

Electric Railway Journal

Consolidation of *Street Railway Journal* and *Electric Railway Review*

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Public Function of Railway Emphasized at Conference

THE midyear meeting of 1921 has passed into history. The wisdom of the selection of Chicago as the convention city was shown by the large attendance, although it is probable that there would have been a great many delegates present even at a city less accessible because of the great interest felt in the topics which made up the program. The conference reflected a feeling of confidence that each succeeding month will bring the condition of the electric railways nearer to that sound basis which is necessary for the good of the communities served. Obviously the discussion of the reports of the federal commission and the Chamber of Commerce committee in the afternoon emphasized the public nature of railway operation and the need on the part of the public for a clearer perception of its status. The public must understand that the business differs radically in its nature and in its possible profits from that of an industrial or mercantile enterprise. It is performing a public duty though under private management. This conception of the railway and its function is now generally accepted within the industry, but only faintly understood outside except where it has been particularly emphasized by some such action as that wherein the state has assumed responsibility for continued operation or where service-at-cost franchises are in force. But it is true, no matter what the franchises may be, and the principal work before the industry at present is to spread this thought and then to bring about a condition by virtue of which the capital necessary to furnish the required facilities will be provided.

How Can the Railways Solve the Financing Problem?

ALL WHO could attend the Chicago conference, and all who have had an opportunity to read the papers presented there, must admire the frank and clear presentation of the subjects by the various speakers. At this writing, which is early in the week and before the conference, no reflection of the association's discussion or action can be made. But, thanks to the commendable policy of printing and distributing the formal addresses long enough beforehand to encourage discussion at the conference, these addresses are available for comment now.

It seems somewhat trite to repeat the statement that the industry's financing is in a serious condition, and that a discussion of "Electric Railway Financing" is timely for the industry even though not new. But it is pertinent to point out that the inter-relation of the problems of financing and of the furnishing of adequate transportation to the public—the only real reason for the existence of the electric railway—is so strong and so close that a complete setting forth of the situation as at Chicago is well worth while.

The addresses presented, showing as they do both past

and present phases of financing, form a composite picture which should be considered as a whole to see the effect one element has on each other. The turn of the railway business from a private construction and pioneering, and actually risky, business into a recognized essential service has changed the situation. The risk is not yet gone, but the speculative feature has been largely eliminated. Necessary as early day financing methods may have been in order to develop the electric railway, the present day problem is the one to be met.

The subject as presented divides into two general classes—the marketing of senior securities and the marketing of junior securities. Both problems are serious in that, as both Mr. Shrader and Mr. Corey point out, the industry as a whole is topheavy with senior securities. Mr. Corey says a 35 per cent to 40 per cent interest payment is conservative, 75 per cent impossible. The senior security market demands that the debt be a smaller part of the total capitalization. New money won't come in through junior securities to create new capital merely to improve the bond market. The depreciated physical property must be maintained—be brought back to a satisfactory condition—in order to build up the security for the bonds, even. To do this, as is well known, more net revenue must be obtained. Better service with present equipment, merchandising, more transportation, increased operating economies, all these will help. A fare which is really reasonable must be maintained and the public must further do its part to assist in making the service really economical through elimination of irrelevant costs.

But there are some things which the railways can do in the financing program. The speakers call the present financial structure a patchwork and say it must sooner or later be recast. It seems pertinent to inquire, "If eventually, why not now?" An understandable financial scheme is conducive to success in home-town financing. As Mr. Way well says, this is a new kind of business as conducted today, a thing for the railways themselves to undertake. He also says that this can, however, only help, not solve. From the standpoint of supplying all the money for junior financing, this may be true, but successful home-town financing has a far greater effect than the immediate supplying of money. The community's continued interest, practically assured by its purchase of securities in any considerable quantity, is a strong producer of confidence in the man at a distance who is solicited for the purchase of similar securities.

Finally, direct municipal aid is suggested. This seems to be too impersonal. The difference between that and municipal ownership is not great and, except in proportion to the actual benefits received by the city as a whole, is difficult to substantiate. Mr. Traylor's suggestion is practically a modified service-at-cost arrangement with sliding scales for rates, employees and capital. This is a form of franchise, but yet does not solve the financing. It is an aid in the sale of capital shares, which is the problem of the industry today.

Fares and Other Factors in Traffic Growth

IN THESE days of changing business conditions, changing fares and changes in traffic, there is danger that incorrect deductions will be drawn of the reason for variations in the number of passengers carried. As we have said before, a change in fare is many times an important factor in determining the amount of business done by an electric railway, but it is not the only factor and in many cases it is not the most important factor. For this reason the experience in one city with a change of fare is not an unerring guide to the results which may be expected from the same increase in another city.

One company in a small city which was anxious to know exactly what the effect on its traffic would be from different fares received the following advice from a consulting engineer:

"Run one typical day absolutely free, merely registering the traffic for the sake of the passenger count. Charge a fare of 1 cent the second day, 2 cents the third day, 2½ or 3 cents the fourth day, 4 cents the fifth day, and so on until you have reached a prohibitive maximum. By that means you will learn how many people really can make use of your facilities under known weather and industrial conditions, and you will have a firm foundation for trials of cash fares, ticket fares, off-peak fares, unlimited ride tickets, etc."

We are sorry the client did not have the courage to try this step, although we acknowledge such rapid changes in fare would have been rather demoralizing for the public and a not very satisfactory means of determining the critical fare, as the public are not automatons. Undoubtedly the free day would have developed a large number of short distance riders, just as the ordinary person will use an elevator to descend two or three flights of stairs when it is just about as easy and quick to walk. But this does not mean that such a rider is a possible patron if any charge is made for a ride. This is one reason why the plan of free railways, as recommended by Mr. Bauer of Lynn is not practicable. The cars would be so crowded by those who did not need to ride as to keep off those to whom transportation is a necessity. This difficulty actually arose at Glasgow, where the halfpenny riders crowded off those who really needed the service.

Now let us consider the second point made, *i.e.*, that the fare is by no means the only factor in causing traffic changes. The truth of this proposition is just as important as that first mentioned, but is probably not so generally understood. Nevertheless, there are many examples of cities where increased service and short headway by one-man cars or some other means has greatly increased the traffic, even in spite of an increased fare. Terre Haute is a good and well-known example. Another is shown by the way in which patronage seems immediately to come to every new rapid transit line developed in New York. The greater part of this traffic is not diverted, to all appearances, from parallel lines, but represents the readjustment of transportation conditions throughout the metropolitan district; that is to say, residents flow into the territory served because transportation is available.

A factor in traffic growth too much neglected in the past is the way in which transportation is merchandised. If the public can be made to realize that transportation is a money saver to them or in other ways is advantageous, and particularly if the "riding habit" can be

developed, there will be an increase in the riding from that cause alone, independent of any reduction in fare. This has really been the main thought back of the sale of unlimited ride tickets where they have been installed. The price set has been based usually upon a daily use of the ticket at least three times; that is to say, a passenger who rode only three times a day would not save money, but every ride beyond that number would be practically without charge. The company therefore gained partly by stimulating rides (usually in the off-peak hours) which the holder would otherwise not have taken and partly by encouraging him and others in the riding habit.

The Canadian Association Emerges from Its Seclusion

THE Canadian Electric Railway Association has previously been a somewhat close corporation, as it had a perfect right to be. At the recent Ottawa convention, however, a new policy was inaugurated. Supply men and other erstwhile outsiders were invited to attend the convention, to take part in its proceedings and to join the association through the companies with which they are affiliated. The result was very satisfactory and, to judge from the comments of men who had attended many meetings, the Ottawa "guests," as all newcomers were designated, formed a distinct addition to the convention. The electric railway industry in Canada will benefit by the inauguration of the new policy and the railway companies in the United States will follow with greater interest than ever the proceedings of the meetings of their brethren across the international boundary.

The Ottawa meeting was unique in more than one particular, but an outstanding feature was the fine spirit which existed, and was manifested, between the representatives of the public and the managers of the privately owned and privately operated electric railways. Canada is, of course, the home of more municipal electric railways than the United States, measured numerically, and relatively they are still more in evidence. When Toronto takes over its railway system, which will presumably be next fall, the municipally operated mileage in the Dominion will be considerable. Hence it is highly important for the Canadian Association to keep in close touch with this phase of the industry's development. The election of H. H. Couzens, of the Toronto Transportation Commission, to the executive committee shows that this fact is appreciated.

The discussion at Ottawa demonstrated very clearly the gain that is possible through close co-operation between the public, through its representatives, and the companies. Take, for example, the matter of traffic regulation, a topic which attracted several police chiefs to the convention. While the paper on this subject actually was not discussed, the guardians of the peace and of the public safety could not but get somewhat of the electric railway aspect of the problems which confront them jointly. Another example was service at cost. Montreal is getting good tramway service at cost from a privately owned and operated property; Toronto is to get the same thing from one publicly owned and operated. Attendants at the meeting who heard Mr. Couzens, Col. J. E. Hutcheson of the Montreal Tramways, Dr. L. A. Herdt of the Montreal Tramways Commission and others discuss this subject from all points of view could readily see that, granted the service-at-cost principle, it matters little who sits

in the front office provided politics is eliminated and first-class operating talent is employed. It is particularly urgent in Canada that the essential unity of the industry be recognized so that the development of antagonistic camps be not permitted. The association will be a powerful factor to this end.

Engineering Opinion Should Be Free from Prejudice

AT A RECENT meeting of an important committee of the Engineering Association the effect on technical progress of one-sided views held by some engineers was brought out forcibly. The point was that men are apt to think highly or otherwise of a thing or a practice because with them it may respectively have succeeded or failed. Such short-sighted reasoning, or lack of it, is contrary to the standards of engineering thought. It often happens that some particular device or a given procedure is adopted practically by accident. A good salesman drops in and puts up a convincing argument in favor of something that he is pushing; or urgent necessity compels the trying out of some new "stunt" to accomplish a desired end. This is all right as far as it goes, but it does not go far enough. The real engineer realizes the importance of an all-round knowledge of every proposition for which he is responsible.

It is just here that the committee work of the Engineering Association is most effective. Generally speaking, its standards, recommended practices, and specifications are prepared in the light of rather full knowledge. It is the part of wisdom for the members to be familiar with and to apply the results of this constructive work.

Farmers Indorse Electric Freight Transportation

TRANSPORTATION service is the only commodity which the ordinary railway has for sale. For any commodity to be salable it must be right in kind, quality and cost. Some electric railways now offer several kinds of transportation service for sale, but the industry as a whole has pinned its hopes, too exclusively on the service of transporting passengers.

That people do want other kinds of transportation service and are willing to fight tooth and nail to obtain it was evidenced last summer by the activities of the Indiana Federation of Farmers' Associations in securing the special legislation necessary in order that the interurban railways of the State might haul live stock over tracks on city streets. These activities resulted from the appreciation of the farmers of the quality of the live-stock transportation service that the electric railways could offer. One of the large sources of loss to the live-stock shipper is the reduction in weight which animals undergo when in transit for any extended period. When one of the interurban railways of the State showed that it could load a car of live stock and deliver it at a depot stockyard nearly 50 miles away in about two hours and a half and, further, that arrangements for such a shipment could be put through in twenty-four hours or less the farmers of the State began to be interested. On the steam roads the corresponding transit time was from one to two days and it usually took a week to make arrangements and secure the necessary car space. The electric service was also much superior to motor truck service both in speed and cost.

When it was found that the service could not be extended to other lines because of statute limitations the farmers' organizations proceeded to have the limitations

removed, even going to the extent of forcing attention to the matter at a special meeting of the Legislature, which had been called together to consider other matters. The farmers fought for something which was of value to them, but their action benefited the railways also.

Practically every community has undeveloped transportation service possibilities within its midst. It is up to the electric railway, as the biggest local transportation service merchant, to develop and sell this service. But in the development and sale of the service mutual benefit must arise. By and large the public will cooperate with any honest and useful industry, but it will not do all of the co-operating.

One Indisputable Field for the Bus

FUR and feathers will fly thick and fast during the coming year or two between the advocates of rail and rail-less transportation, particularly as the automotive interests have discovered that the public utility field is one well worth going after even if its demands are not going to be measured in millions of units. We hope and expect that the discussions will be within the bounds of good sense and good taste, for, as the somewhat late Sir Roger de Coverley so sagely remarked, "There is much to be said on both sides."

There surely is room for legitimate differences of opinion where the cold figures alone do not tell all the story. We may prove to a certainty that an electric railway need charge only a 7-cent fare for a certain service, when along comes an experienced bus operator who charges 10 cents, but gets the business because he has introduced the new element of superior speed. So, too, at the top of the traffic scale, we might figure that half a dozen parallel bus lines as regards initial investment would be cheaper than an equivalent capacity of underground or elevated railways, but we cannot doubt that the unhampered track transportation would be most satisfying to the public because of the same element, namely, speed.

