finance and financial regulation reference is made to the railway capitalisation and the regulation of railroad securities. The latter is specially important in view of the private ownership of the American railways and the abuses from which American railway finance had suffered almost from the beginning of the railway era.



Regulation in America is not confined merely to that of rates or of finance. It has also been extended to railway service. The attempts in regulation in service are described fully. There is a chapter on common carrier liability and one on government ownership and tariff of railway rates. Although the American railways have been a conspicuous example of private ownership and operation there have been occasionally a movement towards the demand for nationalisation. After a review of the experience of the different countries of the world in deciding on government *vs.* private ownership and the principal reasons which have influenced them in their choice the question is posed as to whether Government ownership will ultimately come in the United States. The author refers to two conditions which might bring Government ownership. The first is the failure of regulation to protect the public from exploitation or from serious discrimination. The second is the inability of the railways to attract sufficient capital to their industry. In view "of the rapid development of competing forms of transportation and the failure of the railroads to meet the situation" he states, "the possibility of Government ownership, *via* this route is not remote." The Government began loaning money to the railways after the collapse of 1929, and if the Government continues to advance funds and thus increases its financial interest, the transition to Government ownership would only be a logical and necessary step. The concluding chapters of the book are devoted to water and highway transportation and their regulation and air transportation.

It is impossible to summarise adequately a voluminous treatise of this size and scope. We have already referred to some of the attractive features of the book such as the emphasis on the economic aspects of railway problems. The most interesting chapters of the book are those which deal with the work of the Interstate Commerce Commission and the principles they have helped to develop. On the various topics dealt with, Professor Locklin has not avoided controversial questions which are awaiting settlement. He has discussed the different aspects of the questions without bias and with judgment. In a work of this magnitude the omission of passenger traffic is to be regretted, in view of the fact that the subject received very detailed attention of late by the Federal Co-ordinator's Organization. Selected references are appended at the end of each chapter and there is a satisfactory index. Students of transportation economics in

India will, in view of the analogous features and the interest they have always shown in the transportation history of the United States, will find this book of great value. It is an indispensable work to every reader taking an intelligent interest in our railway problems.

The Long and Short Haul Principle of Rate Regulation: By Ralph L. DEWEY. (The Ohio State University, Pp. ix + 287 Price, \$ 2.50.)

In this work Prof. Ralph L. Dewey has made a remarkably able study of the Long-and-Short-Haul problem in the United States. The phrase denotes a practice which was widely prevalent in the United States of charging more for shorter than for longer distances, when passengers or freight are transported over the same route in the same direction, the shorter being included in the longer. Although at first sight the practice appears to be unfair and discriminatory, under certain conditions it seems to be necessary, indeed unavoidable. The prohibition of this type of rates was written into the Interstate Commerce Act and it has presented a difficult question in America for many years. After stating this problem Prof. Dewey describes the forms and causes of the discrimination and examines the proper basis for the long-and-short-haul discrimination and the restrictions to be imposed on the extent of such discrimination. In successive chapters he takes up the attempts at regulation before 1910, the Mann-Elkins Amendment in that year, the history of the Fourth Section till 1920, and the modifications introduced in the Transportation Act of 1920. In the Transportation Act, the Congress turned down a rigid long-and-short-haul-clause of the earlier law, but there were not any significant changes in the regulation of that form of discrimination, either in the original Act to Regulate Commerce of 1887 or the Mann-Elkins Amendment of 1910. Yet the provisions of the Transportation Act, observes the author, were of greater importance than was thought to be the case by students and even by the Commission itself in 1920. The author, therefore, examines each modification introduced such as the Reasonably Compensatory clause, the fair rate of return, Section 15-A, the equidistant clause and circuitry. The Fourth Section received frequent application to the American rate structures since 1920, and important rate structures have been altered by a Fourth Section order. In

most cases further limitations on the amount and extent of relief were ordered by the Commission and in a few instances the policy has been liberalised. One whole chapter is devoted to the consideration of some of the important cases on this subject. The Interstate Commission, it is stated, has generally eliminated the defensible long-and-short-haul discrimination from the rate structure of the United States. Only the commodity rate structure of the South need some overhauling.

Turning to other significant developments since 1920, Professor Dewey reviews the Fourth Section cases involving commodities such as lumber, fertiliser, salt, wool, coal, etc., and the technical problems resulting from the changes in classification. The administration of the Fourth Section is next examined and Commission's policies summarised. In the last chapter he sums up his own conclusions emerging from his enquiry. According to him whatever praise or blame which attaches to the present state of long-and-short-haul regulation in the United States may be attributed largely to the Commission. Since 1910, it has enjoyed unlimited authority to grant or deny relief under that section, an authority which it has frequently used. The extent of discrimination has been closely regulated and most obnoxious cases have been deleted from the rate structure. The Commission's policies have been flexible in order to treat each case on its merits and on the whole the federal regulation has been less stringent than the Canadian or the British administration. In spite of these elements of strength in the American regulation, some serious shortcomings are also pointed out by Professor Dewey. The Commission, according to him, has been at times unduly inconsistent in regard to the larger issues. Thus in a few instances it has departed from its avowed principles. There is also some evidence that the Commission vacillates from case to case. Its treatment of market competition is characterised as confusing, and the interpretation of the reasonably compensatory clause has been illogical and otherwise unsound. The proposals which the author would offer are to eliminate market competition as a justification of Fourth Section relief; the Commission should further clarify the distinction between roundabout routes which are afforded relief under that section; it should revise its interpretation of the reasonably compensatory clause and finally improve the procedure in regard to cases coming thereunder.

The book is well-written and offers a clearly reasoned examination of the history and present position of the long-and-short-haul problem in the United States. It is a stimulating contribution to the literature on the economics of rate making. There are a number of appendices, a bibliography and an index.

Annals of the American Academy of Political and Social Science
—September, 1936.

The Annals for September, 1936, contains 27 articles of various aspects of railway economics. The articles are broadly arranged under four heads, namely, Railroad services and their importance; Railroad Problems in the United States; Government or Private Ownership and Operation and Railroad Problems in some Foreign countries.

The symposium is well timed as the complex problems intensified by seven or eight years of worldwide depression, international uncertainty and subsidised competition require to be carefully studied and clarified for a proper understanding—a pre-requisite for attempting an adequate solution of the problem. As the editor of the issue, Dr. G. Lloyd Wilson, Professor of Transportation and Public Utilities, University of Pennsylvania, observes: "There is no railroad problem but a number of operating, traffic, financial and public relations problems in varying stages of consideration and solution."

The purpose of the volume is to present for general consideration some of the most important and most controversial aspects of these problems. Under the title of "Railroad services" William Mather Lewis explains the significance of transportation to civilisation. Charles L. Raper of the Syracuse University (N.Y.) deals with "Transportation and Economic Planning." "The weight, speed and streamlining of Railroad equipment" are examined by Lewis K. Sillcox. The other articles deal with "Price of Open Gateways" by John R. Turney; "The Freight Container as a Contribution to efficiency in Transportation" by R. C. King, George M. Adams and Dr. Lloyd Wilson and "Marketing Railroad Passenger Services" by E. M. Johnson.

The next group which deals with American railway problems contains "Simplification of Railroad Regulation" by H. G. Taylor; "The Regulation of Transportation Rates" by Harry L. Purdy; "The Problems of the Short Lines" by Clarence A. Miller;

"Highway Taxation" by Roy F. Britton; "Stake of Railroad Labour in the Transportation Problem" by D. D. Robertson and "Unemployment Compensation in the Transportation Industry" by Otto S. Beyer. The subject of Government ownership is quite a topical one in the States and here we have the views of some of the notable American transportation authorities.

Joseph B. Eastman who was until recently the Federal Co-ordinator, discusses "Public Ownership and Operation of Railroads*". Examining the customary arguments for and against he finds the difficulties in regard to efficient administration more serious under public management. "If public ownership and operation were established overnight there would probably be a comparatively long period of control and adjustment before the best form of organisation would be devised and made effective. Competition would of course be eliminated but, this might probably be more than offset by less initiative and enterprise. As regards labour relations from the experience of the Government service in that country Mr. Eastman does not think that the Government would be unduly liberal. "On wages" the Government has been on the whole liberal, but has never gone to extremes; on salaries it has been less generous particularly "in the higher" than private employers. The civil service regulations and congressional pressure may make it somewhat difficult to dismiss or demote employees for inefficiency but it would not be necessary to carry these regulations into railroad operations." The strongest objection, Mr. Eastman says, "will be on account of the strain imposed by the national finances by the cost of acquisition." In conclusion he referred to the Federal Co-ordinator's alternative plan to Government ownership and operation as one of three alternatives. "The case for Private Ownership" is argued by Mr. J. J. Pelley, the President of the Association of American Railroads, an eminently fitting choice to represent in this symposium the views of the private railroads themselves. According to him "the true policy for sound transportation—this is what we seek—is not Government ownership and political operation, it is public ownership through wide distribution of securities, with business operation, under an enlightened Government policy which will allow the roads in good times to earn surplus earnings as other industries do;

* Excerpts from 1st and 3rd Reports of the Federal Co-ordinator of Transportation.

which would stop the uneconomic diversion of traffic through subsidies to other means of transport and which will call a halt on legislation to increase the operating cost of railroads or to reduce their revenues for the supposed benefit of other elements of the community. "The Shippers' Point of View" is ventilated by Reinhard F. Bohman who apprehends that "there seems to be no end to the deficits that would be piled up under Government ownership which would have to be met by the taxpayers. He views with alarm the state socialism which it might involve.