An example of the indisputable superiority of one kind of transport over the other at the bottom of the traffic scale is afforded by the small bus lines that reach out over trackless highways from some market town to the villages and farms within, say, two hours' ride. In the old days some promoter would have seized upon such situations to build an electric railway that could not possibly pay. Today one, two or three buses a day suffice for a beginning, and no great harm is done if the district does not make good, because the bus simply heads for new fields to conquer. The local electric railway does not suffer a bit. On the contrary, the buses bring new buyers into the town. In one city of 40,000 seven lines operated by as many owners bring 150 to 300 people into town every day for business or pleasure—the latter aspect being proved by the enlarged traffic on Saturday nights, when the "hired man" and his best girl want to see another installment of the "Lucubrations of Lulu" or some other movie epic. In this particular city the buses used to make a nuisance of themselves by using the downtown public highway as garages. When the City Council ordered them off, the Chamber of Commerce went to the trouble of renting a waiting room and terminal space in the firm determination that they would keep their visitors from the mail order house and the stereoscope. Today this building is self-supporting.

As already noted, such a bus service is a benefit and not an injury to the local electric railway. The only

question that arises is whether the railway itself ought not to develop and co-ordinate services of this kind. It will be observed that while there are seven different routes, each is so small that it is really a personally conducted affair of but one to three machines apiece. Perhaps, if all the buses were of one type and handled from one garage, fares could be a bit lower, service more reliable and better provision made for fluctuations in traffic. From a study of the results of small motor bus operation elsewhere, however, it seems probable that the time for company operation becomes ripe when the driving is done by an employee instead of by the owner himself or by some member of his family. In any event, there are already hundreds if not thousands of such services in the United States, and their development is worth watching by the more experienced railway man, who realizes that the only logical trend is toward the operation of all mass or popular transport under one direction.

Car Cards Should Be Used for Merchandising Transportation

THAT the advertising racks in the street cars are one of the best existing mediums of advertising has long been recognized by national advertisers. Local merchants in the territory served are also fast becoming acquainted with the value of this medium. Why, then, do so many railways sell all this space and then spend large amounts for display advertising in other mediums that do not have anywhere near the circulation that can be reached daily by its own cars?

Space in newspapers lasts only for the day of issue, and it is impossible to reach every one thoroughly by a single display advertisement. Many people who read the daily papers also fail to read the advertisements, no matter how much time has been spent in setting them up in an attractive manner. As a general rule, however, while on the cars passengers have nothing to keep their minds thoroughly engaged, and it is but natural that the car ads attract their attention. Moreover, they are reached during the period when they are using transportation and hence when their minds are open to constructive suggestions or transportation policies and improvements.

Of late some companies have begun to realize what a successful advertising medium they actually have in the cars and have stuck posters on the windows, hung fliers to the strap rail, or tacked cards in the bulkheads when wishing to tell their patrons about a change in service, rerouting, or fare schedules. But permanent racks are better, as temporary notices often mar the car finish and always last a short time only and cause a litter of paper.

Companies are not urged to abandon newspaper advertising entirely but to consider the merits for their particular kind of notices of car cards and then, when advertising contracts are being renewed, to be in a position to say whether or not space shall be reserved in the advertising racks for the sole use of the company.

Keeping up the "Per Cent Condition" of the Pole Line

A POLE line, like everything else, is new but once; to borrow an expression from the vocabulary of the appraisal engineer, it has "100 per cent condition" only once in its life. If it receives no replacements or reinforcements and is fortunate enough to keep out of the way of stray cyclones its per cent condition decreases year by year, slowly at first and with increasing rapidity until it reaches the low level of 40 or 50 per cent, at about which time it can no longer be operated safely. By a proper system of replacement or reinforcements, however, the per cent condition can be maintained indefinitely at some safe operating figure, say between 70 and 90 per cent. Today proper maintenance furnishes one of the big problems of the pole-using public utilities.

By far the greater number of wooden pole lines in this country have been built within the past twenty years and many of them have reached the age where the per cent condition is beginning to decrease rapidly. Most of the poles in these lines have been set without preservative treatment to ward off that chief enemy of the wooden pole, decay. Where decay has not progressed too far the life of the pole can be prolonged by digging away the earth near the ground line, removing the diseased wood, drying the healthy wood and administering a couple of coats of preservative with a brush. Concrete reinforcement is in considerable favor and concrete butts to which the pole is clamped above ground line have been used also. Some companies follow a definite scheme of replacement, replacing, say, every eighth or tenth pole each year, but making no attempt to prolong the life of the poles except by using preservatives on the new pole used for replacement.

The distribution man is often in a quandary as to just which is the best method to follow. As a matter of fact, no one method is best for all conditions of service, soil and climate. All of the methods of prolonging the life of a pole after it has been set are more or less expensive. Brush treatment of such a pole costs from \$4 to \$10. There is no question but that proper brush treatment does prolong the life of the pole. Likewise, while it is extremely doubtful if the concrete jackets prevent decay there is no doubt but that they strengthen the pole where it has been weakened and therefore prolong its useful life. The all-important question is, do they prolong pole life enough to be worth while? The answer again depends on local conditions. With anchor poles, poles carrying a heavy load or other cases where the cost of a new

pole is only a part, and sometimes a small part, of the total replacement charge the expenditure of a considerable sum of money for reinforcing can be justified. With small poles carrying light loads the economy of reinforcement methods may be problematical. In any event, the problem of pole maintenance is important now, when plans for next summer's maintenance work should be under way.

Quotation from the Federal Electric Railways Commission Report

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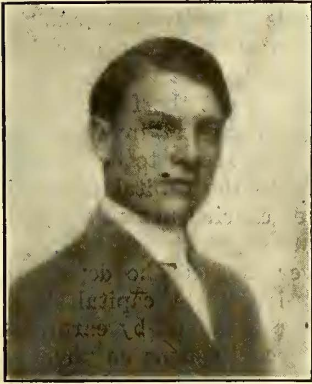
RESTORATION of credit involves a readjustment of relations which will remove public antagonism, provide public co-operation and insure to the investor the integrity of his investment and a fair rate of return thereon.

Effective public co-operation should be exercised by eliminating, in so far as it is practicable, special assessments for sprinkling, paving and for the construction and maintenance of bridges which are used by the public for highway purposes.

Symposium on Electric Railway Finance*

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The Subject Matter of the Chicago Conference Papers Shows How Railways Early Outgrew Local Stock Financing and Sought Loans to Build Extensions; How the Investors Demanded Protection Leading to the Present Requirements for Mortgage Bonds; How Financing by Share Capital Requires Good Margin Over Bond Interest, and How Municipal Aid Can Be Enlisted to Restore the Functioning of Local Transportation Systems to Prevent Community Strangulation

THE technical papers read at the morning session of the midyear conference of the American Electric Railway Association, held in Chicago on Feb. 10, related entirely to "electric railway financing." The program for the meeting had been arranged by the committee on subjects, of which James D. Mortimer is chairman, and an introductory statement was read by him.

Mr. Mortimer explained that this topic was selected because there appears to be none of greater importance to the industry at the moment. The inquiry conducted by the Federal Electric Railways Commission has tended to clear the atmosphere and make such a subject especially pertinent. This report should give satisfaction to every person, no matter what his viewpoint, with the possible exception of the public ownership advocate. The commission advises that capitalization when exceeding fair value should be reduced. The right of labor to "bargain collectively" was supported by the commission and the recognized principle of the right of capital to a reasonable and stable return was enunciated. Methods of attaining these ends were discussed by the commission and the way left open for each company and each community to solve their problems according to their respective abilities.

At present the experienced investor shudders when he is offered traction securities. They have almost ceased to be evidences of ownership and the volume of sales is negligible. Most of the trading is done by exchanging bonds or notes for a receipt issued by some reorganization committee.

These facts are as well known to the investing public and the investment bankers as they are to the people in the industry. We are looking for light on

what the industry should do to reclaim itself and for that reason have asked those experienced in the manufacture and sale of electric railway securities to tell us what must be done to rehabilitate railway credit. With credit the companies can get money and with money they can improve and extend their properties and minimize walking and vehicular and other forms of competition. Without money the industry moves backward.

Mr. Mortimer then referred briefly to each paper scheduled. He pointed out that that by Mr. Fogarty is of the nature of history, but history often serves as a guide for future conduct, and many of the errors in early financing arose from inability to forecast the future. For this reason alone Mr. Fogarty's contribution should be valuable, even in the improbable event that the summary of historical practices should prove uninforming.

The task assigned to Mr. Shrader to define the present day requirements for mortgage securities to be readily salable is a difficult one with little or no market for traction securities at present. But Mr. Shrader has been able to give the factors of safety and requirements for stable earnings, and finds that these are really no more severe than those obtaining in respect to other public utility issues. As comparatively few railway companies could meet these requirements, however, it follows that few companies can finance capital improvements even if there were no investors' prejudice.

MUTUAL OWNERSHIP

In connection with Mr. Way's paper Mr. Mortimer pointed out that the investment field at home for utility securities is limitless in its ultimate possibilities, and the improvement in public relations in a few years that followed the sale of a substantial amount of safe securities in the communities served is marked. The

*Abstracts of papers presented at the midyear conference of the American Electric Railway Association, held at the Drake Hotel, Chicago, on Feb. 10, 1921.

direct sale of ideas is difficult. The indirect sale of ideas accompanying the direct sale of goods or securities is comparatively easy. The rules of the large investment houses in the sale of securities do not apply as a whole to this new field. The attitude of mind of the prospective investor does not correspond to that of the experienced client of the investment security house. The typical tabular statement of security characteristics, now standard in financial advertising, is not intelligible to this new class of investor. As a rule, long-time investments are not desired, and ability quickly to reconvert the investment into cash without loss is essential. Mr. Mortimer explained that the field is fertile, yet one where the greatest care must be exercised to avoid both actual and imaginary losses.

SHARE CAPITAL FINANCING

In connection with Mr. Corey's paper, Mr. Mortimer pointed out that Mr. Corey had developed a vital point in electric railway finance, in view of the fact that electric railways are largely owned now by their creditors. The new capital put into the industry during the last fifteen years, represented by shares of stock, is very small. The proportion of debt to the total investment has continued to increase, but the rate of increase has been less during the last eight or ten years than in the previous five or seven years. This decrease in the rate of increase of debt has been due in part to the inability to sell any kind of capital securities, and if the investing public will not purchase the interest bearing securities of the industry how can investors be expected to purchase junior securities, such as preferred shares and common shares? If a part of the new capital must be provided by the sale of capital shares, Mr. Mortimer said, it follows that financial reorganizations are necessary in a great many cases before the credit of the industry as a whole can be restored. This conclusion seems to be implied in Mr. Corey's discussion.

PUBLIC AID

Mr. Traylor's paper outlines the various forms of public aid, from desirable favorable public opinion to necessary public ownership. If the politicians do not face the facts and adopt the solution which such facts suggest they will have a far more serious difficulty on their hands in taking care of the problems of publicly owned utilities. They will lose a good political issue and at the same time have to carry the responsibility for inadequate street car service. As Mr. Traylor suggests, the disease will cure itself in time if the industry can survive during the period of treatment.

ARE FINANCIAL REORGANIZATIONS NECESSARY?

In conclusion Mr. Mortimer says:

These several addresses all lead up to the question, "Are financial reorganizations necessary?" The question can be answered in either of two ways, except in the cases of those companies now undergoing the process of adjustment of their capital securities. It can be answered generally in the negative if we are to be satisfied with a policy of no expansion and a repetition of the experiences of the last ten years. It will have to be answered generally in the affirmative if the implied conclusions of the Federal Electric Railways Commission are accepted and if the credit of the industry is to be completely rehabilitated. Partly because of the comparative ease in answering the question and partly because of the short time available for a relatively long program, formal discussion of this query was abandoned by the committee on subjects.

Previous Methods of Railway Finance

An Outline of the Financing Methods Used from the Horse Car Days to the Present Time, with Comments as to Future Financial Methods with Guaranteed Returns on Fixed Values.

By JAMES F. FOGARTY

Secretary the North American Company

THREE decades have passed since electricity first succeeded the horse and cable as motive power in the field of street railway transportation. Not only has the old motive power been supplanted but there remains relatively little of the old plant except the franchise in some few cases. The amount of capital invested has greatly increased, but the business seems to be far less profitable today, in proportion to the capital invested, than it was when motive power carried names and had dams and sires.

The advent of electric power marked the departure from the practice of financing largely by capital stock, owned by a comparatively few people, and by earnings. It meant that the creation of security liens on physical property with a wider distribution of ownership came into prominence. Large sums of money were spent to bring about unified urban systems, successful independent lines and routes had to be purchased, electricity was substituted for horse and cable, new franchises were needed, and these contained expensive restrictions and provisions. Each successive step in the development was attended by large equity losses in discarded property, entailed substantial expenditures for replacements and additions and rendered necessary unceasing effort to procure capital under perplexing and changing conditions, made difficult by growing competition for funds from other fields. It is not surprising, therefore, that there were erected many financial structures which subsequently collapsed under their cumulative burdens.

The necessity of large future capital expenditures had not been clearly foreseen in the infant stages, and the early bond issues were almost invariably limited to small authorized amounts, exhausted before much progress had been achieved in development, as measured by present-day standards. When the era of consolidation was reached, therefore, there were outstanding closed mortgage obligations for which provision had to be made in addition to financing the costs of consolidation and further extensions of property. Out of this condition there came the refunding bond, of lien junior to the original or underlying issues, chiefly a second mortgage. By virtue of its character, the salability of such a security was more limited, and it became necessary to

JAMES F. FOGARTY, secretary the North American Company, New York City, has been connected with that company for the past eighteen years. He entered the New York office in 1903. In 1910 he was appointed assistant secretary of the North American Company and the Milwaukee Electric Railway & Light Company, and in 1911 was made secretary and assistant treasurer of both of these companies. Soon after, he also became assistant treasurer of the Union Electric Light & Power Company, St. Louis, and the Wisconsin Gas & Electric Company, both subsidiaries of the North American Company. In 1915 he became secretary of the Detroit Edison Company. Mr. Fogarty is a student of financial plans and as such has given much thought to the problems of the public utility company, particularly as to reorganization plans. At the 1914 convention of the American Electric Railway Accountants Association he presented a paper entitled "The Accounting Treatment of Bond Discount," which has since become an authority on that important subject.

issue additional amounts of preferred and common stock as inducements to prospective purchasers.

The early years of the period 1890 to 1900 were marked by feverish intensity of promotions, consolidations and electrification, and the ensuing general business depression, which reached its maximum in 1897, was the forerunner of the first important traction reorganizations. The rebound which followed was accompanied by the lowest interest rates in the history of the industry, inducing rapid expansion and the development of interurban lines.

Various means were employed to effect amalgamations of financial structures as well as physical consolidations of separate lines. Refunding mortgages were created and by the deposit of escrow bonds of underlying issues became partial first lien. Collateral trust issues found markets abroad and large amounts of English and German capital were invested in these securities. Preferred and common stocks were issued to equalize differences in earning power of the various lines, acquire control and to provide equity not contributed through the sale of bonds. In the early '90s the holding company appeared, in some cases confined to the control of a single system, in others of several systems. It afforded a practical method of pooling interests and played an important part in centralizing control of properties later actually consolidated or leased under guarantees of fixed returns.

Measured by the standards of "cost of reproduction new," there is no doubt that the unified systems at first were overcapitalized, but measured by actual cost and benefits derived by the communities from the consolidated facilities the resultant capitalization, generally speaking, was not excessive.

Among the first of the electric railway consolidations was that in Milwaukee. There, also, occurred one of the first receiverships of a consolidated system and the first attempt to appraise and recognize consolidation costs. W. J. Clark of the General Electric Company, in testifying on the then reproduction cost as compared with cost investment of earlier years, stated:

Probably on no large electric street railway system in the United States is there the necessity to charge off to depreciation so large a percentage of its original cost as in Milwaukee. The system having been constructed at an early period of electric railway development, when everything necessary to construction and equipment was far higher in price than at present, the company has naturally to meet a great shrinkage in values from decline in cost prices alone, while depreciation arising from usage has proved to be far greater than was estimated upon even as recently as two years ago. From the above two sources, neither of which could be estimated, appreciated or anticipated, it is safe to say that there has been an average shrinkage from the original costs on all of the company's physical property, outside of real estate and buildings, of more than 50 per cent.

Of that case, Judge Seaman of the federal court said:

. . . I am satisfied that the property of complainant represents a value, based solely upon the cost of reproduc-

tion, exceeding \$5,000,000. And I am further satisfied that this amount is not the true measure of the value of the investment in the enterprise. It leaves out of consideration any allowance for necessary and reasonable investment in purchase of the old lines and equipments, which were indispensable to the contemplated improvement, but of which a large part was of such nature that it does not count in the final inventory. No allowance enters in for the large investment arising out of the then comparatively new state of the art . . . I am clearly of the opinion that at least \$2,000,000 of those preliminary expenditures is entitled to equitable consideration, as so invested, beyond the reproduction value . . .

This evidence is an illustration of the costs which are attendant upon consolidation and the methods of financing them.

Restoration of confidence in electric railway securities followed the business revival after the depression of 1897. Cheap money made refunding issues bearing interest as low as 4 per cent salable and promoters were encouraged to exploit new fields. The interurban railway promotions of the late '90s were the result of this combination of circumstances. The financing of the interurban lines differed from that of the urban systems in that it was possible from their inception to utilize first mortgage liens. The expected prosperity of the interurban lines failed to materialize, however, and with few exceptions their bonds became less popular and were salable only at increasing discounts. The succession of events from

1901 to 1910 was somewhat similar to that of the preceding decade. The easier money conditions of 1899 continued for several years and were followed in turn by the panic of 1907, which paved the way for a harvest of receiverships within the ensuing few years, notable among them being Chicago, Cleveland and New York.

The participation of electric railways in the prosperity which followed the dark days of 1897 soon strengthened their securities and in 1903 street railway bonds were admitted, under rigorous requirements, as legal investments for savings banks in the State of Massachusetts. Similar action by the legislatures of other states followed. This recognition of street railway bonds as gilt-edge securities, however, induced the imposing of restrictions on new issues. The provisions of some of the mortgages of the pre-consolidation period (1888-1890) and of the time of low interest rates (1899-1900), and of those of the succeeding years, present interesting contrasts and illustrate the growing limitations on the financing of new construction and additions. Instances were not uncommon of mortgages of 1888 to 1890 which permitted bonds to be certified and issued under resolution of the board of directors, merely stating the amount to be issued. Mortgages of five to ten years later required only certification that the cost of property to be constructed or acquired was not less than the proceeds of the bonds to be issued therefor.

During the succeeding years there were gradually

Some of Mr. Fogarty's Conclusions

Before the coming decade has rolled by refunding of large amounts of pre-war, war-time and post-war financing will have to be met and it is not unlikely that many financial reorganizations of electric railways will have taken place.

Future financial methods of electric railways will bear little resemblance to those of the past. Service-at-cost franchises may stimulate the interest of the investing public. Some assistance may be obtained by assessment of costs of extensions against abutting property owners or other beneficiary interests. Local sales of securities offer some possibilities. A security guaranteed by or carrying the faith and credit of the communities served may be the only solution if corporate ownership is to continue.

introduced provisions which have had a far-reaching effect on financial methods of electric railways. Fixing of maximum interest rate and the requirement that net earnings equal one and one-half to two times the interest charges on all bonds outstanding, including underlying bonds and those to be issued, were among the first of those provisions. Then followed restriction of the amount of bonds issuable to 85, and later to 75, per cent of capital expenditures. Shortly thereafter the requirement that appropriations for maintenance and depreciation of property be not less than certain fixed proportions of revenues made its appearance.

STATE REGULATION BEGINS

Street railways after 1900 had not long enjoyed the reputation of being prosperous when public reaction toward this condition made itself felt. As early as 1903 agitation arose in Cleveland for a 3-cent fare, and by 1907 state regulation became a fact in New York and Wisconsin.

State regulation has had a marked influence on railway financing. Some of the early decisions, particularly of the commission for the Second District of New York, are classics. These decisions recorded the necessity of assurances that proceeds of security sales would, under rigid accounting procedure, be expended for revenue-producing extensions, and the necessity of earning power sufficient to insure proper return upon investments.

It was expected that assumption by the state of jurisdiction over utility security issues would remove such securities from the speculative class and give them a standing which would attract new capital to the business at lower costs. But the burdens imposed by regulation have remained and increased, while the implied assurances have lamentably failed. Had public regulation completely fulfilled its functions electric railway securities would not now be in such general disrepute.

COST OF MONEY INCREASES

The period 1911-1920 was one of steady increases in the cost of money to the traction industry. The bonds of ten representative electric railways sold in 1911 at prices producing an average yield of 4.88 per cent. In 1916 these bonds had fallen to a price level yielding 5.14 per cent, and by January, 1920, had further declined to a 7.10 per cent basis, an increase of about 47 per cent in yield rate in nine years. Preferred stocks of ten representative electric railways which had continuously earned and paid their dividends during the same period declined from a 5.41 per cent basis in 1911 to 6.08 per cent in 1916, and 8.60 per cent in January, 1920, a total increase in yield of about 60 per cent. Exemption of municipal securities from tax burdens and the ability of industrial enterprises to pay higher interest rates and refund tax deductions have contributed to the loss of the esteem which electric railway securities enjoyed in the late '90s.

The violent fluctuations in security prices since the beginning of the World War have had an important bearing on financial methods of all industrial and utility companies, and more particularly street railways. They found themselves unable to obtain funds at rates within the imaginary "reasonable return" to which they were limited by regulation, or within the rates earned under fixed franchise fares. Continuous additions to rolling stock and appurtenant equipment to comply with orders prescribing increased service necessitated the raising

of funds in substantial amount. Existence of underlying and refunding mortgages with after-acquired property clauses prohibited the financing of these requirements by first-lien securities, if title to the equipment were vested in the operating company. Hence resort was had to the issuance of securities on new rolling stock owned by a trustee and leased to the company. This device, known as the "equipment trust," was borrowed from the days of steam railroad refinancing. Comparatively new in electric railway financing, the equipment trust has not yet gained a permanent place in the financial structure.

Many of the railways found it necessary to issue notes bearing high interest rates, but limited to from three to five years, as investors were reluctant to tie up funds for long periods. The continuous bidding for capital apparently had fostered the belief that income yields would be in the ascendency for a long time to come, and investors soon turned from three and five year notes to those bearing higher rates but of shorter term to permit more profitable reinvestment at maturity. Such notes required collateral security in the form of pledge of mortgage bonds, usually 125 to 150 per cent of the amount of notes. Assuming, as a hypothetical case, the issuance of 80 per cent, or \$800 of bonds against \$1,000 of capital expenditures, and the pledge of the bonds to secure two-thirds of their principal in face amount of notes, reimbursement for the \$1,000 of original expenditures had to be derived from about \$533 of notes, and, after deduction of discount, amounted to but little more than half the actual cash outlay.

After a brief period, realizing that the current high yields were not to be permanent, investors' views underwent another change, and short term notes gave way to notes bearing the same high rates for ten years, and even longer, or to bonds bearing equivalent interest rates, where provisions of newer mortgages permitted them to be issued.

PRESENT DECADE MOST IMPORTANT

The decade upon which we are entering will probably be the most important in the history of the traction industry. Before it has rolled by refunding of large amounts of pre-war, war-time and post-war financing will have to be met. Underlying bonds of lines forming the present unified systems, and indeed some of the refunding issues of consolidated companies, will mature within the next ten years. The problem of financial rehabilitation, staggering in itself, is augmented by a discouraging outlook for the procurement of the new capital necessary to provide adequately for normal increases in the business, and it is not unlikely that ere this decade has passed into history many financial reorganizations of electric railways, some voluntary and some involuntary, will have taken place.

Future financial methods of electric railways will bear little resemblance to those which the exigencies of the past have caused to be adopted. Service-at-cost franchises, with guaranteed returns on fixed values, may stimulate the interest of the investing public. Some assistance may be obtained by assessment of costs of extensions against abutting property owners or other beneficiary interests. Local sales of securities in small amounts offer some possibilities. A security guaranteed by or carrying the faith and credit of the communities served may be the only solution if corporate ownership is to continue.

Present Mortgage Requirements

A Satisfactory Franchise, Stable Net Earnings, Reasonable Renewable Property Reserves and a Good Margin of Net Earnings Over Necessary Interest Charges Will Restore Credit to the Electric Railway Industry.

By F. K. SHRADER

Halsey, Stuart & Company, Chicago

THE electric railway business has an invested capital of more than \$5,000,000,000 and a gross annual business of more than \$730,000,000. Eleven times as many passengers are carried annually as on all the steam railroads combined; in fact, the elevated and subway lines alone carry more passengers than all the steam roads together. Aside from the mere significance of size the industry is so inseparably bound up with the general welfare of the public that its problems in reality become public problems, and the tendency toward realization of this fact is the most encouraging feature today in the industry's situation.

Statistics of track built, as published by the Census Bureau, show a marked slowing up in the expansion of the business to meet the demands of an ever-growing population. Electric railway mileage in the five-year period 1907-1912 increased nearly 20 per cent, while in the subsequent five years it increased only 9 per cent. Passengers carried and revenue car mileage showed a similar slackening of pace, and without doubt the tendency in this direction since 1917 has been even more pronounced.

ELECTRIC RAILWAYS NOW CONSIDERED HAZARDOUS AS INVESTMENTS

Electric railway securities today are decidedly unpopular with the investing public, due to the many defaults and reorganizations in the past. At present, according to the recently published report of the Federal Electric Railways Commission, nearly 18 per cent of the total mileage of the country is in the hands of receivers, including the properties in many of our more important cities.

The inevitable result of this has been that the electric railway business is regarded by the investing public as more hazardous than that of any other public utility and consequently its discrimination is reflected in the higher rates of interest demanded for capital, if obtain-

able on any terms, and the constantly narrowing field of investors in electric railway securities.

Operating expenses have been absorbing an ever-increasing proportion of gross earnings and interest charges an ever-increasing proportion of net earnings. Net earnings in 1902 covered interest charges substantially twice over, while in 1917 the ratio was but one and a half, the showing since then undoubtedly being considerably worse. In 1917 the entire industry with an invested capital of \$5,000,000,000 paid dividends aggregating barely \$73,000,000, and on more than half of the total outstanding capital stock no dividends at all were paid. The financial results as thus indicated are by no means sufficiently encouraging to attract the necessary capital properly to develop our urban and interurban transportation systems. Before this desirable end can

be attained or even approached there must be established a period of stable and adequate net earnings after all operating costs have been met, including full allowances for proper upkeep of the properties and maintaining the integrity of the investment therein. I have no patent remedy to suggest to cure the financial ills of the industry. The subject is vastly too complex for any simple solution, and must engage the serious thought and conscientious effort not only of financial leaders and the industry itself but of public authorities as well.