Dr. Lloyd Wilson deals with the proposals of the Wheeler Railroad Bill which is followed up by Senator Wheeler himself. Senator Burton K. Wheeler, the author of the bill associated with his name in the American Senate towards Government Acquisition and Operation of American Railroads states his case ably and finds no reason why public ownership cannot result in greater efficiency, in a greater sense of public responsibility and in an impressive step towards a more abundant life.

Finally, Henry A. Palmer criticises the Wheeler-Eastman Government Ownership plan. In the last section the Railroad Problems of Canada are dealt with by Messrs. Leslie T. Fournier and S. J. Hungerford. Sir E. W. Beatty examines the question of "Railway Unification". "The Railway Situation in Great Britain" is reviewed by Sir Josiah Stamp and Dr. Wilson himself contributes an article on the "Use of Freight Containers on the 'Railway Rates in France' and Alfredo B. Cuéllar on the British Railways and their Distribution Services".

The concluding two articles are by Pierre Lévy on the "Railroad Problems in Mexico."

THE YEAR-BOOK OF RAILROAD INFORMATION.

The Committee on Public Relations of the Eastern Railroads, New York have issued again the "Year-book of Railroad Information" marshalling all facts regarding the American and Foreign Railways. The presentation is largely graphic and statistical. The different aspects of railway service and working show, in spite of depression and increased competition an almost unbroken record of rapid efficiency and economy in operation the results of an eloquent testimony to the inventive genius on the railways and allied industries, the research conducted into every phase of railway working, the development and construction of new types of equipment, light weight cars, streamlined

trains and locomotives, the inauguration of pick-up and delivery service, the remarkable advances in air-conditioning, the equally remarkable increases in the speed of passenger trains, the certainty of reliability of railway service as proved in the blizzards of the last winter and the floods of last spring and most important of all the matchless speed record of the steam railways. There is also an index which facilitates ready reference to the different branches of railway administration and management.

OFFICIAL PAPERS.

The Report of the Railway Board on Indian Railways for 1935-36.

Although for the greater part of 1935-36 railway earnings were steadily less than during the previous year the improvement which took place in the last five or six weeks brought up the receipts for the year to a slightly higher level than 1934-35. The total traffic receipts in 1935-36 amounted Rs. 90.65 crores or Rs. 45 lakhs more than the previous year. The increase of Rs. 45 lakhs is largely due to the extra day in February on account of 1936 having been a leap year. Ordinary Working Expenses excluding depreciation amounted to Rs. 50.87 crores or Rs. 60 lakhs more than in the previous year. The withdrawal of the salary cut with effect from April 1935 raised the Working Expenses by one crore so that there was a decrease of nearly Rs. 40 lakhs in Working Expenses. The depreciation charges were Rs. 47 lakhs less. Under the new method of calculating the contribution to depreciation with effect from that year the amount set apart was Rs. 13½ crores. Including depreciation the total working expenses amounted to Rs. 64.12 crores or Rs. 13 lakhs more than in 1934-35. After making allowance for miscellaneous transactions the net revenue available was Rs. 27.40 crores which was insufficient by Rs. 3.99 crores to meet the interest charges of Rs. 31.39 crores. This deficit was again met by a loan from the Railway Depreciation Fund.

The total works expenditure during the year was Rs. 11.74 crores of which Rs. 2.58 crores was charged to capital and the balance to the depreciation fund. The stores balances at the end of the year stood at Rs. 9.40 crores and was the same as at the end of the previous year. The liabilities in accordance with the Separation Convention to be met from the surpluses of subsequent years were Rs. 57½ crores of which Rs. 31½ crores is amount borrowed from the Depreciation Fund.

Turning now to the detailed aspects of working dealt with in the Report it is found that the Operating ratio including depreciation was 70 per cent. The details of the Traffic Receipts show that whereas goods earnings responded to the progress of recovery since 1932-33 the earnings from the passenger traffic were found to be even lower than the figure for 1932-33. The stagnation in receipts from the passengers is indicated for all the classes. As the full details and statistics and the working expenses on the individual railways and their losses and gains have been examined elsewhere in our review of the Railway Budget we shall content ourselves with merely referring to the other features of working in the year under review.

As regards New Construction and Engineering Works there have not been any large schemes and only as much as 63 miles on the Meter Gauge were under construction. The important lines opened were the Jhudo-Pithoro Railway in connection with the Lloyd Barrage irrigation scheme and three other smaller lines. The new Engineering Works were mostly the Meghna Bridge on the A.B. Railway the Nerbudda Bridge and a limited number of open line improvements.

The examination of transportation working indicates that the passenger and the goods train miles show an increase. Engine miles also show an improvement. The speed on goods trains was the same as in the previous year. The Report records the summary of measures adopted to deal with road motor competition, illicit travelling and the work of the Technical Committees.

*Standing Finance Committee for Railways.**

The Standing Finance Committee for Railways met on January 22 and 30, 1937, and discussed the Demands for Grants for 1937-38. At the second meeting the Committee also discussed the memoranda on the 1937-38. Programme for Expenditure on Works Capital and Depreciation Fund, and on the construction of the Sind Right Bank Feeders Railway. The rolling stock programme anticipated the necessity for at least 2,000 additional wagons costing approximately Rs. 85 lakhs (of which Rs. 15 lakhs will be Capital) for the busy season of 1937-38. Provision was also made for the reconditioning of about 1,000 wagons on the Indian Railways which it is impossible to use in their present condition, but which can with a certain amount of initial expenditure be useful for the next ten years or more. Certain other changes have also been made in the original rolling stock programme approved by the Committee in July 1936. The net effect of these changes amounts to an increase of Rs. 62 lakhs due chiefly to more throw-forwards from the current year's programme. The total expenditure on the rolling stock is Rs. 3.53 crores including Rs. 85 lakhs for wagons against an estimate of Rs. 3.18 crores (including Rs. 25 lakhs for wagons) during the current year. Excluding wagons, therefore, the provision for 1937-38 is Rs. 25 lakhs less than the provision in the current year.

Two new projects costing Rs. 13 lakhs during 1937-38 were also proposed namely, the Sind Right Bank Feeders Railway to handle the increased volume of agricultural produce on account of the Lloyd Barrage project and the Pithoro Tando Mithakhan project, still under consideration, and considered likely to be a profitable project. The open line works are expected to cost Rs. 8.23 crores (Capital Rs. 2.96 crores and Depreciation Fund Rs. 5.27 crores).

As the existing railway communications in Sind would be found inadequate to handle the increased volume of agricultural produce, in the

*Proceedings of the meeting of the Standing Finance Committee for Railways, 22nd January, 1937, Vol. XIII, No. 3; 20th January, 1937, Vol. XIII, No. 4; 12th February, 1937, Vol. XIII, No. 5.

interest of adequate railway communications the Sind Right Bank Feeders Railway has been proposed on a broad gauge from Larkana-Jacobabad, via Sharad Kote, Garhi, Khairo, Ushda and Mouladad. The area is fully developed and is likely to be very prosperous. This, in addition to the fact that no roads are proposed to be built, is assumed to promise a good return on the investment. The proposed railway is to be 85 miles in length. The scheme involves the purchase of the existing narrow gauge line from Larkana to Dodapur belonging to the Sind Light Railways Co., Ltd., at a cost of 25 times the average yearly net earnings during the three years immediately preceding the actual date of purchase which will be at the present time Rs. 35.40 lakhs. Taking into account the credit on account of railway materials following dismantlement of the line, the net purchase price is expected to be Rs. 30 lakhs. The total cost of construction including interest during construction and the purchase price is estimated to be Rs. 91 lakhs. The total return on the outlay is expected to work out to Rs. 5,000 short of a 4 per cent. return. The proposal was approved subject to the condition that a definite undertaking should be obtained from the Sind Government that they will not construct roads parallel to the projected railway line and that they will draw up a scheme of feeder roads to the projected railway and will construct these roads within a reasonable time.

South African Railways and Harbours, 1935-36.

The year 1935-36 for the South African Railways and Harbours, according to the report of the General Manager of Railways and Harbours for the year ended 31st March, 1936, has been one of the most prosperous years ever experienced by the State transport services of the Union of South Africa.

During the year railway traffic increased on an unprecedented scale and fresh records were established. The additional traffic was reflected in all directions: passengers, goods, coal, livestock, harbour and shipping tonnage, all showed substantial increases over the figures for the previous year and the extra business shown by subsidiary branches of the service such as the catering department, road motor, publicity and tourist services, etc., reached equally high levels.

The total railway earnings increased from £ 27 millions to £ 30 millions an increase of over 11 per cent. which was distributed in increased passenger journeys and increased tonnage of goods. The total railway and harbour revenues exceeded £ 35 millions and expenditure just under £ 30 millions. The increased traffic, of course, involved additional expenditure but the percentage increase was only one half of the percentage increase in revenue. The gratifying financial results of working the railways and harbours services during the year was due in a large measure to the generally satisfactory state of commerce and industry throughout South Africa and particularly in the economic recovery of agriculture. The continued expansion of the gold mining industry on Witwatersand was also responsible for the high levels of prosperity as well here as in many other spheres of business activity. The operating ratio including depreciation dropped from 68 per cent. to 65 per cent.