MORTGAGE SECURITIES

The few suggestions I have to offer relate to mortgage securities and therefore I wish to distinguish such securities as constituting a lien against the property, evidenced by a contract termed a mortgage or trust deed and containing specific terms of interest rate, character of lien, maturity, redemption provisions, conditions governing the issuance of additional bonds, provisions relating to the upkeep of the property, remedies in case of default, and other provisions of similar character. Short term notes secured by specific pledge of mortgage bonds may be classed as of the same general character as mortgage bonds, as essentially they rely for their security upon the collateral pledged. The distinction I wish to bring out is between mortgage bonds and share capital or other forms of so-called junior securities. While the latter occupy a very important position in public utility finance, it is not the purpose of this paper to deal with them except in a secondary way as directly related to the senior securities.

FUNCTION OF INVESTMENT BANKER

I have sometimes wondered if the function of the investment banker is at all generally understood. Contrary to the opinion held in some quarters, he does not impose the terms and conditions in the issuance of securities to suit his own particular whims or fancies,

Prerequisites Essential to Railway Credit

According to Mr. Shrader, the most essential prerequisite to electric railway credit is a satisfactory franchise situation. Investors are not now in a frame of mind to place their funds in an electric railway property unless they are convinced that the basic rights and privileges to conduct a paying business are fully protected. Two important developments in this field have taken place, viz., the so-called Wisconsin indeterminate permit and the service-at-cost franchise. The flexible fare franchise is without doubt economically correct, but in practice it has not yet measured up to expectations from a credit standpoint. The goal toward which the industry must strive is regulation, practically automatic in its operation and sufficiently responsive promptly to administer adequate relief in periods of high costs, so as to enable the railways to maintain their earning power and credit.

F. K. SHRADER has been connected with Halsey, Stuart & Company since 1909. At first he was in the statistical department and later was made corporation buyer, where his duties have brought him into intimate contact with the financing problems of many public utility companies.

TABLE I—SHOWING EQUITY REPRESENTED BY EXCESS COST OF PROPERTY OVER BONDS ISSUED BASED UPON THE ISSUANCE OF \$100,000 PAR VALUE OF BONDS EACH YEAR

At the End of Respective Years	— Bonds Issued at Various Percentages of Cost of Property —				
	70	75	80	85	90
First year.....	42,857	33,333	25,000	17,647	11,111
Second year.....	85,714	66,667	50,000	35,294	22,222
Third year.....	128,571	100,000	75,000	52,941	33,333
Fourth year.....	171,428	133,333	100,000	70,588	44,444
Fifth year.....	214,285	166,667	125,000	88,235	55,556
Sixth year.....	257,142	200,000	150,000	105,882	66,667
Seventh year.....	299,999	233,333	175,000	123,529	77,778
Eighth year.....	342,856	266,667	200,000	141,176	88,889
Ninth year.....	385,713	300,000	225,000	158,824	100,000
Tenth year.....	428,571	333,333	250,000	176,470	111,111
Eleventh year.....	471,428	366,667	275,000	194,117	122,222
Twelfth year.....	514,286	400,000	300,000	211,764	133,333
Thirteenth year.....	557,143	433,333	325,000	229,412	144,444
Fourteenth year.....	600,000	466,667	350,000	247,059	155,556
Fifteenth year.....	642,857	500,000	375,000	264,706	166,667
Sixteenth year.....	685,714	533,333	400,000	282,353	177,778
Seventeenth year.....	728,571	566,667	425,000	300,000	188,889
Eighteenth year.....	771,429	600,000	450,000	317,647	200,000
Nineteenth year.....	814,286	633,333	475,000	335,294	211,111
Twentieth year.....	857,143	666,667	500,000	352,941	222,222
Twenty-first year.....	900,000	700,000	525,000	370,588	233,333
Twenty-second year.....	942,857	733,333	550,000	388,235	244,444
Twenty-third year.....	985,714	766,667	575,000	405,882	255,556
Twenty-fourth year.....	1,028,571	800,000	600,000	423,529	266,667
Twenty-fifth year.....	1,071,429	833,333	625,000	441,176	277,778

but does endeavor to discern and meet the demands of the investing public to the end that capital may be provided for worthy enterprises. The investment banker's most valuable asset is his reputation, as the foundation of his whole business is confidence. Therefore, he is vitally concerned in seeing that the securities he sponsors are safeguarded to the fullest extent. He may rely to a certain extent upon the expert legal, accounting and engineering help he calls to his side, but in the field of economic and business phases of finance the investment banker is called upon to exercise the most unrelaxing care and mature judgment.

In reaching a conclusion upon the merits of a mortgage security there are certain considerations that must be analyzed and weighed. The two cardinal fundamentals of any investment are safety of principal and assurance of income. Safety of principal, aside from general credit considerations, depends in large measure upon the proportion of the loan to the value of the security offered. It is for this reason that in a properly drawn mortgage there is a provision restricting the issuance of bonds as new property is added to a certain percentage of the cost or fair value of such property, thus always maintaining an equity in the property over and above the bonds. The relative size of the equity thus created is determined by the rapidity with which bonds are put out and the percentage at which they are issued in relation to the cost of the property. Table I illustrates the importance of holding down the proportion of bonds issued against additions to property. It also shows the equity represented by the excess cost of property over bonds issued there against, based upon the issuance of \$100,000 par value (merely taken as a convenient unit for calculation) of bonds each year. As between the extremes assumed in the table, viz., the issuance of bonds at 70 per cent of cost and at 90 per cent of cost, in the course of twenty-five years there will have gone into the property against the same amount of bonds issued nearly \$800,000 more under the 70 per cent ratio than under the 90 per cent ratio.

MARGIN OF NET EARNINGS NECESSARY OVER INTEREST CHARGES

Assurance of income depends upon the ability of the corporation promptly to meet its interest obligations and it is customary to provide in the mortgage that bonds cannot be issued unless the net earnings for the

preceding year are equal to a prescribed percentage, say 175 or 200 per cent (usually stated in the form of a ratio—1½ or 2) of the annual interest requirements. Frequently also the issuance of bonds is conditioned upon gross earnings being equal to a certain number of times bond interest.

Table II indicates the measure of protection afforded by these restrictions as to earnings and interest charges. This table shows that under a specification that gross earnings be six times and net earnings twice the interest charges, the amount of bonds outstanding against the property (assuming they bear 6 per cent interest) would be only two and three-fourths times the annual gross earnings, a very conservative proportion, indeed. Furthermore, under the specification of 6 and 2 just noted there is sufficient margin provided in the structure to permit operating expenses to increase as much as 25 per cent with no increase in gross revenues and still meet interest charges. Taking the other extreme of the table where gross is specified as only three times and net earnings as only one and one-quarter times interest charges, we find the property would then have bonds outstanding to the extent of five and one-half times gross earnings, leaving so little leeway for increases in expenses (or loss of gross revenues) that the property could continue to meet its interest charges under only the most favorable operating conditions; if interest charges were only barely covered the proportion of operating expenses to gross revenues could not exceed 66 per cent.

INCREASING RATIO OF DEBT TO TOTAL CAPITAL

The figures just presented bring out the importance of limiting indebtedness to some conservative relation of its value and revenue producing capacity. Unfortunately the tendency has been decidedly in the opposite direction, but it must be corrected if the proper credit is to be established. To show that the past tendency of financing has been to borrow rather than sell share capital the figures in Table III were prepared. In 1902, 57 per cent of the total capitalization of the electric railways was represented by capital stock, and but 43 per cent by funded debt, while fifteen years later the proportion represented by capital stock had fallen to 45 per cent and funded debt had increased to 55 per cent. A similar situation, although not quite so pronounced, exists in the case of the steam railroads, and it is a pretty generally accepted fact that the decline in credit of the steam roads over the past fifteen years has been due to the tendency to finance through borrowings.

TABLE II—RELATION OF DEBT TO EARNINGS

	Assume { Gross 6 x Int. Net 2 x Int. Amount of Bonds Would Then Be (at 6%) 2½ Times Gross	Assume { Gross 5 x Int. Net 1½ x Int. Amount of Bonds Would Then Be (at 6%) 3½ Times Gross	Assume { Gross 4 x Int. Net 1 x Int. Amount of Bonds Would Then Be (at 6%) 4½ Times Gross	Assume { Gross 3 x Int. Net ¾ x Int. Amount of Bonds Would Then Be (at 6%) 5½ Times Gross
Gross.....	600	500	400	300
Operating.....	400	325	250	175
Net.....	200	175	150	125
Bond interest.....	100	100	100	100
Balance.....	100	75	50	25
Operating ratio.....	66½	65	62½	58½
Amount expenses may be increased and still meet interest charges.....	100	75	50	25
Per cent.....	25	23	20	14
Operating ratio would then be.....	83	80	75	66

The physical property of an electric railway is subjected to hard usage and therefore deteriorates quite rapidly. The failure to make adequate provision for physical upkeep has caused large losses to security holders in the past and is responsible in no small measure for lack of credit today. The modern street railway mortgage must adequately safeguard the investor in this respect through establishment of a definite maintenance and renewal fund, the operation of which will maintain the property at full operating efficiency. The customary method is to require the establishment of a fund based upon the gross earnings of the property, all current and deferred maintenance, renewals and provision for obsolescence to be charged against this fund, and any unexpended balance to be invested either in improvements to the property against which no bonds may be issued or used to retire bonds. No set rule can be followed in determining the required percentage of gross earnings; each individual case must be worked out on its own basis, taking into account the local factors involved. As a rough indication of the limits, however,

be issued in series from time to time as the needs of the corporation may dictate, each series to be of such amount, to bear such rate of interest, to mature at such date, to be redeemable at such time or times and at such price or prices as the board of directors of the corporation may determine at the time of issuance. The issuance of these bonds is conditioned upon the observance of fundamental restrictions as the proper relation of debt to property values and earnings, but the purpose is to extend to the corporation the maximum degree of flexibility in its financing consistent with adequate protection to the security holder and thus enable the corporation to economically finance its requirements under changing conditions.

SATISFACTORY FRANCHISE NECESSARY

Perhaps the one most essential prerequisite to street railway credit is a satisfactory franchise situation. Investors are not now in a frame of mind to place their funds in a street railway property unless they are first thoroughly convinced that the basic rights and priv-

TABLE III—PROPORTION OF FUNDED DEBT AND CAPITAL STOCK TO TOTAL CAPITALIZATION

	1917	1912	1907	1902
Electric railways:				
Capitalization.....	\$5,532,223,818	\$4,714,665,386	\$3,778,831,901	\$2,308,282,099
Capital stock.....	2,473,846,651	2,379,346,313	2,097,708,856	1,315,572,960
Per cent of total.....	44.7	50.5	55.5	57.0
Funded debt.....	\$3,058,377,167	\$2,335,319,073	\$1,681,123,045	\$992,709,139
Per cent of total.....	55.3	49.5	44.5	43.0
Steam railroads:				
Capitalization.....	\$21,092,072,245	\$19,752,536,264	\$16,082,146,683	\$12,134,182,964
Capital stock.....	9,058,682,733	8,622,400,821	7,356,861,691	6,024,201,295
Per cent of total.....	42.9	43.7	45.7	49.6
Funded debt.....	\$12,033,389,512	\$11,130,135,443	\$8,725,284,992	\$6,109,981,669
Per cent of total.....	57.1	56.3	54.3	50.4

it has been found in electric railway operation to require from 15 per cent to 25 per cent of gross earnings properly to provide for full upkeep of the physical properties.

SINKING FUNDS NOT ADVISABLE

Sinking funds are found in some of the earlier electric railway mortgages, but the present tendency is to omit them, on the theory that an electric railway is permanent property and not of a wasting character. Moreover, it would be an injustice to the public to be charged rates which would retire the indebtedness created to build a property, and thus leave the property free of debt in the hands of the stockholders. On the other hand the investor must be safeguarded, and this can be accomplished only, first, by seeing at the outset that the bonded debt is not excessive in relation to the value of the property; second, that this equity once established is maintained, through financing a considerable proportion of the new money requirements on junior securities, and, third, that the physical condition of the property is kept up to a high standard through adequate appropriation of earnings for this purpose.

COMPLICATED FINANCIAL STRUCTURES

An impediment to economical finance often met in the electric railway field is the complexity of the financial structure. The earlier mortgages, with their small authorized issues and fixed rates of interest and maturities, were inelastic and not capable of expansion to meet the growing needs of the properties which they covered. The result in a great many cases is a patchwork of finance which sooner or later must be recast into a simple structure capable of expansion to meet the financial needs of a growing property. The modern mortgage therefore provides for either a very large or an unlimited authorized issue, emissions therefrom to

illeges to conduct a paying business are fully protected. In recent years two very important developments in this field have taken place, viz., the granting of so-called indeterminate permits, as practiced in the state of Wisconsin, and the movement toward service-at-cost franchises. While the underlying principle of the cost-of-service or flexible fare franchise is without any doubt economically correct in practice it has not yet, so far as I am aware, measured fully up to expectations from a credit standpoint. The goal toward which the industry must strive is regulation, practically automatic in its operation and sufficiently responsive promptly to administer adequate relief in periods of high costs and thus enable the corporation to maintain unimpaired its earning power and credit. The public must come to recognize that the utility business is essentially public business, and for their own welfare it must be accorded the earning power to enable it to function properly.

FEW RAILWAY SECURITIES NOW MARKETABLE

At the moment, there are but few electric railway companies that can fulfill the requirements of the investment market. If net earnings can be improved and stabilized, then they may look forward to an increasing ability to finance by mortgage securities. Their escrow bonds may later become marketable when interest rates fall appreciably below present levels.

Any electric railway company that can show stable earnings through the war period, as well as conservative practice in accounting for maintenance and replacements and in computing net earnings, can find a market today for an issue of well secured mortgage bonds of sufficiently high coupon rate to meet the market when not preceded by too large a proportion of prior lien securities. The interest yield requirements unfortunately are necessarily greater than a light and power corporation of similar size and setup.

Home-Town Financing

Short-Term Notes in Best Demand, Sold for Cash Across Counter or by Special Type of Salesmen—Partial Payment Not Favored—Nominal Charge Made for Resale Service.

By S. B. WAY

Vice-President the Milwaukee Electric Railway & Light Company

"HOME-TOWN FINANCING" is construed in this discussion as the local distribution of an investment security in the name of an issuing company. Such a happy means of financing is ideal. If each community were owned by its patrons, there would be universal satisfaction with service and acquiescence in rates of fare that approach the actual cost of service.

The idea is not new. Many abortive attempts at home-town financing were made in connection with the organization of street railways. In their modest beginnings street railways were the product of home-town enthusiasm and the critical attitude did not develop until some impersonal absentee stockholder was persuaded to hold the bag.

It was a foregone conclusion that outside capital would be required to finance the early street railway; the locality could only trade out its enthusiasm in its own wonderful future for some one else's ready cash and hope of profit.

This resulted in the complicated financial structure which the usual street railway passenger often views with open suspicion. Securities had to be developed to suit a variety of tastes and fit various methods of distribution. A variety of expedients had to be devised to make an engraved certificate more attractive. Bonds for long-time investors required special promises and the skilled services of investment bankers before being ultimately distributed. Bond-secured notes required the same method of placing. Preferred stocks required more speculative appeals until after becoming properly seasoned and of good repute they reached a fixed investment placing. Common stock usually failed to proceed very far on the road to distribution. Its only appeal lay in keeping intact large blocks which presumably carried with them some measure of control.

The creation of outside markets resulted in the investment banking business. The street railway industry owes it some debt for its labors, for without these the horse cars would still be with us.

It is not surprising, therefore, that the problem of financing the street railways should be considered a business separate and distinct from the problem of run-

ning the cars. It is not surprising, also, that the recurrence of the idea of home-town financing should early meet the opposition of investment bankers. It has been realized, however, from the brief experience obtained in new home-town financing that the distrust, the criticism and the disregard of the rights of investors by the local public have begun to disappear, adding safeguards more substantial than promises to the holders of securities distributed by investment bankers. This realization is evident from the approval of home financing contained in the recent report of the committee on public service securities of the Investment Bankers' Association of America:

During the development of the utility systems the centers of finance have been appealed to for provision of the large investment funds required, and this has resulted largely in dissociating local communities and the customers of utilities from financial interest in utilities. The public served has felt little or no responsibility to absentee owners and local antagonisms to efficient utilities have often resulted. It is in the public interest that the securities of utilities be owned in large part by the communities served, so that the public need for adequate and efficient service may be supported by the self-interest of the individual owner of local securities.

The practice of local utility security distribution is encouraged by bankers. Making the public responsible, to the extent of the local distribution, for the fair treatment and the prosperity and success of the enterprise, it encourages thrift and affords an investment opportunity not usually open to small investors; it affords local critics of managers and operatives tending to alert regard for the interests of both the property and the public; it improves the morale of the employees by keeping them in touch with the real owners of the property, and it is in effect a form of modified public ownership under private control and operation which is probably the most efficient status of all utility enterprises.

Local placing of securities under the usual methods of distribution is difficult. Analyses of the kind and variety of security holders show that but small amounts of securities distributed in the usual way land in the hands of local investors. When so held they are found among the well to do, whose local influence upon public opinion is not appreciable. Even where local holdings are so appreciable as to provide listing on the local stock exchange the investment class is so unimportant that the prominence given invites rather than discourages "bear" movements by the politicians.

THE PLAN AS USED IN MILWAUKEE

It is not surprising, therefore, that a large number of utility properties have found it to their interest to examine the possibilities of home-town financing and to take an occasional flier in that direction. During the war, especially, traction securities "enjoyed" an unusual amount of ill repute among the clientele of the investment banker. The experience of traction companies and the publicity given to their hardships and political entanglements served to create uncertainty about their ultimate values, and the market became very limited and finally disappeared. The stringent provisions of the federal income tax tended further to destroy whatever market was left for the securities of those traction properties whose reputation had not yet been lost. In fact, practically the only investor who still has any faith in traction companies lives in the home town.

Experience has proved that with the home-town investor the value of physical property is of more interest than market value; past reputation for paying all obligations on the date due is of more significance than interest cover, margin of safety, investment rating,

S. B. WAY has for the past seven years been vice-president and general manager of the Milwaukee Electric Railway & Light Company. Prior thereto he had been vice-president and assistant general manager in charge of the light and power departments since 1911. Mr. Way has also been actively interested in the management of the Wisconsin Gas & Electric Company, operating in Racine and Kenosha, the Watertown (Wis.) Gas & Electric Company, the Burlington (Wis.) Electric Light & Power Company and the North Milwaukee Light & Power Company, all of which are identified with the North American Company. For nearly twenty-five years Mr. Way has been connected with the public utility business and during practically all of that time he has been associated with the interests of the North American Company. For that reason he is extremely well fitted to analyze the subject of home financing, for during the past few years the utilities under his direction have utilized on several occasions this means for obtaining new money.

privileges, tax exemptions, special restrictions and all of the other special enticements that have grown up as integral parts of the general security investment market. The home-town investor is interested in simplicity, and the usual so-called "window dressing" is a detriment, rather than an advantage.

It is essential, therefore, before offering securities for local sale, either by franchise agreement or commission order, to have established the fair value of the traction property and the reasonable earning power in respect of such value. The patron public can then be safely invited in if the security offered for sale is safe when considered by these standards.

Some of the advantages and disadvantages of local holdings of securities are: A better local understanding of the economics of the business, which is prompted by self-interest and which carries with it better public relations. This has made unscrupulous attacks by the issue-seeking politician actually unpopular. A sufficiently wide distribution among the railway patrons should form a more logical basis of public ownership than municipal ownership. The advantages of supplementing general financing plans through local financing, thus increasing the amount of money raised, must not be lost sight of, and mention may be made of the desirability from the traction company's standpoint of any issue of securities which does not carry restrictions which may be burdensome when the company is again required to resort to its credit. The disadvantages, if there are any, arise from efforts necessary to the maintenance of a good reputation and to adequate publicity of the company's business and the restricted ability of local investors to absorb securities.

SECURITIES ADAPTABLE FOR LOCAL SALE

All classes of securities are not equally adapted for home-town distribution. Only those that carry an obligation to pay interest or a preference as to dividends should be offered. Prior issues subject to wide fluctuations in market value and yield should never be offered the small local investor. Until market values and earnings are thoroughly established an issue not heretofore sold by dealers should be selected for local distribution.

For some reason long-term securities seem not to sell well locally. Five-year maturities appear to have the strongest appeal, although a substantial percentage of preferred stock and ten-year maturities has been sold in connection with five-year maturities in certain instances. This makes it desirable, where notes are offered, to include a provision for conversion into preferred stock or bonds of longer maturity. It is also important to provide a wide selection of denominations in the issue of notes or bonds. Denominations of \$50, \$100, \$500 and \$1,000 have proved practical. If preferred stock is sold it is more important to pay dividends in cash than to include a cumulative feature.

Experience indicates that five and ten-year notes

together sell in about twice the volume of preferred stock. In the local sale of one issue of over \$3,000,000 of five-year notes, 1,737 were of \$50 denomination, 1,592 of \$100, 1,493 of \$500 and 1,663 of \$1,000. These notes were sold to 4,064 individuals, of whom 1,394 were women, the average sales being \$659 per buyer. A recent issue of \$500,000 of preferred stock sales was made to 753 individuals, of whom 195 were women, the average sales per buyer being \$664.

Methods of effecting sale of home-town securities must be determined by local conditions. There is an important advantage in literally selling securities "across the counter" at the company's offices. All printed advertisements and circulars should prominently feature the company's name and be signed by it. Sales-

men handling prospects need not have had previous security sales experience. It is more important that they understand how to deal with the public courteously and efficiently. As most of the local buyers are not accustomed to purchasing securities they are not familiar with the technical terms of the investment banking house. Hence on the salesman's part familiarity with the company, the article it sells, and the business it does are most important, and ready and truthful answers to simple questions are of more value than long-winded expositions. Familiarity with every reference to the local company in the community papers and intelligent discussion thereof are also essential. It is important from the start to fix in the minds of timid, first-time buyers that the sale of its own securities is a permanent part of the company's activities and that those facilities will be constantly at the service of its customers.

Experience discloses that a very large proportion of actual sales is uncovered by newspaper advertising. Such advertising should tell the story of the company in simple language, avoiding technical financial terms, and departing radically from the typography and conventional style of the usual financial advertisements. Why the securities are being sold, what the proceeds are to be used for, governmental authority and safeguards under which issued and terms of payment are points which must be covered in the advertisements. If the company is under state or local regulation the fact that an implied regulated minimum return assures stability and eliminates speculative hazards is an important selling point. Thrift talk is always helpful. Inquiries through personal call or mail should be followed up as promptly, persistently, carefully and tactfully as complaints in a well-organized complaint department. The effort should be jointly one of improving public relations and selling securities, and all salesmen should be able to close the transaction, deliver securities and receive payment. The small investor expects the company to have sufficient confidence in its agent, who answers questions about the company's affairs, to entrust him with the securities he sells, particularly as the customer is expected to trust the same agent with his money.

A Salient Statement by Mr. Way

A sufficiently wide distribution of its securities among the traction company's patrons should form a more logical basis of public ownership than municipal ownership. The advantage of supplementing general financing plans through local financing, thus increasing the amount of money raised, must not be lost sight of and mention may be made of the desirability from the traction company's standpoint of any issue of securities which does not carry restrictions which may be burdensome when the company is again required to resort to its credit.

To the individual unaccustomed to dealing in securities, an offer to sell below par suggests a bargain sale of damaged or shopworn goods. Such investors think of their return only in terms of the stipulated dividend or coupon rate. Sales at par carry the presumption that the securities are worth their face amount and avoid the suggestion of possible further depreciation in value when the customer may wish to sell. All adjustment for accrued interest and dividends should be simple, as inexperienced buyers of securities find it difficult to understand such adjustments. One simple solution is to omit the interest period and amount on the first coupon and fill in this information properly on the date of purchase. Partial-payment plans, with their complications, should be avoided. The customer should be urged to purchase only the amount of securities for which he has cash available. Coupons should be cashed at the same counter at which sales are made. This gives further opportunity for sales effort.

The maintenance of the market for securities sold only by the company is of great importance. Confidence in the value of the securities is best developed by a continuous market at least equal to the original purchase price. Except in cases where holders have real need for cash invested in securities the ability to sell readily at cost dispels the desire to sell. It is not necessary or desirable to resell securities for customers without charge. A nominal charge of, say, one point, while imposing no burden on the customer, at the same time operates to act as a deterrent against unnecessary and ill-considered selling.

Maintenance of the market power does not mean that the company buys back its own securities. Since the proceeds thereof have been invested in permanent improvements it is impossible for it to do so, and there is no difficulty in making it understood that its security sales department merely places its distributing facilities at the disposal of the customer, taking the securities on consignment for resale. Experience indicates that the amount of securities so handled has been very small, even during recent periods of very high yields in the general investment market.

With sales of such small transactions as have been under discussion a large proportion of the purchasers are investors of the savings bank type, accustomed to savings bank interest, safeguards and conveniences. Such persons are slow to sell. When they are compelled to liquidate their savings they have definite and legitimate reasons and must be protected from note shavers and speculators by having a stabilized market and a means of reaching it at a nominal cost. The favorable experience of such people brings more buyers among their friends and establishes a very favorable proprietary local interest in the company.

The idea of home-town financing is not novel or in its experimental stage, but it is a reversion to the type of financing attempted at the beginning of the traction industry. It carries with it all the obvious advantages flowing from a proprietary interest on the part of patrons. When approached from the first simple and rudimentary principles of finance it is not a difficult method of distributing securities or beyond the successful organizing abilities of public utility operators. Its contribution to the financial requirements of the traction industry cannot be expected to be sufficient to solve the problem of financing and refinancing. But it can be made a substantial help. It carries with it, perhaps more than any other method, improved public relations.