The surplus revenue during the year amounted to £10.39 millions which was an increase to £11.93 millions after adding interest on investments, miscellaneous receipts the net profit of subsidiary services, etc. Making the deductions on account of interest on capital, superannuation, and other funds charges in respect of lines leased and miscellaneous expenditure, the Net Surplus on railways carried to Net Revenue Appropriation Account amounted to £5.62 millions. The surplus revenue from the working of the harbours amounted to a little over half a million pounds and steamships about £4,000. After allowing for the deficit on airways the contribution to Betterment Fund, Rates Equalisation Fund, etc., the net surplus for the year on railways and harbours amounted to £3.25 millions.

The report also deals with certain other outstanding events during the current financial year, 1936-37. An event of great importance for the transport industry in South Africa was the Southern Africa Transport Conference as the result of which two Committees were appointed one on surface transport and the other on airways. The Surface Transport Committee made such important recommendations as the establishment of a permanent Secretariat on matters arising out of the discussions of the Committee, the uniform gauge, tourist traffic, publicity and the control of competitive transport. The Airways Committee submitted specific recommendations on the subject of aeroplane routes and marking routes by beacons, arrows and other suitable ground markings, notification of arrival and departure and various other important matters connected with air transport.

The South African railways interest themselves on a number of other useful activities one of which is the establishment of model villages in Northern Natal. In the model villages self-contained cottages have been provided for the families settled in them. Facilities for schooling children, for religious worship, water supply, free libraries and other social welfare efforts have been fostered.

Report on the Problems of Co-ordination of various forms of Transport in Kenya, Uganda and Tanganyika.

Brigadier-General Sir H. Osborne Mance has recently completed his report on the problems of co-ordination of various forms of transport in Kenya, Uganda and Tanganyika. The superiority of rail transport seems to have been established on account of the long average haul of most traffic amounting to 388 miles in Kenya and Uganda, and to 22 miles in Tanganyika. As a result of this the railways are able to carry goods at rates which even in the least favourable conditions of Tanganyika are less than 60 per cent. of the minimum average cost likely to be attainable by road lorry transport under favourable conditions. On this ground alone, it is argued, the railways generally must be maintained as the principal means of transport in these three territories. The case of the branch lines is not, of course, so easy and the report states that the majority of the branch lines probably offer the cheapest form of transport in their areas and even if their retention results in a loss to the railway necessitating in a subsidy from the Government to compensate for such loss this subsidy

would be less than the corresponding subsidy to the road. In such cases General Mance argues the branch lines should be protected as far as possible against the loss of high rate traffic. Where on the other hand the branch lines account only for a very small amount of tonnage it would manifestly be cheaper to the Government to dismantle them.

Turning to road and rail competition, General Mance considers that passenger competition may be neglected, as passengers form so small a percentage of the railway traffic. Of the Kenya and Uganda goods traffic, 85 per cent. is imports or exports, and to compete in world markets the latter have to be carried at unremunerative rates, for which compensation is secured by raising the rates on imports. With a monopoly such practice is inevitable and advantageous to all, and if it came to an end the subsidy would have to be collected in some other way, which might be less satisfactory. General Mance proceeds to discuss the effect of unrestricted competition, which could result only in temporary gain to the road haulier until such time as he, too, was ruined by cut-throat competition for the diminishing traffic, a state of affairs generally agreed to be disastrous. Nor is the existing system of protection for higher-rated traffic from road competition practicable as it lacks flexibility and should be replaced by something more suitable. Division of function on the basis of cost to the community should be primarily determined by out-of-pocket costs of working, and an automatic division of traffic could be secured by a combined monopoly of rail and road transport, but the difficulty of this system arises from the treatment of the ancillary road user. So, though it would maintain the present rate structure, this solution of the problem is quite unsuited to East African conditions. Another solution, tolls, has already been found impracticable in Tanganyika.

The solution recommended is, therefore, a continuation of the present policy of safeguarding the railway's monopoly modified by elements from other suggested solutions to impart flexibility and allow a gradual adaptation to changing conditions. General Mance recommends the appointment of a Transport Commission of five independent members for each territory made up of a lawyer, a representative each of European and Indian interests, one official member to watch the native interest and one member with the general economic outlook such as a banker.

NOTES AND MEMORANDA.

THE RAILWAY BUDGET.

The principal features of the Railway Budget adopted towards the end of February were the anticipated surplus for the current and the succeeding financial years and the proposal to amend the Separation Convention of 1924. Judging from the congratulations and the feelings of relief expressed in the Central Legislature and the daily press the railway Budget Estimates must be deemed successful. They are of course in a sense justified as the anticipated deficit of Rs. 3.44 crores was according to the revised estimates transformed into a small surplus of Rs. 15 lakhs thanks to the sudden upturn in goods traffic receipts. The surplus should have been greater, *viz.*, Rs. 36 lakhs but for the more conservative basis of allocation adopted last year. The Budget Estimates are also memorable for the fact that 1936-37 is the first year for the State-owned railways since 1931-32 to earn a surplus—a fact which has led to expressions of satisfaction in the Legislature. The estimates for 1937-38 are more conservative and do not allow for the increase experienced during the current financial year. The detailed estimates compared with the earlier years will be found in Table I.

TABLE I.
Commercial and Strategic lines together (Figures in lakhs of rupees).

	1924-25.	1929-30.	1934-35.	1935-36.	1936-37 Revised Estimate	1937-38. Budget Esti- mate*
Mileage { State-owned	27,002	30,878	31,619	31,732	31,732	29,724
Worked lines	5,847	4,773	4,634	4,578	4,397	4,084
Gross traffic receipts { (State-owned	1,00.13	1,02.70	90.20	90.65	95.00	90.75
Operating expenses { (Worked lines	7.34	6.47	5.28	5.37	5.45	5.35
Depreciation Fund { (State-owned	51.65	55.59	50.27	50.87	50.75	48.75
Payments to worked lines { (Worked lines	3.70	3.30	2.66	2.68	2.64	2.61
Net Traffic receipts (State lines)	10.35	12.59	13.72	13.25	13.15	12.59
Net Miscellaneous receipts after deducting miscellaneous charges and surplus profits payable to companies.	3.64	3.17	2.62	2.69	2.81	2.74
Net revenue	38.13	34.52	26.21	26.53	31.10	29.41
Interest charges	—1.07	—2	53	87	—12	10
Surplus	37.06	34.50	26.74	27.40	30.98	29.51
Paid as contribution to general revenues.	23.90	30.46	31.80	31.39	30.83	29.36
Transferred to railway reserve	13.16	4.04	—5.06	—3.99	15	15
	6.78	6.12	..	..	..	15
	6.38	—2.08	..	..	..	..

* Excluding Burma railways.

Note 1.—The balance of the loss in 1931-32 and the total loss in the following years have been, or will be, met by temporary borrowings from the Depreciation Fund.

The results for 1935-36 were better than the revised estimates twelve months ago. The total receipts amounted to 90.65 crores, the actual amount spent including depreciation was Rs. 69.49 crores. The Net Traffic receipts of the State lines amounted to Rs. 26.53 crores, adding net miscellaneous receipts of Rs. 87 lakhs, the Net Railway Revenue amounted to Rs. 27.40 crores leaving a deficit of Rs. 3.99 crores to be met out of a further loan from the Depreciation Fund. The revised Estimates of the State lines placed Gross Traffic Receipts at 3½ crores more than the Budget Estimates, *viz.*, Rs. 95 crores. The Working Expenses including depreciation shows a slight reduction to Rs. 63.90 crores. The Net Traffic Receipts are expected to be Rs. 31.10 crores and net railway revenue Rs. 30.98 crores. The figures of the Working Expenses are affected by certain changes in accounts as already referred to. The total Net Revenue would have been Rs. 31.34 crores but for the change. There has been a further fall in interest and the amount required is Rs. 30.83 crores or over half a crore less than 1935-36. After meeting interest charges a residue of Rs. 15 lakhs is left as the surplus for the year. The estimates for 1937-38 excluding those for the Burma railways which under the Separation becomes a separate entity the Gross Traffic Receipts are placed on a conservative basis at Rs. 90.75 crores or half a crore less than the Revised Estimates for 1936-37. Operating Expenses including Depreciation are decreased to Rs. 61.34 crores. The contribution to the Depreciation Fund is slightly lower and is estimated at 12.59 crores making allowance for the payments to Worked lines and net miscellaneous receipts, the Net Traffic Revenue is expected to be Rs. 29.51 crores. Interest charges show a further fall and are expected to stand at Rs. 29.36 crores a surplus of Rs. 15 lakhs is expected to be produced which will be paid as a contribution to the General Revenues. The Works Expenditure for 1936-37 is placed at Rs. 10½ crores of which Rs. 3½ was to be in addition to capital and the balance of Rs. 7 crores to be found from the Depreciation Fund. For the year 1937-38 the programme provides for a total expenditure of Rs. 12½ crores of which the net actual expenditure anticipated is Rs. 8½ crores of which Rs. 6 crores will be met from the Depreciation Fund. There is provision for the construction of two new lines in Sind namely the Sind Right-Bank Feeders line from Larkana to Jacobabad dealt with elsewhere in this issue and the Pithoro to Tando Mitha Khan, both of which are

Note 2.—Credits for material released from works not charged to revenue were taken in reduction of operating expenses up to 1931-32. From 1932-33 onwards they have been added to receipts and are included in net miscellaneous receipts. From 1936-37 they are taken in reduction of expenditure met from the Depreciation Fund. The amounts involved are as follows: in 1932-33 and 1933-34, 119 lakhs each; in 1934-35 90 lakhs; and in 1935-36, 110 lakhs.

Note 3.—Working expenses were reduced in 1930-31 by 166 lakhs by a credit from the Depreciation Fund for correction of past accounting adjustments; and in 1924-25 by 179 lakhs by certain abnormal refunds of expenditure in previous years.

required for making fuller use of the increasing produce likely to result from the Lloyd Barrage project. Provision is also made for the restoration of damages caused by the Bihar Earthquake and for the protection works to the Hardinge Bridge. Track renewals are given Rs. 4½ crores, bridge works Rs. ¾ crore, other structural works Rs. 2½ crores and rolling stock Rs. 3½ crores.

II.

The Operating ratio including and excluding Depreciation are given in Table II.

Excluding the Burma Railways, the State-managed Railways effected a slight reduction in the ratios in 1935-36 and a further reduction in the succeeding years. The Company-managed Railways indicate a worsening in 1935-36, and a slight improvement in the next two years. Compared to 1929-30 and the average for the succeeding quinquennium, the State-managed group shows an improvement in the Operating Ratio while the Company-managed Railways betray a regression. The B.B. & C.I.

TABLE II.

Statement of Operating Ratios on Indian Railways Including Depreciation.

Railways.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
Burma ..	62.7	73.1	76.6	78.5	77.1	75.0	..	..	..
E. B. ..	69.9	79.5	84.1	83.5	83.6	79.9	84.8	80.5	80.8
E. I. ..	62.6	67.1	65.5	65.2	63.9	62.1	63.1	61.2	61.6
G. I. P. ..	69.9	78.4	76.0	75.4	72.9	71.7	71.2	65.0	66.2
N. W. Com. ..	79.6	81.9	81.1	81.6	79.8	77.6	75.0	68.6	68.9
A. B. ..	68.3	72.1	75.9	82.7	83.5	80.1	92.9	88.4	89.5
B. N. ..	72.5	81.7	85.3	89.3	84.5	81.3	78.8	82.5	82.9
B. B. & C. I. ..	64.3	68.6	66.6	66.0	62.3	61.7	60.0	57.7	57.9
M. & S. M. ..	54.0	59.6	59.1	60.9	60.6	63.7	67.1	63.7	64.9
S. I. ..	54.4	61.5	63.7	64.4	67.0	66.8	70.8	69.2	69.9

Excluding Depreciation.

Railways.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
Burma ..	52.8	60.9	62.5	63.2	62.0	60.9	..	..	..
E. B. ..	57.1	63.8	65.1	64.3	64.9	62.6	69.0	65.6	65.9
E. I. ..	51.4	54.5	51.9	51.8	50.7	49.3	50.3	48.6	48.9
G. I. P. ..	57.4	64.2	59.7	59.5	57.7	55.9	55.5	51.1	52.2
N. W. ..	63.4	65.6	62.3	61.8	61.9	60.1	59.8	54.5	54.8
A. B. ..	55.2	56.9	59.0	63.9	65.2	63.5	69.8	65.8	66.5
B. N. ..	59.1	56.9	66.8	69.3	66.2	64.1	63.9	66.7	67.0
B. B. & C. I. ..	52.7	56.3	53.2	53.5	50.1	50.0	49.2	47.8	47.9
M. & S. M. ..	43.9	48.6	46.6	48.8	48.9	51.6	54.4	51.8	52.6
S. I. ..	44.1	49.5	49.5	50.7	52.7	52.6	56.4	55.0	55.6

Railway shows the best record of all the lines with a ratio declining from 60 per cent. in 1935-36 to 58 per cent. in the next two years. The E.I. Railway comes next with a ratio of 63 per cent. in the year under review and a tendency to decrease in the last and the current years. Whereas all the State-managed Railways show a declining trend, some of the Company-managed Railways, particularly the B.N. and the A.B. disclose serious deterioration. The ratios on the former increased from 79 per cent. in 1935-36 to about 83 per cent. during 1936-38. On the A.B. the ratio stood at the level of 93 per cent. in 1935-36, the highest figure touched on any railway during the entire period since 1930. The slight improvement noticeable in the estimates for 1936-37 still leaves it much higher than during the earlier years of the Depression.

The Operating Ratio sums up only the relationship between the Gross Traffic Receipts and Working Expenses. In order to appraise the financial prospects of each railway it is necessary to examine the detailed figures of the Gross Traffic Receipts and the Working Expenses. The estimates for 1936-37 and 1937-38 compared to the actual figures for select earlier years were distributed among the different systems as shown in Table III. It will be noticed from the percentage variations in the same table that there has been a perceptible improvement in the estimates of most of the lines. Only two railways, viz., the North Western (Commercial) and the Assam Bengal Railways expect receipts above the levels of 1924-25. The others show an improvement which, as compared to the actuals of 1935-36, varies from 2 per cent. to 6 per cent. The B.N. Railway alone expects a slight decrease on its own earnings of 1935-36. It will be found that some recovery will have to take place before the railways can be said to have attained the 1924-25 levels of income.

TABLE III.
Gross Traffic Receipts (Excluding Worked Lines.)

Railways.	In lakhs of rupees.								
	1924-25.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
State-managed.									
Burma ..	4.29	4.28	3.74	3.33	3.57	3.72	3.61	3.75	
E.B. ..	5.92	5.86	5.05	4.91	5.07	5.43	5.25	5.65	5.60
E.I. ..	20.61	18.24	17.36	17.27	17.63	18.71	18.63	19.40	19.40
G.I.P. ..	15.16	13.33	11.92	11.95	12.21	12.17	12.41	13.20	13.10
N.W. Com. ..	15.13	14.98	13.34	12.73	13.23	13.87	14.16	15.45	15.30
Str. ..	1.60	1.48	1.32	1.23	1.23	1.23	1.26	1.45	1.45
Company-managed									
A.B. ..	1.44	1.95	1.84	1.56	1.60	1.80	1.60	1.65	1.65
B.N. ..	8.38	8.17	7.24	6.91	7.39	7.95	8.64	8.20	8.18
B.B. & C.I. ..	12.33	10.90	10.30	10.17	10.61	11.07	11.08	11.80	11.74
M. & S.M. ..	7.91	7.98	7.15	6.66	6.84	6.72	6.54	6.78	6.70
S.I. ..	5.15	5.80	5.30	5.51	5.14	5.24	4.99	5.10	5.08

Railways.	Percentage Variations 1924-25 = 100.								
	1924-25.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
State-managed.									
Burma.	100	99.8	87.2	77.6	83.2	86.7	84	87	
E.B. ..	100	99.0	85.3	82.4	85.6	91.7	89	95	95
E.I. ..	100	88.5	84.2	83.8	85.5	90.8	90	94	94
G.I.P. ..	100	87.9	78.6	78.8	80.5	80.3	82	87	86
N.W. Com. ..	100	99.0	88.2	84.1	87.4	91.7	94	102	101
„ Str. ..	100	92.5	82.5	76.9	76.9	76.9	99	91	91
Company managed									
A.B. ..	100	136.1	127.8	108.3	111.1	125.0	111	114	114
B.N. ..	100	97.5	86.4	82.5	88.2	94.9	101	98	97
B.B. & C.I. ..	100	88.4	83.5	82.5	86.1	89.8	90	96	95
M. & S.M. ..	100	100.9	90.4	84.2	86.5	85.0	82	86	85
S.I. ..	100	112.5	102.9	107.0	99.8	101.8	97	99	99