Financing a Public Utility by Sale of Stock

For Sound Financing Not More Than One-Half of Net Earnings Needed for Interest Payments—Sale of Stock Urged for Extensions and Betterments—Investment Banker Has Not Lost Faith

By CHESTER COREY

Vice-President Harris Trust & Savings Bank, Chicago, Ill.

IT MAY seem absurd to talk about selling the stock of street railway companies when there is no general market for even their first mortgage bonds. It is well to remember, however, that history often repeats itself and that the market price of the stock of a company may advance within a comparatively few years from a nominal figure to a sufficiently high price so that the company can raise money by issuing and selling additional stock. For instance, in 1896 the common stock of the newly reorganized Atchison, Topeka & Santa Fé Railway sold as low as 8½ and the preferred stock as low as 14½; in 1901 the common stock sold as high as 91 and the preferred stock as high as 108, though it should be borne in mind that the reorganization was made on a sound basis and that the management of the property was of the very best.

A public utility company within the last ten years found its cash resources so depleted that common stock dividends had to be discontinued, and an emergency loan became necessary to save a default in the payment of bond interest. Within less than two years of that time that same company sold to its customers several million dollars of a newly created preferred stock, all because a conservative financial policy was adopted and adequate depreciation reserves were set up out of earnings.

SAFE PERCENTAGE OF NET FOR INTEREST

The great mistake of corporate financing has been the creation of funded debts to an amount unduly large in proportion to the amount of the total investment. The experiences of the last three years have shown that a company cannot pay out 75 per cent of its net earnings as interest charges and maintain its credit. If a company pays out 35 or 40 per cent of its net earnings in interest and has a substantial amount remaining after providing for depreciation and other reserves and the payment of dividends, that company has credit and can raise money by selling additional stock as soon as the investing public is convinced that the favorable showing is permanent and not temporary. However, all of the mistakes of the past should not be charged to the companies or the rate regulating bodies. The banker has oftentimes shown poor judgment in failing to distinguish between sound and unsound financial structures.

The unfortunate financial position of the street rail-

CHESTER COREY, vice-president Harris Trust & Savings Bank, Chicago, has been actively associated with the financing of public utility properties for some twenty years. It was in Boston in 1894 that he first became connected with N. W. Harris. In 1907 he transferred his headquarters to Chicago. During this long period of service Mr. Corey has been prominently associated with the financing of public utilities in practically every large city in the country. He is a firm believer in the idea that the total capitalization of a utility should not be in excess of the fair value of the property and that the funded debt should be but a subordinate part of the total.

ways arose primarily out of the slowness of the public, acting through the rate regulating bodies, to realize that street railway operating costs had increased by leaps and bounds and had in many cases absorbed all of the 5-cent fare and more. Bonded debts in many of these cases were too heavy to allow for much if any shrinkage in earnings without immediate trouble; or, in other words, many companies had failed during times of prosperity to provide proper equities by selling their capital stock. There were too many creditors and too few partners.

THE FOUNDATION OF RECONSTRUCTION IS A REASONABLE FARE

The credit reconstruction problem of the street railways is not an easy one, but the foundations are sufficient fare to yield generous returns on investments and a funded debt which will require the payment of interest charges amounting to not more than one-half and preferably not more than one-third of net corporate earnings.

As a part of the reconstruction program the sale of stocks must ultimately play an important part, and each company should raise substantial amounts of money for any extensions and additions, including new equipment, by selling its stock, preferably in the community which it serves.

During the recent troublesome times some companies have sold stock to customers and employees; in fact, this method of financing has saved the day for many of the public utilities, and not only has the necessary money been raised but local communities have become interested in the financial welfare of "their company."

ELECTRIC RAILWAY MUST COMPETE FOR MONEY IN THE OPEN MARKET

Inasmuch as the rates of fare, service, accounting and the issuance of securities are supervised in almost all communities, there is little danger that unduly large dividends can or will be paid. Generous dividends, however, must be paid and comfortable surpluses must be earned if the public utilities are to function properly in the forward progress of the country.

The public is learning that capital is not attracted unless generous returns are assured. Rates of return are too high on the best securities, such as government and municipal bonds, to make old rates of interest attractive. If the public utilities are to obtain the money necessary for them to give the service the public demands, they must be allowed earnings sufficient to compete in a market for money when the demand exceeds the supply.

The investment banker has not lost his faith in the electric railways and will be willing to buy mortgage bonds of these corporations as soon as the rate regulating bodies are able to convince the investing public that public sentiment is well established in favor of determining the value of the electric railways and allowing them to earn substantial returns upon their investments after providing for operating expenses, maintenance, taxes, interest and full depreciation. It will be up to the companies themselves, however, to provide and maintain substantial equities in their properties over and above the amount of bonds outstanding and to make their principal effort to raise money by the sale of stock rather than to try to borrow the last available dollar by the issue and sale of bonds.

Municipal Aid in Railway Financing

Local Transportation Systems Essential to Community Life—Service-at-Cost Franchises Recommended—Municipal Credit Might Be Offered for Extensions—State Commissions Should Have Power to Regulate Fares

By MELVIN A. TRAYLOR

President First Trust & Savings Bank, Chicago

THE development of our local transportation systems has been both a cause and an effect of the spreading out of our municipalities. The extension of municipal boundaries would not have been possible without the development of the electric lines. On the other hand, the lines would never have developed to the present extent were it not for the fact that in this country people are not accustomed to live within walking distance of their place of business. In continental Europe the business man often lives above his business and the laborer next door to the factory in which he works. Such a development, however, has certain unfortunate social results. In Chicago and New York this would mean more tenement houses in which the people would be herded together like cattle. This in turn would mean a development of all that social unrest which a few decades ago we called "anarchy" and now call "bolshevism."

COMMISSION REGULATION AN AID TO RAILWAYS

At present little is being done for the further improvement and development of local transportation facilities; in fact, the very maintenance of existing systems is being called into question. The immediate cause is that the cost of everything has increased largely, and the companies which had great difficulty in getting along on the 5-cent fare are now finding it utterly impossible to do so. Had it not been for the advent of state commissions with power to regulate rates of fare the electric railway industry would have become hopelessly bankrupt. In general there has been a total lack of municipal aid at the right time and in the right way. It has been claimed that the "greedy corporations" were violating their contracts by increasing fares and that their property ought to be taken over by the city so that the original agreement might be carried out. People of intelligence knew very well that in such an event the deficit would have to be made good by increased taxation, but as taxes are paid by the few and not the many, and politicians are interested in the many and not the few (since each of the many has a vote) the facts in the case made little difference. So, when a street railway franchise expires or its termination can be foreseen, the fact seems to be contemplated with a grim satisfaction by

MELVIN A. TRAYLOR, since Jan. 1, 1919, president First Trust & Savings Bank, Chicago, began his banking experience as cashier at the Bank of Malone, Tex. Two years later he was appointed cashier and then vice-president of the Citizens' National Bank, Ballinger, Tex. Upon consolidation of this bank with the First National Bank he was elected president of the combined institution. In 1911 he became vice-president of the National Stock Yards National Bank, East St. Louis, and in 1914 went to Chicago as vice-president of the Live Stock Exchange Bank, later succeeding to its presidency, which position he left to enter upon his present duties. Mr. Traylor has some very definite ideas about the future of electric railway financing, the kind of ideas that somehow should be got home to the public. He is keenly aware of the difficulty of the situation in Illinois, where politics seems to be running rampant with the public utilities as the principal sufferers.

all politicians, and the opportunity is immediately embraced to create a political issue, of which there is at all times great dearth.

RECOMMENDATIONS FOR REMEDIES

How shall we remedy this situation? Probably the best way is to follow the recommendations made in the report recently issued by the Chamber of Commerce of the United States of America. The plan is based upon the following propositions:

(a) That users of the service should pay only the actual cost of providing such service.

(b) That cost of service includes all outlays for operation and maintenance, provision for renewals and replacements, taxes and fair compensation for the capital actually and necessarily used in the service of the public based upon an agreed valuation of the property, irrespective of stocks and bonds outstanding.

(c) That the revenues from fares should at all times be sufficient to pay all costs necessary to the supplying of efficient service, of the extent and standard designed by public authority.

(d) That the rate of fare should automatically increase or decrease to correspond with any substantial increase or decrease in costs.

(e) That the city may, if it should so determine in the future, acquire the property on an agreed basis of actual values.

This plan contemplates that ultimate direction of the extent and character of the service to be given and the facilities to be provided shall reside in a city official or board. The company is bound to provide such facilities and service as the public through its official agent requires, and the public, on the other hand, is bound to provide from the fares paid the means to meet the outlays thus imposed.

Under such a plan the rate of fare would automatically increase or decrease to correspond with any substantial increase or decrease in costs, for the public desires and is entitled to the best service and ought to be willing to allow the company, or, for that matter, a municipally owned street railway system, to charge a just compensation for the service rendered. If this is done it will develop new districts where the laboring classes can live under proper conditions.

It is the civic duty of the municipality to bring about the changes suggested, and the increase in taxable real and personal property values will afford an economic justification for a loan of municipal credit when needed to finance costs of extensions of local transportation systems. It is now generally recognized that without direct municipal aid it is almost impossible to plan extensions or to establish rapid transit lines such as elevated or sub-surface structures.

GUARANTEED RETURN ON INVESTMENTS ADVOCATED

Another more direct and substantial aid is that of a guaranteed return on invested capital. A proposed plan of this character differs from the aid designed by the federal government for interstate railways in that the proponents of the plan claim that the return on capital invested in local transportation systems should be paid by the municipality whether earned by the system or not. It is pointed out by the champions of this scheme that Massachusetts has adopted some laws which provide for aid of this character for local transportation lines, and that Wisconsin also, through the so-called Kenosha enabling act, has expressed willingness to extend aid which will accomplish similar results. Personally, it is difficult for me to imagine a state of affairs which would justify aid of this particular type. It seems to me to have most of the dangers of public ownership without any of the corresponding advantages, if such there be.

In my opinion, the best plan evolved so far is the service-at-cost franchise. Inherent in it, unfortunately, is the danger that there is not sufficient incentive to economy and to increased efficiency, since, irrespective of what conditions prevail, the public pays. Possibly some scheme like that used in the case of the Massachusetts gas companies may be developed, where, as the efficiency increases and the cost to the public becomes less, the corporation is permitted a larger percentage of earnings. Possibly the one element lacking under this plan would be the difficulty managements might encounter in the regulation of wages of employees. For this reason, is it not possible that there could be arranged some profit-sharing scheme by which the employees of the company would first of all be assured of a living wage, fluctuating with the cost of living, and then participate in the profits of the company in proportion as they assist in the reduction of the expenses of the service? Under such an arrangement we should probably find that the employees would become increasingly efficient and seek to obtain the greatest possible results with the smallest amount of power, at the same time attracting patronage to the lines by virtue of their politeness and courtesy.

Unfortunately, at present, there are still existing many causes which seem to make necessary public guarantee of returns on capital invested in public utilities. These reasons are:

1. Lack of stable returns.
2. Hazards of the business.
3. Capital does not flow freely into this business.
4. Needed improvements cannot be made.
5. City transportation systems may soon retard municipal and industrial growth.

MUNICIPAL OWNERSHIP

I have merely touched upon one aspect of the matter, namely, the need of a different attitude on the part of the public toward public transportation companies and the necessity for a change in the relationship between city governments and privately owned local transportation companies. There are many who prefer to have all public utilities owned by the cities themselves and there is no doubt that unless something decided is done soon this will be the result all over the country.

As to the undesirability of municipally owned public utilities, for the best arguments I refer again to the report of the Chamber of Commerce. Municipal ownership, wherever tried out, has proved uneconomical and unsatisfactory. Political considerations are almost bound to creep into questions of management, and inefficient people are kept on the payrolls because they control votes.

As far as the private investors are concerned municipal ownership is perhaps the best thing under present conditions that could happen to them. The United States Constitution forbids confiscation, and the cities, in taking over the transportation systems, would have to pay an adequate remuneration to the present holders of the stocks and bonds of such enterprises. This would probably be the easiest way out for them, but I wish to emphasize once more the necessity for all of us to take a broader view of the question, since the whole future development of our cities depends upon the proper treatment of the question, of which I have sought to state some of the principal aspects.

Public Opinion and Utility Problems*

The Public Utility Has Its Salvation in Its Own Hands—Adequate Service Must Be Furnished by the Electric Railways to Offset Adverse Public Opinion — When Accomplished, Commission Regulation Will Prevent Confiscation

BY HON. JAMES H. WILKERSON

Former Chairman Illinois Public Utilities Commission

THE problem of the public utilities, like every other business and economic problem of today, springs from the war. It has many difficult elements resulting from the nature of the business and the close relation which the service furnished bears to the daily life of the people. The frequency with which the people come in contact with these public utilities and the circumstances under which they come in contact with them give rise to perplexing factors in the problem, with the psychological scenery all set for the entrance of the demagogue.