We may now turn to consider the Working Expenses on the State-owned railways. The total Working Expenses in each railway administration and their percentage variations as compared to 1924-25 are given in Table IV. It is found from a glance at the percentage figures that the State-managed railways as a group record a substantially lower level than Company-managed railways. As compared to the standard of 1924-25 the Working Expenses during the year 1935-36 on the five State-managed railways, the Burma, E.B., the E.I., the G.I.P. and the N.W. including the strategic lines were only 102 per cent. During the same year the Working Expenses on the five Company-managed railways the A.B., the B.B., the B.B. & C.I. the M. & S.M. and the S.I. stood at 115 per cent. During the succeeding year 1936-37 the estimates show that expenditure would increase to 106 per cent. on the State-managed lines and would amount to 114 per cent. on the Company-managed lines. In the Budget year the State-managed railways record a Working Expenditure of 101 per cent. and the Company-managed railways that of 115 per cent. On the whole it would appear that the State-managed railways have succeeded in keeping down Working Expenses at almost their basic level. It would be interesting to analyse further the Working Expenses under the four sub-heads namely, General Administration, Repairs and Maintenance, Operation excluding Fuel, and Fuel. The estimates under these heads compared to the figures for some earlier years and the percentage relations to 1924-25 are given in Table V. Examining the averages for the State-managed and the Company-managed railways, the cost of General Administration shows a relatively higher degree of increase on the latter than on the former. Even in 1929-30 itself against an increase of 16 per cent. in General Administrative expenditure, the Company-managed railways had incurred 27 per cent. more of expenditure. More or less the same difference has been kept up during the entire period of the Depression. Thus in 1935-36 the figure was almost the same on the State-managed railways but that of the Company-managed lines had gone up to 130 per cent. The Revised and

all the Chambers of Commerce commented upon the high standards of railway expenditure which was out of all proportion to the increased earning capacity. Most of them recommended re-amalgamation of departments, imposition of salary cut, reduction in the railway expenditure, amalgamation of railways, reduction in the workshops and stores purchases, a more economic working of the railway collieries and a re-adjustment of the railway contributions to the revenues on a more equitable basis. Every chamber criticised the rate structure. The Southern India wanted a reduction in the classes to a more manageable and less perplexing number, and the introduction of telescopic rates without regard to change of administration. According to the Bengal Chamber public opinion was genuinely disturbed on the one hand by the tendency to raise freights and on the other hand by the apprehension that the railways have not yet made the maximum effort to meet the occasion. The feeling is widespread that the whole business of the railways proceeds in too leisurely a fashion that improvement for speeding up exists throughout the system from the time taken by an individual clerk to issue a ticket to the time taken by a train load of goods to reach its destination and that economies of a more drastic nature than have been effected will be necessary if the railways are to be put on a sound basis. The Bengal Chamber instituted an interesting comparison between the rate of increase in the cost of railway staff and the rate of increase in certain representative industry as against an increase of 251 per cent. compared to 1913-14 on the railways the jute and the paper industries showed an increase respectively to 112 per cent. and 145 per cent. For these reasons the Committee of the Chamber believe that the railways have still to tackle the problem of administrative and operative expenses in a more thorough manner than has as yet been done and they suggest that unless these broad facts are examined initially it is unlikely that any manner of economies which may be effected will have the desired result.

The Bengal National Chamber referred to the railway problems almost in a similar manner and offered in addition its suggestions as regards scaling down the railway interest charges and a reduction of rates on raw materials. The Indian Chamber wanted that the transport system of the country should be related to the wider economic policy of the nation and referred to the unjustified difference between the risk rates, the improvement of amenities for passenger traffic and the subjects already referred to above. Almost every one of the Chambers referred to the desirability of transforming the existing Rates Advisory Committee into a Rates Tribunal. On the subject of road-motor competition the views of the Chambers are chiefly to the effect that the case worked out by the railways is somewhat exaggerated and that the best remedy for the railways to re-establish themselves will be to improve facilities and make a better effort to serve the public.

THE INDIAN RAILWAYS AND THE REFORMS.

Outside India, Whitehall, and India House there appears to be some uncertainty as to the effect of the great day of changes for India, April 1, upon the railways of that Empire. It is true that this "milestone in history" marks the coming into being of the Provincial Ministers and Councils and the initiation of Provincial autonomy. The Governor-General

has also assumed his new powers, and Burma and Aden have been separated from India, so that great changes have already taken place. But in the nature of their composition the Federal Government, Federal Court, Public Services Commission and Railway Authority cannot materialise until the Provinces have settled down and elected representatives to the former, and until the thorny question of Federation for the Indian States is settled. The Railway Authority may come into being before the latter settlement, but as four-sevenths of its members have to be appointed by the Federal Government—the other three-sevenths being appointed by the Governor-General in his discretion—its inauguration must await the formation of a Federal Government. So far as railways are concerned therefore, the great event of immediate import is the establishment of an autonomous Burma Railways' administration.

EDUCATION OF THE CHILDREN OF ANGLO-INDIAN AND INDIAN EMPLOYEES OF RAILWAYS.

In reply to a question as to the cost of education of the children of railway employees, it was stated in the Assembly during the last session:

"On Class I Railways, excepting Nizam's State and Jodhpur, the Assam Bengal and Rohilkund and Kumaon Railways do not maintain any schools for Anglo-Indians; on the Eastern Bengal, East Indian, Great Indian Peninsula, North Western, Bombay Baroda and Central India, Bengal and North Western and Bengal Nagpur Railways, Indian students are admitted to the Railway Schools maintained for Anglo-Indian children; on the Madras and Southern Mahratta and South Indian Railways, Indian students are admitted provided there are no other educational facilities for Indian children available at that station. The numbers of Indian children that can be admitted are regulated by the Educational Code of the Provinces in which the schools are located."

The sums spent on certain Class I Railways on the education of the children of railway employees during 1935-36, were stated, in reply to another question, as follows:

Statement showing the sums of money spent by certain Class I Railways in India on the education of the children of Railway employees during, 1935-36.

Railway.	Total amount spent.		Cost per student.	
	European and Anglo-Indian.	Indian.	European and Anglo-Indian.	Indian.
A. B. Railway ..	15,401	15,774	*	*
B. and N. W. Railway ..	5,469	3,477	55.2	4.59
B. N. Railway ..	54,690	62,303	47.2	13.5
B. B. and C. I. Railway ..	51,600	39,970	128.6	10.6
E. B. Railway ..	70,268	20,597	165.7	9.04
E. I. Railway ..	4,97,907	1,73,704	336.2	16.0
G. I. P. Railway ..	1,04,230†	26,512†	71.7†	15.9†
M. & S. M. Railway ..	59,249	16,868	57.8*	10.0
N. W. Railway ..	1,89,275	29,411	134.7	19.8
S. I. Railway ..	33,289	12,780	50.9	10.5

* Information not available.

† These figures relate to the year 1934-35. Figures for the year 1935-36 are not readily available.

SIX-HOUR DAY.

There was a proposal before the American Congress to institute a basic six-hour day requiring that the railways pay the present eight-hour wage for the 6 hours of work. The Association of American Railroads examining the bill to carry out the proposal estimate that for the year 1936 the increased cost for the Class I Railways alone will amount to a hundred million dollars. In view of the already unsatisfactory condition of railways' revenues the burden is expected to be too heavy. The further emasculation of the railroads, it is argued, will affect a wide range of other industries as the railways are among the largest purchasers of many commodities, particularly the products of the heavy industries. Apart from the effect of employment in the industries concerned there would be fewer railway jobs and not more. The Association of American Railroads also looked upon the proposal as a species of unwanted discrimination against railroads as the proposal is not meant to be applied to all industries. The opinion of Mr. Joseph B. Eastman is also quoted to the effect that "Whatever the merits of the proposal the present is no time to add to railway expense."

ECONOMIES FROM RECLAIMED MATERIAL.

Mr. L. A. Downs, President of the Illinois Central System, Chicago, recently described reclamation of material as one of the most remarkable modern development in railway shop practice. All worn and defective parts of locomotives and rolling-stock which were formerly used to be scrapped have now been reclaimed through the development of welding processes for iron and steel parts and later the use of alloys to match any parent metal. By such renewal of worn out parts instead of buying new ones an average saving of £3 19s. 5d. is effected on each coupler, some 30,000 of which have to be renewed every year on the Illinois Central whilst £5 7s. 11d. is saved on 6,000 side frames in each year.

WHERE FREIGHT RATES AND PASSENGER FARES GO.

The Committee on Public Relations of the Eastern Railroads in their twelfth Annual Railroad Calendar have made an interesting study of the manner in which the railway income was utilised in 1936. For instance, it is worked out as to how wages, fuel, materials and supplies and other expenses, taxes and interest absorbed respectively 164, 21, 55, 34, 25 and 66 days of revenues.

The taxes paid by the Class I Railways in the United States in 1931, amounted to 6.68 per cent. of Gross Operating Revenues. In other words, out of each dollar of operating revenues, almost seven cents were paid to local, state, and national Governments. The amount for 1935, although lower than in the four preceding years was higher than any figure reached prior to 1931. The statistics showing the amount of each dollar revenue required to pay taxes for the American railways is given below:

Year.	Cents.	Year.	Cents.
1916	4.37	1928	6.37
1920	4.40	1929	6.32
1921	5.00	1930	6.60
1922	5.42	1931	7.25
1923	5.28	1932	8.80
1924	5.75	1933	8.06
1925	5.86	1934	7.32
1926	6.09	1935	6.86
1927	6.13	..	..

SAVE TO TRAVEL.

Reference was made in an earlier number to the "Save to Travel" scheme introduced by the London Midland and Scottish Railway. It is now reported that no fewer than 277,640 stamps have been sold for the eight months ended August, 1936, enabling the public to pay for their holidays by purchasing one shilling stamps every ten of which being exchangeable for vouchers which are accepted in payment of railway tickets.

THE MOBILE FILM THEATRE.

The London Midland and Scottish Railway has introduced an innovation in its endeavour to stimulate the interest of its employees in increasing their efficiency. It has recently completed a cinematograph van designed for the purpose of giving their employees in various parts of the country both visual and aural instructions in the correct and modern methods of railway working. This van is claimed to be the first railway vehicle of its kind in the world to be equipped with a standard (35 mm.) film projector. Under the scheme films have been prepared to demonstrate to the staff correct methods of working in the various branches of railway operations and this would be shown to the staff at railway stations and goods depots throughout the country. As an example it may be mentioned that the subject of station platform working showing the problems connected with the handling of trains at various types of stations is developed with the object of showing in a simple and straightforward way compared to the wrong methods of working. Other films in the series deal with salesmanship work at depots, goods yards, etc. The theatre is absolutely self-contained and has seating accommodation for 52. The unit is 65 feet long and 35 tons unloaded. It is reported by the *Modern Transport* that the film theatre which has already commenced its tour will visit 68 stations and depots and give 572 performances by the middle of June this year.