My own view necessarily is that of an outsider, one whose duty it has been to endeavor to apply impartially the rules prescribed by law. An administrative board charged with the enforcement of laws does not possess arbitrary power. It should not act from whim or caprice or consider political expediency. It is subject to constitutional limitations and to statutes which created it. Whatever opinions its members may have individually, the board as such has no concern with the wisdom of the law under which it operates. Its duty is to enforce the law as it finds it, and, for the result, it is answerable to the courts only.

Experience has led me to the conclusion that the permanent and final solution of this problem involves something more than statutes, court decisions, orders of commissions, or ordinances of city councils. Constitutions and laws and decisions have no permanency unless back of them is the sentiment of the people. No question whose solution involves the enactment, interpretation and enforcement of laws can ever be finally settled until it is settled in the minds of the people and until the law reflects the true thought of the people.

SALVATION OF RAILWAYS IN THEIR OWN HANDS

I am satisfied that your fate is in your own hands, and that you must work out your own salvation by bringing your case home to the people. You must get back of you not merely laws, which may be amended or repealed, or orders, which may be modified or set aside, or court decisions, which give you nothing but bare legal rights, but also a public support and confidence which will restore your credit and insure a permanent and stable settlement of your difficulties.

If you fail in the task just ahead of you, of crystallizing a solid and permanent popular support for private ownership under state regulation, there can be no doubt that the next step will be the experiment of public ownership—an ownership which was recently averted



HON. JAMES H. WILKERSON

in the case of the steam railroads by one of the most thorough campaigns of education ever carried on in this country.

Let us analyze briefly the problem. Here is a transportation enterprise with an invested capital of nearly five billion dollars. The steam railroads have been called the arteries of the nation's commerce. The electric railroads are just as close to the life of the great cities and industrial districts. The whole growth of the great cities is centered around them. They have given such an impetus to city development that it has been impossible for the transportation systems to keep pace with the growth of the cities.

Notwithstanding the development of other means of transportation, the use of the electric railroads has been continually increasing. In New York City the average annual number of rides per capita is now 370 and in Illinois it is 114. This shows how intimate is the contact of this service with the daily life of the people.

The early period of electric railway history was like that of the steam railroads. There were overcapitalizations, corporate mismanagement, failure to provide for depreciation, payment of unearned dividends, overbuilding into unprofitable territory and stock manipulation for purposes of promotion and speculation.

In the case of urban lines, the right to occupy streets was under either limited or indeterminate franchises which contained provisions as to compensation to be paid for the use of the streets, as to sprinkling, paving and other requirements. Most of the franchises also provided for a uniform 5-cent fare. It seemed to be taken for granted that nothing would ever happen in this country which would make the 5-cent fare insufficient to take care of operation, provide a fair return and maintain the enterprise on a stable and prosperous basis.

With the electric railroads, even before the war it was apparent that there must be a process of reorganization and readjustment. In fact, some of the electric railroads had already gone through that process.

The history of our steam and electric railroads is in no respect different from that of every new enterprise in the history of the world. With every new invention the imagination is always at work capitalizing dreams which never come true. The evils attending the promotion and organization of new enterprises are all adjusted in the end. Overcapitalization and speculation in the beginning should not be a bar to fair treatment by the public when the enterprise has been once put on a solid basis.

Several years before the war, many states established supervision of service, and the police power was exer-

*Abstract of address at the annual dinner of the American Electric Railway Association, Chicago, Ill., Feb. 10, 1921.

cised to require reasonable fares. The purpose of these laws was to take the public utility question out of local politics and to prescribe a fixed rule by which values and returns should be determined, subject to final review by the courts.

When commission regulation was established, complaints were made in some cases that the fares fixed in the franchise ordinances were too high. In a few states there were constitutional or statutory provisions giving to cities the power to make such contracts for fares. In most of the states, however, the authority to make contracts for fares binding against the exercise of the regulatory power of the state was not conferred upon cities. It was soon established by decisions of the Supreme Court of the United States that, generally speaking, these 5-cent fare provisions could not be enforced by the companies if the state, in the proper exercise of its authority to fix just and reasonable rates, prescribed a lower rate of fare. These decisions were viewed with considerable alarm by those engaged in the street railway business, because they meant that the capitalization upon which a return could be allowed must be made to correspond with actual values.

In most cases, however, the commission did not attempt to change the fares which had been fixed in the ordinances. Then came the war.

NO IMMEDIATE RELIEF FROM WAR COSTS

The War Labor Board ordered increases in wages, and materials and supplies had to be purchased at prices fixed by the government. The government had taken control of the steam railroads and had advanced rates to cover increased operating costs. In dealing with the electric railways, the war power was exercised to increase operating costs, but the railways were left to the local authorities for an adjustment of fares to meet their increased necessities. To be sure, the War Labor Board gently suggested to the local authorities that it would be highly proper and very patriotic for them to give consideration to what the government had done under the war power with reference to wages, and to grant relief to the railways which would make provision for their increased necessities. These acts will always stand out as one of the great injustices of the war period. Certainly it would have been just as proper for the government to exercise its war power to give to the electric railways adequate rates of fare as it was to exercise that power in fixing the wages of their employees. The electric railways were just as necessary to the successful conduct of the war as were the steam railroads, the telephone and telegraph lines, the shipyards, and other industries over which the government took control. Without the electric railways, the work in the great centers of industry could not have been carried on.

The processes through which relief could be obtained from the local authorities were slow and uncertain. In states having no commission, or in which the jurisdiction of the commission was so limited that it could not grant relief there was confusion confounded. In Ohio, the cases of Columbus and Toledo are striking examples. In New York, the Court of Appeals held that the Legislature had not given to the Public Service Commission power to fix rates in cases where there was a contract between the city and the company for a rate. In New York City, as in Chicago, the worst elements of the press united with the worst elements in politics

in a campaign of gross misrepresentation and in an attempt to make political capital out of an emergency resulting from war conditions.

STATE COMMISSIONS ASSAILED AS ENFORCING LAW

In states having commissions with authority to act, the appeals for relief were made to those bodies. The situation in Illinois is illustrative. These appeals were in many cases bitterly contested by the municipal authorities. It was urged that notwithstanding the action of the federal authorities as to wages, and the great increase in operating expenses due to the general advance in prices of commodities, the applications of the street railways for relief should be denied because of the provisions in the franchises fixing fares.

This attitude toward advances in street car fares is one of the strangest and most incomprehensible things which happened during the war. The 5-cent fare had become impossible due to the increases in wages and the prices of all commodities. Yet it was contended that the street car companies must continue to operate on a 5-cent fare, when that rate of fare would not produce enough to pay actual operating expenses, to say nothing whatever of any return upon the capital invested in the property.

Not only that, but in Illinois this contract question had been definitely settled long before the public utilities law was passed. The question had been before the Supreme Court of the State in three cases and had gone to the Supreme Court of the United States. It was settled in Illinois at the time the public utilities law went into effect that statutes such as those under which the city exercised authority over the local transportation systems did not confer upon the city power to make a contract for a rate valid against the exercise of the police power of the State, and it made no difference whether the subsequent exercise of the rate fixing power was by the Legislature itself or by the city under its delegated power to fix rates.

Shortly after the public utilities law went into effect, the question was raised with reference to service provisions in the Chicago ordinances. Our Supreme Court held that these were matters as to which the city was without authority to contract away the police power of the State, and that ruling was upheld by the Supreme Court of the United States. In other cases, involving contracts between street railway companies and cities for rates of fare, the Supreme Court reaffirmed the rule which had been laid down in the cases decided before the passage of the public utilities law.

It is settled, as definitely as any question was ever settled in the courts, that these contract provisions were inserted in the ordinances without authority of law, and that when the public utilities law became effective all rates were subject to the rule that they must be just and reasonable.

The commission had no discretion in the matter. It was its duty to comply with the requirement of the statute and to determine what rates were just and reasonable. Yet, notwithstanding the clear necessity for prompt relief, in spite of the definite rulings of the Supreme Court there were assaults in many cases upon the commission for enforcing the law, and the companies were denounced as contract breakers.

TEMPORARY RATE BASES ESTABLISHED

Another question confronting the commissions was that of the granting emergency relief without complete

valuations for rate-making purposes. In most states it was held that the commissions did have this authority. A ruling to the contrary would have meant ruin to these utilities. Valuation proceedings are long and tedious affairs. In granting emergency relief, the rule was followed that a rate would be fixed which was sufficient to take care of operating expenses and depreciation and in addition to give a return upon the lowest valuation which it was reasonably possible to place upon the property.

Some measure of relief was thus afforded through temporary orders. The commissions, having granted temporary relief, proceeded to determine the valuations for rate-fixing purposes. The principles to be followed in making these valuations, generally speaking, thus far have not been very definitely established. The point of uncertainty is the extent of the consideration which is to be given to war prices. The valuations which have been made by the Illinois Commission follow the decision of our Supreme Court in the Springfield gas case.

This, briefly, is what the commissions did in granting relief to the electric railways. What would have been the result if the commissions had yielded to the clamor of agitators and had failed to act in this emergency? The utilities would have had the right to resort to the federal courts for protection of their property against confiscation. And, in giving this protection, the federal courts would have fixed the rates to be charged. There would have been a complete abdication of their authority by the states.

COMMISSIONS MAKE CORRECT DIAGNOSIS

The commissions have been absolutely right in what they have done in granting this relief. I make this prediction with reference to the cases in Illinois, particularly in Chicago. These cases are now in the courts. If the representatives of the city, who have taken these appeals have the courage to follow them up, the orders of the commission will be sustained. If the commission in this state, in the face of the constitution and the statutes, undertakes to impose upon these utilities confiscatory rates, their orders will be stopped in the federal court.

These assaults upon the commission are in their last analysis assaults on the constitution and the courts, because the commission, in making its decisions, has followed the constitution and the rules which have been prescribed by the courts.

It would not have been believed five years ago that such an attack upon constitutional rights would have been tolerated in the State of Illinois. Of one thing we may be sure. This is not Russia. This is not Germany. This is the United States of America, and the courts and the army of the nation will stand, if the necessity arises, against confiscation of property.

There is one incident in the history of this State. This State once abdicated the functions of government and refused to enforce the law and to protect property rights. President Cleveland put the entire force of the nation behind the orders of the federal court. I do not believe that this will be done again in Illinois, but, if any agency of the State fails in the performance of its duty to protect the rights of our citizens, you may rest assured that the federal courts and the federal government will not fail to act.

The relief which the commissions granted was, generally speaking, inadequate. This was necessarily so

because of the rule required to be followed in granting emergency relief, and, as I have pointed out, final valuations could not have been made without hearings which would have taken a great deal of time.

On Dec. 31, 1920, there were, in the United States, in the hands of receivers ninety-one companies with 5,330 miles of track, representing about 11 per cent of the total street railway mileage of the United States. This was in addition to the lines foreclosed, reorganized or wholly abandoned.

The average advances which have been allowed by local authorities to the electric railways have not been as great as those which the steam railroads have received through the more efficient agency of the federal government.

HOW THE SITUATION STANDS

Let us take an inventory of the situation. From a strictly legal standpoint, it is satisfactory in most of the states. The commissions are acting under laws which entitle the utilities to just and reasonable rates. Commissions must follow this rule and must recognize constitutional rights. Even if the public utilities laws are repealed, the old contract ordinances will not be revived. They went down when the public utilities laws went into effect. They were superseded by the general rule which the legislatures prescribed for the fixing of rates. If the rate-making power is returned to the municipalities, their ordinances will be subject to constitutional requirements, and if those ordinances are confiscatory, relief will be afforded in the federal courts, just the same as against confiscatory orders of commissions.

The principles which are required to be followed in making valuations are becoming settled. While there is still some uncertainty, doubts are gradually being removed. Courts almost without exception are laying down the rule that commissions, in making their valuations, must give substantial consideration to present-day prices. This insures valuations which will make possible the financing required for needed improvements and extensions.

As to the rate of return, the state and federal courts are recognizing that it requires a higher rate to stand the test against confiscation than it did before the war. But it is not sufficient merely to save the properties from confiscation. It is not sufficient even to get a permanent valuation based upon sound principles and a rate of return required by present economic and financial conditions. If these utilities are to continue to function, they must provide service, and to furnish service, they must have improvements and extensions. This requires money, and money requires credit. Credit cannot be obtained if it is necessary to be continually running to the federal court to save the property from being confiscated. Credit cannot be obtained if public utility commissions are appointed to deliver decisions which have been promised in a political campaign. In fact, the credit of these utilities will never be established until this subject is taken out of politics, until commissions are permitted to function like courts. And this will not be accomplished until there is an enlightened public opinion based upon an appreciation of the facts which will compel agitators and politicians to let this subject alone.

I know that in some sections of the country and in some communities there is a realization on the part of the people of the importance of this subject, and of

the principles which should be applied in dealing with it. But, in general, the situation is a great deal like the free silver agitation prior to 1896, or the steam railroad problem before the campaign of education by which the people were made to realize the necessities of the railroads.

What is the reason for this agitation? Whatever it is, the situation is in your hands. You must counteract it by doing everything within your power to render satisfactory service. I know the circle around which you are traveling. There is poor service because there is no money, and there is no money because there is no credit, and there is no credit because of the antagonism of the people, and the antagonism of the people results from poor service.

RENDER THE BEST SERVICE POSSIBLE

The only way you can break through this circle is to convince the public that you are doing everything within your power to render the best service possible under existing conditions. And if you do make an honest effort, and are let alone by the politicians and the newspapers, you can accomplish this.