ITALIAN TOURIST INDUSTRY.

In an article contributed by Gr. Uff Michele Oro, General Manager, the Compagnia Italiana Turismo, to the *Modern Transport* a brief account of the tourist industry in modern Italy is attempted.

The tourist industry has become a very organised enterprise in modern Europe and every country attempts to encourage the largest number of tourists to itself by engaging in widespread and vigorous propaganda abroad through the medium of radio programmes, the cinema and the press as well as the issue of publications and preparation of lectures. Just as it is important to attract visitors it is also necessary to induce them to remain in the country as long as they could be persuaded. The Public Hospitality Corporation with its Syndicates and Federations has been organised in Italy and it works under the control of the Ministry of Corporations. Air, sea, road travel and railway services are directly or indirectly controlled by the State, and consequently it is enabled to maintain a policy of tariffs which are much appreciated by foreign visitors. The "CIT" or the Compagnia Italiana Turismo is known to every visitor to Italy for the efficient services offered and the helpful advice to the foreign visitors. This organisation is a joint-stock company working on a regular business footing but all the shares are held by the State and the Board of Management is composed of manufacturers, tourist experts and politicians. All of them are nominated by the Government. The CIT has now over 120 travel offices and 600 agents in all parts of the world linking the traveller with Italy.

PROPOSED SOUTH AFRICAN TOURIST ORGANIZATION.

According to a statement by the Minister of Railways and Harbours, the Government was in favour of the establishment of a Public Utility Company for the control of the tourist industry. There could be specific legislation or a corporation could be registered as a non-profit making concern. The Government would require only moderate representation on the Board but it would however insist that the annual budget of such a body be subjected to the approval of a responsible minister.

Dealing with the financing of the scheme, the Minister said that originally it was suggested that the railways would find a sum up to £50,000 on the pound for pound basis, but if the interested parties could not find 50 per cent. of the necessary amount, he suggested that the railway administration should be responsible for 50 per cent., the central Government 25 per cent. and the interested parties 25 per cent.

The Minister considered that it would be reasonable to begin with an income of £50,000 per annum. This amount could be increased until the board would eventually control an income of £100,000 per annum. The Government was not, however, prepared to put up the money unless it was satisfied that the other interested parties would find their share, and it was therefore necessary to insist upon a guarantee from these parties. The guarantee should extend over a period of not less than five years to ensure the success of the scheme.

As far as the railways were concerned the scheme would come into effect as soon as possible, and there was no reason why the proposed public utility company should not function within the next few months.

DEVALUATION AND RAILWAY TRAFFIC.

The *Economist* writes:

The foreign tourist traffic, which is of such great economic importance to the Alpine countries, has been markedly affected this winter by the various devaluations of three months ago. Though detailed figures are not yet available, it is certain that the winter sports season as a whole has been good. France has benefited somewhat from an increase in transit traffic, and Switzerland has gained substantially at the expense of Austria. Swiss prices had already been cut in the deflation period; and the further reduction implied in devaluation consequently attracted to Switzerland many of the English tourists who had gone to Austria in the previous two years, when the shilling was depreciated and the Swiss franc still at par. At the same time, the devaluation of the Czech crown has diminished the number of Czechs going to Austria; and the German-Austrian agreement of last July has not yet been followed—owing to exchange difficulties—by any marked increase in the number of Germans going to Austria. Though Austria still remains popular with English tourists, therefore, there can be no doubt that the Austrian resorts must suffer from the loss of the currency advantage which they held in the last two years. One may hope that this loss will soon be made up by the steady growth, now apparent, in the traffic as a whole.

TRANSPORTATION COMMISSION FOR CANADA.

The Board of Railway Commissioners of Canada will in the next few weeks, become the Transportation Commission with its responsibilities enlarged to cover all transport facilities under the jurisdiction of the Government. For many years the Board has had jurisdiction over the railways, the Bell and British Columbia Telephone Companies and the Ottawa Street Railway on the question of rates, and has decided questions of freight and passenger rates, investigated railway accidents and level-crossing questions. In future, to these duties will be added the supervision of coast-wise and inland shipping rates. It is expected that the entire reorganisation will be the subject of legislation in the coming session.

LEGISLATIVE CHANGES IN NEW ZEALAND.

Consequent on the advent of Labour Government in New Zealand in 1935 considerable changes are reported in the administration and regulation of transport in that country. A Transport Licensing Amendment Act, 1936 has been passed which amends the earlier Act of 1931 and the Commercial Aircraft Services Act of 1934. According to this Act the Transport Co-ordination Board is abolished and the powers dealing with appeals from the licensing authorities proposing co-ordination and development of transport and licensing commercial air services are now vested with the Minister of Transport. A Government Railways Amendment Act of 1936 was also passed to carry out the government's policy regarding railway administration and development. This act has terminated the existence of the Railways Board and the responsibility for administration of the railways is placed in the hands of the Minister of Railways through the medium of the General Manager.

THE GERMAN STATE RAILWAY.

The German State Railways, the Reichsbahn under the Dawes plan of 1924 were operated by a Company worked as a commercial undertaking in the interest of efficiency subject to certain obligations as to the payment of reparations. The Company was administered by a Managing Board of 18 of which nine members were appointed by the German Government, 5 German members by the Reparations Trustee and 4 foreign members by the Reparations Trustee. A German Managing Director was also appointed. Under the Young plan of 1930 certain changes in the financial arrangements were made and an exclusively German management was effected. With the suspension of the reparations payment in 1932 Dr. Julius Dorp Muller was at first Deputy General Director of the Reichsbahn and later its General Manager and Chairman. He has now been appointed Minister of Transport but he will also continue to act as General Manager of the railways until a new form of railway organisation has been settled. Herr Hitler's statement towards the end of January foreshadowed some kind of re-organisation of the German State Railway in the direction of placing the Reichsbahn again unconditionally under the sovereignty of the German Reich.

INSTITUTE NEWS.

DERMOT FREDERICK WOODS.

(1882-1936).

Members of the Institute and the numerous friends of the late Mr. D. F. Woods would have learnt the news of his death with profound regret.

Dermot Frederick Woods joined the Barsi Light Railway as its Chief Auditor and Accountant on April 1, 1912. In 1919, he joined the G.I.P. Railway as Deputy Chief Auditor and Accountant. In 1926, he officiated as Chief Auditor. Three years later his services were permanently placed at the disposal of the Financial Commissioner, Railways, and he was appointed Dy. Chief Accounts Officer on the G.I.P. and later on the N.-W. Railway. He became Chief Accounts Officer on the N.-W. Railway in 1930. In 1931, he joined the E.B. Railway as its Chief Accounts Officer, and was at Calcutta for two years. In 1933 he was transferred again to the N.-W. Railway as the Chief Accounts Officer, a post which he held till his demise in December last.

Those who have had the pleasure of Mr. Wood's acquaintance know him as a man of simple habits, frank and outspoken temperament and a religious bent of mind. He was one of the Foundation Fellows of the Institute and took a great deal of interest in its work and activities as a Fellow of the Council. The present Journal owes its existence a great deal to his valuable collaboration during his stay at Calcutta as Chief Accounts Officer on the E.B. Railway when he gave his time, advice and help to the affairs of the Institute in a generous measure. The regret at the loss of so valuable a colleague to us in the Institute and to others outside is heightened by the fact that he was cut off while still in service with the prospect of some more years of useful work on the Indian Railways.

The Council at its meeting held on February 4, 1937, with President B. N. Mitra in the Chair, passed, while standing, that the following resolution be entered in the records of the Institute:

"The Institute of Railway Accountants and Auditors, having learnt with deep sorrow and regret of the death of Mr. D. F. Woods, the Council record their sense of the valuable services rendered by him to the Indian Railways and particularly to the Institute since its foundation, and request the Secretary to communicate to his family the expression of the sympathy and appreciation of his former associates and friends in the Institute."

The A.B. Railway Local Association.

The Members of the Institute on the Assam Bengal Railway have formed a Local Association of the Institute at Chittagong. Early this year the Council granted them permission to form a Local Association on that railway. Thanks to the initiative and work of Mr. J. H. Bavin, Fellow of the Council, the Association has already started its existence.

At a meeting held on May 1, 1937, the following Office bearers have been elected for the current year:

Chairman	..	Mr. J. H. Bavin, F. I. R. A.	
Vice-Chairman	..	„ S. R. Guha, M. I. R. A.	
Secretary	..	„ K. Ramachandran, A. M. I. R. A.	
Treasurer	..		
Librarian	..		
Other members of Committee	..	{ Mr. B. M. Dutta Gupta, A. M. I. R. A.	Ordinary Member.
		{ „ R. P. Ghosh	
		{ „ A. K. Shome	
		{ „ Hrishikesh— Bhattacharjee }	Affiliated Member.

The inaugural meeting of the Local Association was held on the 16th May, 1937, in the Indian Institute Hall, Chittagong, at 4.30 p.m., at which the Chairman entertained the members with tea and addressed the meeting. Mr. G. E. Cuffe, the Agent of the Assam Bengal Railway was present by invitation and also addressed the meeting. Already 45 affiliated members have been admitted to the Local Association so far.

Mr. Bavin, welcoming the guests and the members expressed the hope that some day they might help in furthering the knowledge of the members by consenting to deliver addresses on subjects connected with accountancy. He next detailed the constitution, aims and scope of the Institute of Railway Accountants and Auditors in India, and emphasised the necessity for promoting its growth. He could not say how anybody on earth can achieve success in his avocations unless he possesses ambition to rise in status and knowledge and works his way up accordingly. An efficient Accountant or Auditor would carefully study the principles of audit and accounts and of finance and statistics, strive to improve his knowledge of accounts from day to-day, stimulate in himself a higher sense of the importance of correct accounts and costs and of efficiency in compiling them, and assist and impart knowledge to those interested or engaged in the profession. The urge to secure these objects, a sort of feeling within, to strive to achieve something, is seldom realised if there is not that amount of interest in oneself which creates that urge and keeps it going. The primary object of the Local Association would be to promote that interest among its members which would help them to realise their ambition in equipping themselves as efficient members of

their profession, by arranging lectures and discussions at the quarterly meetings, by encouraging the production of original literature by members on subjects concerning their profession, and organising essay competitions and similar means. After making a personal reference to the unavoidable circumstances of his being the only Fellow of the Institute in that area eligible to be the Chairman of the Local Association and mentioning that in the meetings of the Association, he would be with the other members as a member and not in his official capacity, the Chairman concluded by thanking the Agent for his having accepted Honorary Membership of the Association and giving the members the pleasure of his company at the function.

Mr. G. E. Cuffe, Agent of the A.B. Railway then addressed the members. He said he was very glad to be able to attend the meeting but he had not come prepared for a speech. This was the only meeting at which members were likely to hear him speak at all, since, though as Agent, he had some knowledge in most branches of railway work, he knew very little of the science of Railway Accounts and Finance, and for that reason had the greatest of respect for those employed in the Audit and Accounts Department. He was quite sure that what Mr. Bavin had said of the value of discussions at quarterly meetings, could not be over-estimated. In the course of his tour he came across many people, each with some ideas to communicate to him. Though much of what he heard was either stale or impracticable, now and then, he heard something he did not know which was of use to him or provided the key to some solution. In the same way in the discussions at the meetings, members would benefit by the new ideas now and then put forth by their friends. Mr. Cuffe went on to say that the importance of possessing ambition which Mr. Bavin stressed particularly, was great. And he hoped that before long, through the work of that branch Association, the members will not be compelled to have Mr. Bavin as Chairman (Laughter) as there would be many other Fellows of the Institute at the locality from which to make a selection.

RAILWAY STATISTICS

TABLE I.—TEN DAYS APPROXIMATE GROSS EARNINGS OF ALL STATE-OWNED RAILWAYS

Period.	1935 (In lakhs of Rupees)	1936 (In lakhs of Rupees)
Ten days ending 10th October	2,44	2,39
Ten days ending 20th October	2,51	2,50
Eleven days ending 31st October	2,67	2,76
Ten days ending 10th November	2,45	2,52
Ten days ending 20th November	2,48	2,45
Ten days ending 30th November	2,61	2,71
Ten days ending 10th December	2,43	2,80
Ten days ending 20th December	2,63	2,81
Eleven days ending 31st December	2,88	3,31
Ten days ending 10th January, 1937	2,72	2,86
Ten days ending 20th January, 1937	2,63	2,98
Eleven days ending 31st January, 1937	3,01	3,30
Ten days ending 10th February, 1937	2,78	3,01
Ten days ending 20th February, 1937	2,91	2,90
Eight days ending 28th February, 1937	2,34	2,33
Ten days ending 10th March, 1937	2,74	3,06
Ten days ending 20th March, 1937	2,92	3,07
Ten days ending 30th March, 1937	2,78	2,84

TABLE II.—MONTHLY PROGRESS OF WORKING EXPENSES OF THE PRINCIPAL STATE-OWNED RAILWAYS.

(In Lakhs of Rupees).

Railway.	Up to September.		Up to October.		Up to November.		Up to December.		Up to January.		Up to February.		Up to March.	
	1935	1936	1935	1936	1935	1936	1935	1936	1936	1937	1936	1937	1936	1937
A.B.	..	59	56	64	74	72	84	80	92	88	1,00	96	1,14	1,12
B.N.	..	2,70	2,68	3,06	3,48	3,48	3,90	3,78	4,36	4,14	4,77	4,55	5,51	5,39
B.B. & C.I.	..	2,67	2,79	3,09	3,22	3,51	3,92	4,01	4,34	4,45	4,79	4,92	5,39	5,62
Burma	..	1,12	1,06	1,33	1,26	1,49	1,68	1,59	1,86	1,76	2,04	1,89	2,26	2,07
E.B.	..	1,91	1,81	2,12	2,16	2,39	2,67	2,72	2,95	3,01	3,23	3,32	3,66	3,74
E.I.	..	4,67	4,65	5,34	5,55	6,09	6,79	7,04	7,57	7,79	8,35	8,48	9,36	9,42
G.I.P.	..	3,35	3,37	3,88	3,87	4,41	4,97	4,90	5,57	5,43	6,16	5,99	6,90	6,72
M. & S.M.	..	1,75	1,74	2,06	2,03	2,32	2,57	2,52	2,87	2,79	3,14	3,06	3,48	3,36
N.W.	..	4,36	4,54	5,04	5,26	5,81	6,56	6,71	7,39	7,44	8,19	8,16	9,25	9,19
S.I.	..	1,35	1,37	1,59	1,61	1,83	2,04	2,04	2,23	2,20	2,44	2,41	2,78	2,70
Tirhoot and Lucknow Bareilly	..	38	38	45	44	51	57	55	64	61	69	68	85	83
Other Railways	..	12	12	13	13	15	18	19	20	21	21	22	26	27
Total	..	24,97	25,07	28,74	29,24	32,73	36,69	36,85	40,90	40,71	45,01	44,64	50,84	50,43

TABLE III.—PROGRESS OF UP-TO-DATE EARNINGS OF ALL THE PRINCIPAL STATE-OWNED RAILWAYS.
(IN LAKHS OF RUPEES).

Railway.	Total earnings for the period (ten days) ending.										Total earnings for the period (ten days) ending.				
	October					November					January				
	10th.	20th.	31st.	November 10th.	November 20th.	November 30th.	December 10th.	December 20th.	December 31st.	Year.	January 10th.	January 20th.	January 31st.	February 10th.	February 20th.
A.B.	79	84	87	94	99	104	108	113	117	1936	122	126	132	137	142
..	{ 1935	82	87	92	97	102	108	113	117	1937	128	133	139	144	150
B.N.	{ 1935	44	46	49	51	54	58	61	63	1936	62	65	71	73	78
..	{ 1936	41	44	46	48	50	54	57	59	1937	63	64	65	68	71
B.B. & C.I.	{ 1935	53	56	60	63	66	70	73	75	1936	82	86	89	91	95
..	{ 1936	56	59	62	65	68	71	74	76	1937	87	91	95	100	104
Burma	{ 1935	180	189	199	207	215	224	234	243	1936	262	273	285	297	309
..	{ 1936	179	187	197	206	215	224	234	243	1937	267	279	294	307	320
E.B.	{ 1935	255	271	289	306	323	339	354	370	1936	402	417	433	449	463
..	{ 1936	270	291	313	330	348	365	382	398	1937	430	451	468	488	504
E.I.	{ 1935	919	972	1028	1081	1130	1181	1230	1280	1936	1392	1443	1507	1564	1625
..	{ 1936	956	1011	1066	1118	1167	1220	1272	1325	1937	1448	1503	1572	1638	1699
G.I.P.	{ 1935	597	630	665	695	729	767	800	838	1936	920	960	1003	1043	1085
..	{ 1936	610	638	674	703	742	782	827	873	1937	976	1022	1069	1115	1153
M. & S.M.	{ 1935	343	360	377	394	411	427	442	462	1936	503	520	540	559	578
..	{ 1936	344	359	376	392	408	426	448	470	1937	518	539	560	580	596
N.W.	{ 1935	723	768	816	858	902	952	998	1047	1936	1145	1193	1246	1295	1346
..	{ 1936	767	813	867	914	967	1017	1073	1127	1937	1248	1308	1369	1429	1481
S.I.	{ 1935	272	286	300	312	324	337	349	362	1936	390	404	418	431	444
..	{ 1936	272	287	303	316	327	341	354	368	1937	397	412	427	440	454
Tirhoot and Luck.	{ 1935	93	97	102	107	113	118	124	129	1936	141	147	154	161	168
now Bareilly ..	{ 1936	100	106	111	117	122	127	134	139	1937	151	157	164	171	178
Other Railways ..	{ 1935	23	24	25	27	28	29	31	32	1936	35	36	38	39	41
..	{ 1936	24	25	26	28	30	31	33	34	1937	37	38	40	42	44
Total..	{ 1935	44,65	47,16	49,83	52,28	54,76	57,37	59,80	62,43	1936	68,03	70,66	73,67	76,45	79,36
..	{ 1936	45,87	48,37	51,13	53,69	56,14	58,85	61,77	64,58	1937	70,93	73,96	77,26	80,46	83,34

TABLE IV.—COMPARATIVE STATEMENT SHOWING THE PROGRESS OF UP-TO-DATE WAGON LOADINGS
ON CLASS I RAILWAYS.

Commodity.	Period ended.									
	October		November		December		January		February	
	10th.	20th.	10th.	20th.	10th.	20th.	10th.	20th.	10th.	20th.
Coal and Coke	514,133	543,461	575,408	604,413	632,846	663,271	692,303	723,385	756,716	787,65
..	{ 1935-36	534,297	562,759	588,332	615,986	665,658	694,771	721,671	752,570	787,65
..	{ 1936-37	386,584	406,855	427,256	444,352	478,778	495,354	512,413	534,674	555,572
Grain and Pulses	402,350	421,764	442,458	461,720	479,167	500,133	521,634	544,977	572,543	599,956
..	{ 1935-36	84,253	89,387	94,640	99,363	104,291	110,016	116,163	123,359	133,023
..	{ 1936-37	101,762	106,676	112,646	118,279	124,578	133,696	145,171	158,904	174,817
Oil-seeds	61,117	65,441	70,450	75,472	81,774	88,715	95,578	102,967	111,309	119,309
..	{ 1935-36	73,803	77,915	83,572	88,909	94,906	102,737	111,948	121,821	133,246
..	{ 1936-37	856,071	904,351	955,791	1,000,790	1,049,683	1,099,807	1,147,485	1,197,580	1,247,693
Miscellaneous Smalls	889,538	940,776	997,730	1,048,505	1,097,877	1,149,827	1,203,978	1,254,543	1,311,575	1,384,136
..	{ 1935-36	1,212,922	1,280,668	1,349,504	1,413,918	1,486,085	1,570,159	1,655,494	1,746,579	1,844,136
..	{ 1936-37	1,255,434	1,325,837	1,400,897	1,471,803	1,540,515	1,618,677	1,707,287	1,792,729	1,889,956
Miscellaneous full wagons	195,985	205,579	217,018	226,823	238,183	248,462	258,569	270,005	280,798	291,513
..	{ 1935-36	203,900	216,061	226,121	236,759	246,495	256,246	266,158	275,572	286,513
Home Line Stores and Materials.	203,900	216,061	226,121	236,759	246,495	256,246	266,158	275,572	286,513	291,513

60

TABLE IV.—COMPARATIVE STATEMENT SHOWING THE PROGRESS OF UP-TO-DATE WAGON LOADINGS ON CLASS I RAILWAYS—(Contd.)

Commodity.	Period ending.						
	January 10th.	January 20th.	January 31st.	February 10th.	February 20th.	February 28th.	March 30th.
Coal and Coke	790,824 { 1935-36 .. { 1936-37	817,325 810,863	853,355 848,871	885,852 885,454	919,746 922,025	950,066 949,869	1,007,765 1,020,027
Grain and	557,069 { 1935-36 .. { 1936-37	579,411 625,297	603,931 655,985	627,678 681,588	653,117 704,636	672,972 724,231	720,088 775,008
Oil-seeds	142,969 { 1935-36 .. { 1936-37	152,787 204,865	162,182 220,054	169,546 229,347	176,175 236,052	182,568 241,045	197,269 255,933
Cotton	119,086 { 1935-36 .. { 1936-37	126,520 154,200	134,645 165,110	142,760 174,737	151,206 182,372	158,442 187,552	173,028 202,961
Miscellaneous Smalls	1,295,448 { 1935-36 .. { 1936-37	1,342,869 1,416,713	1,396,167 1,475,726	1,444,246 1,529,029	1,496,513 1,579,986	1,541,992 1,620,957	1,637,869 1,728,298
Miscellaneous full wagons	1,939,089 { 1935-36 .. { 1936-37	2,032,824 2,079,756	2,135,519 2,187,470	2,227,748 2,285,602	2,323,827 2,385,354	2,407,961 2,463,784	2,594,893 2,666,547
Home Line Stores and Materials.	292,434 { 1935-36 .. { 1936-37	302,468 305,647	315,323 317,909	325,639 328,928	338,247 341,938	349,622 351,578	370,705 387,959

CURRENT PERIODICALS.

Modern Transport, 1936—

- October, 10.—*Financial Practice of British Railways*, W. V. Wood, p. 7.
- October, 24.—*Road Transport Statistics*, A. E. Kirkus, p. 6; *Transport and Fuel*, Sir Phillip Dawson, p. 11.
- October, 31.—*Transport Control and Organisation*, George Cadbury, p. 3; *The Working Results of the "Silver Jubilee"*, Sir Nigel Gresley, p. 7; *The Origin of Transport Charges*, G. F. Billbrough, p. 12.
- December, 5.—*Advantages of Streamlining*, p. 2; *London Passenger Transport Past and Present*, Frank Pick, p. 3.
- December, 12.—*Government Control in New Zealand*, p. 2; *London Transport Fifty Years Hence*, Frank Pick, p. 4.
- December, 19.—*Transport and the User: Freedom of Choice for the Trader*, W. H. Gaunt, p. 3.

Modern Transport, 1937—

- January, 2.—*Transport and the User*, Mr. W. V. Wood, p. 7.
- January, 9.—*Progress of Transport Co-ordination*, Gleeson E. Robinson, p. 7.
- January, 16.—*Road-Rail Co-ordination—an International Survey*, Louis Delanney, p. 7; *Argentine Transport Bill*, p. 10; *Transport and Industry*, p. 16.
- January, 23.—*High-Speed Train Operation*, Sir Nigel Gresley, p. 3; *New Methods in Trailer Manufacture*, p. 12.
- February, 6.—*Reduced Expenditure on U.S.A. Railroads*, p. 7.
- February, 13.—*Transport and Distribution of Coal*, C.E.R. Sherrington, p. 3; *New Methods in Ticket-issuing*, p. 8.

Railway Age, Vol. 101.

Management's Four-fold task, N. W. Clement, p. 517; *Profit and loss in Scrap Handling Operations charge is reasonable*, p. 563; *Water Supply: A large factor in Economical Train Operation*, F. P. Turner, p. 586; *Railroads and Recovery*, p. 613; *Salesmanship and its bearing on Railroad Transportation*, T. W. Evans, p. 640; *The Best Jobs which Modern Industry affords*, p. 651; *Why Business opinion is moulded*, Fitz Gerald Hall, p. 655; *Essentials of the Service of supply*, A. L. Sorensen, p. 753; *Railway Purchasing: A problem in co-operation*, V. K. Hall, p. 787; *Personal-Suggestion Department*, H. T. Doughty, p. 794; *Average per Diem Plan Saves 12 million per year*, p. 797; *Railway Ownership of Motor Transport Companies*, p. 799; *Renaissance of Railroad*, Samuel O. Dunn, p. 814; *What are the lowest Railway Wages*, p. 833; *Means used to boost efficiency*, L. A. Downs, p. 868.

Vol. 102.—

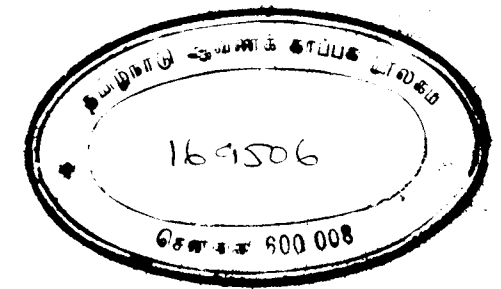
A Review of Railway Operations in 1936, Dr. Julius H. Parmelee, p. 4; *The Outlook for 1937*, E. T. Howson, p. 12; *1936—A Year of Outstanding Traffic Developments*, R. A. Doster, p. 16; *The Second Year of the A.A.R.*, H. F. Lane, p. 21; *Financial Outlook Is Improving*, J. G. Lynn, p. 38; *Equipment Prices*, p. 44; *Commerce Body Hits "Make Work" Bills*, p. 112; *Is Truck Regulation a Failure?*, S. W. Fairweather, p. 122; *Air Conditioning of Railroad Passenger Cars*, p. 146; *Railroads Ask Rate Decisions by Commodity Groups*, p. 153; *Freight Car Loading*, p. 154; *See Yourself as Your Passenger Sees You*, Clarke A. Richards, p. 217; *How Strong Should Track Be?* A. N. Reece, p. 223; *Reorganization Plan Arouses Opposition*, p. 226; *Transportation Industry in State of Siege*, p. 230; *Scrap Handling and Reclamation Big Business on Pennsylvania*, p. 254; *Performance of High-Speed Trains on the Burlington*, p. 259; *Six-Hour Law Would Mean Confiscation*, p. 260; *Average Freight Transportation Cost*, p. 297; *Research Results in Steam Railway Transport*, L. W. Wallace, p. 325; *How Higher Farm Income Boost Industrial Traffic*, p. 394.

Journal Institute of Transport.—

November, p. 21.—*Some Aspects of Railway Finance*, W. V. Wood.

The National Geographic Magazine, Vol. LXX, No. 5.

November, 1936.—*Trains of To-day—and To-morrow*, J. R. Hildebrand, p. 535.



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