The chief causes, however, of this unfair agitation are dishonest politics and the dishonest press. In politics we shall always have those who are willing to capitalize every issue or any element. We have those in this country who have catered to disloyalty and treason. And to make capital out of the utility question is for some politicians a very trifling affair and one which in no way shocks the conscience.

The dishonest press is another thing. No one in this country questions the basic right of the freedom of speech and of the press. A newspaper has a perfect right to advocate any cause which it may think is right. It may advocate public ownership. It may support socialism. But it is false to the principles of true journalism, and betrays the confidence of the public, when it publishes what it knows is not the truth.

Take the case right here in Chicago. In spite of the established law and decisions of the highest courts of the state and of the nation, day after day the street car companies have been denounced as contract breakers, and the commission has been assailed as being party to the destruction of sacred contract rights. And yet, in all this denunciation, there has not been a correct statement of what the law really is or what the courts have actually held.

Another favorite falsehood is that exorbitant returns are being permitted on watered stock. The truth is that in fixing the temporary rates which were allowed during the war period, the very lowest valuation which could be placed upon the property was taken as the rate base. The truth is that the advances which were allowed to the street car companies have been much less proportionally than the advances which were allowed in railroad rates by the federal government.

It is all right to carry on a campaign for municipal ownership, but to work up a popular clamor by a false appeal under disturbed conditions following the war is intolerable.

TELL THE PEOPLE THE FACTS

This can be met only by a campaign of education. And you must realize that you are all interested in the general problem. Even if your own communities are all right, your credit depends upon the general credit of this class of utilities. It is a case of all for one

and one for all. You must make the financial world understand that this is a matter of much importance to the financial stability of the country.

You must organize and you must fight. I know that some good work has been done, but I know that you will pardon me when I say that my observation has been that it has not been carried on with the zeal that the righteousness of the cause requires.

It is a cause which requires aggressive work and vigorous speech. There is a need for straightforward and emphatic expression. There is nothing to apologize about. It is better to say nothing than to make half-hearted and evasive and apologetic appeals. This is no place for the man who is afraid that he will hurt somebody's feelings. You must reach the people.

If the utilities of this country do not unite to make this kind of a campaign, if the solid business interests do not get back of you in this kind of a campaign, one for all and all for one, you will fail to establish your credit, and if you fail to establish your credit, it will mean financial panic, general pandemonium and ultimately public ownership.

Make no mistake. The courts cannot save you. They can keep the agitators from tearing up your tracks and from confiscating your property, but they cannot give you credit. Commissions cannot save you. An order is of little value which does not have permanency. Permanency requires a public sentiment which will insure the right kind of a commission and which will let the commission know that it has the support of the people in what it is doing. If you get the people back of you, if you can convince them that you have been right and are right, and that the commissions have been right and are right, they will take care of the politicians and the dishonest newspapers.

THE PEOPLE WILL BE REASONABLE WHEN THEY KNOW THE FACTS

You may say that this will be a hard task, but it is made the easier, because the American people on questions involving protection of property and financial integrity are fundamentally right. The reign of the demagogue in America has always been short. We had our great critical period when the agitators were railing against the centralized national government with the power to protect property. It was followed by the constitution. After the Supreme Court had been established and John Marshall was writing his great opinions which made this a real nation, the agitators clamored for a time for the abolition of the court, but the court and the nation still exist. In the great battle for sound money America served notice to the world that repudiation and confiscation are not in her vocabulary. And in dealing with this great utility problem you will find that the people will be sound and honest when they know the facts. There will be no destruction of property right. There will be no confiscation. The courts will do their duty and the commissions will do theirs.

I have faith in human nature, and I do not believe that in the United States there will be found a commission whose members, having taken the oath of office to support the constitution of the state and of the nation, will deliberately and willfully set about to destroy rights protected by the constitution.

The great industrial and economic structure of America, of which you are a part, is sound. The rain may descend and the floods may come and beat upon it, but it will stand, for it is founded on a rock.

Association Holds Midyear Meeting

Many Plans of Electric Railway Finance Discussed in Specially Prepared Papers—Favorable Action Taken on Report of the Federal Electric Railways Commission and the Referendum of the Chamber of Commerce of the United States

THE tenth annual mid-year meeting and dinner of the American Electric Railway Association was held at the Drake Hotel, Chicago, Ill., on Feb. 10. It was preceded by a meeting of the executive committee, held at 9:30 a.m. on the same day. Condensed minutes of this meeting are given elsewhere in the present issue. President P. H. Gadsden presided at all sessions of the conference, as well as at the banquet. More than 400 delegates registered for the conference and between seven and eight hundred attended the dinner.

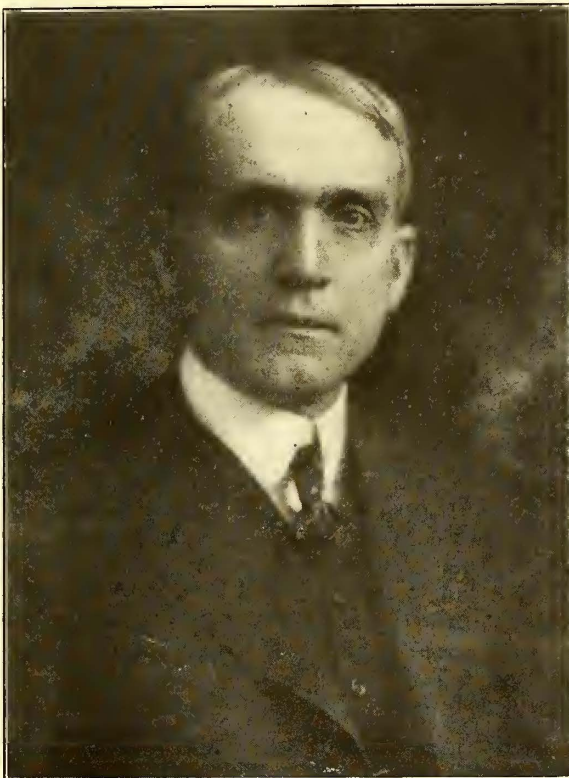
Morning Session

The meeting was called to order at 10:30 o'clock by President Gadsden. He was presented with an "Emblem of Authority," which was the handiwork of his shop employees at Charleston. He used this emblem, a gavel, throughout the meeting.

The report of the committee on constitution and by-laws was presented by Charles L. Henry, in the absence of Chairman L. S. Storrs. The report recommended that the by-laws be amended to agree with the suggestion made by J. H. Pardee in his presidential address at the 1920 convention, namely, that the executive committee be enlarged by the addition of six members elected at large, each to serve for a term of one year and to be ineligible for re-election for one year from the date of expiration of his term of office. The proposed changes in the by-laws were submitted to the membership in advance of the Chicago meeting in accordance with the provisions of the constitution. Amendments to the two paragraphs of the by-laws affected by these changes were adopted. The paragraphs as amended read as follows:

VI. (a) The entire charge and management of the affairs of the association shall be vested in an executive committee, which committee shall consist of the president, vice-presidents, presidents of affiliated associations, five others who shall be connected with member companies engaged in the business of manufacturing or selling materials for electric railways and six members at large. The past-presidents of the American Electric Railway Association and its predecessors, the American Street and Interurban Railway Association and the American Street Railway Association, shall be honorary members of the executive committee, but without the power to vote.

(b) The five members of the executive committee representing manufacturer member companies and the six mem-



PHILIP H. GADSDEN

bers at large shall be elected to serve for a term of one year and shall not be eligible for re-election for a period of one year from the date of the expiration of their respective terms of office. All such elections shall be made by ballot and a majority of the votes of the company members present shall be necessary to an election.

The symposium of papers on electric railway finance was then taken up. Abstracts of these are grouped together as the leading feature of this issue of this paper. An introduction by J. D. Mortimer was read by title.

The first formal paper on the program was on "Previous Methods of Electric Railway Finance," by James F. Fogarty, secretary the North American Company, New York. In the absence of Mr. Fogarty the paper was read by Harold V. Bozell, ELECTRIC RAILWAY JOURNAL. This and the other finance papers are abstracted elsewhere in this issue.

The subject of present requirements for mortgage securities was discussed by F. K. Shrader, of the firm of Halsey, Stuart & Company, Chicago.

S. B. Way, vice-president and general manager of the Milwaukee Electric Railway & Light Company, then presented a paper on home-town financing.

MR. COREY ELABORATES HIS PAPER

The next paper was on the necessity of financing by sale of capital shares, by Chester Corey, vice-president Harris Trust & Savings Bank, Chicago. In addition to the remarks abstracted under the symposium, he said that while prophecies were unsafe it was not improbable that in less than five years the well-established street railways would find a good market for their stocks and bonds.

Mr. Corey also discussed briefly the question of valuation in relation to rates, and said that there were many defenders of the idea that the rates established in 1921 should be based upon current price valuations and that past averages need not be considered. Personally he did not agree with this idea unless adjustments in valuation were made from time to time as current prices varied. The rate of return would also naturally change at intervals depending on the cost of money resulting from the obligations of foreign governments and municipi-

palities being floated here on an 8 per cent basis. For this reason home securities could only be issued at comparable rates.

Melvin A. Traylor, president First Trust & Savings Bank, Chicago, discussed the subject of municipal aid in electric railway financing. In addition to the remarks that were given in the abstract elsewhere in this issue, he said that a forceful answer to the present condition of railway securities was found in the fact that for the two-year period Jan. 1, 1919, to Dec. 31, 1920, fifty-nine issues had defaulted in the payment of their interest charges. These defaults, which occurred in twenty states, amounted to a par value of \$413,000,000, with annual interest accounts of \$23,000,000. This condition, he said, presented a serious problem not only for the bankers, who have distributed these securities, but for the companies involved. The aid to be given by the public, he said, should be through better sentiment and more honest public interest.

There was no discussion of the finance papers.

Afternoon Session

At the afternoon meeting, called to order by President Gadsden, Walter A. Draper as chairman presented the report of the committee on the report of the Federal Electric Railways Commission and the report of the special committee on public utilities of the Chamber of Commerce of the United States of America. In presenting the report and recommendations of this committee Mr. Draper told at some length the consideration and detail study which had been given the matter, first by his committee and later by the executive committee of the association when it was brought before the latter. He read the names of the men present at these several committee meetings and informed the convention that the reports had been unanimously approved by the executive committee. Thereupon he moved the adoption of the resolution approving the reports. No discussion developed when President Gadsden placed the matter before the convention and the report was adopted without opposition.

The text of the resolutions as presented by Mr. Draper and adopted by the conference is given in full at the bottom of this page.

C. L. Henry then read a telegram from Thomas N. McCarter which suggested that the association pass a resolution urging that the House of Representatives decline to pass the bill now pending before it which would create a new 2-cent coin, for the reason that such a coin would result in serious financial loss to the electric railways. Particularly on more than 200 properties using the registering type fare boxes it would entail other difficulties in the collection of fares and in the handling of turn-ins in the counting machines and also delay service.

Mr. Henry introduced a resolution embodying these points and it was passed by the meeting. President Gadsden then made a few remarks emphasizing the great desirability of having more discussion at the association meetings and served notice on the members that he was going to do all in his power to see that there is a real debate on the principal issues of the industry at the next annual meeting. He then declared the meeting adjourned.

The Dinner

The closing function of the midyear meeting was the annual dinner, which was served at 7 p.m. at the Drake Hotel. Philip H. Gadsden, president of the American Association, presided. The arrangements for the dinner were in charge of a committee of fifty, of which L. E. Gould, Chicago, Ill., was chairman, and E. B. Burritt, secretary of the association, was secretary.

The after-dinner speakers were Hon. John W. Weeks, former United States Senator from Massachusetts; Hon. James H. Wilkerson, former chairman Public Utilities Commission of Illinois, and Charles A. Leedy of the Youngstown (Ohio) *Telegram*, widely known as a humorous writer and speaker and a member of the board of directors of the American Press Humorists.

Before introducing the speakers of the evening, Toastmaster Gadsden reviewed the present status of the

Resolutions

on Federal Commission and Chamber of Commerce Reports

Whereas, during the last twelve months the Federal Electric Railways Commission, a thoroughly representative body appointed by the President of the United States, and the committee on public utilities of the Chamber of Commerce of the United States have reported the results of exhaustive studies of the electric railway industry, and

Whereas, subsequently the report of the committee on public utilities of the Chamber of Commerce of the United States was submitted to referendum and has been approved by an almost unanimous vote of the membership of the Chamber, representing the opinion of the country's organized business, and

Whereas, no other industry in the country has had the benefit of such complete inquiries into its affairs made on the part of the public, and

Whereas, the fact that such inquiries have been made by two such representative bodies is the highest evidence of the critical situation into which the electric railways of the country had fallen, and

Whereas, while differing somewhat in detail, the two reports agree on the main facts which have contributed to the present situation, and they unite in pointing out the importance of restoration of the credit of the electric railways and in recommending certain broad underlying principles to restore this credit and insure the high class of service which the public requires.

In view of these facts and that the public may know the attitude of the electric railway industry, itself, with regard to these reports and their recommendations, it is hereby

Resolved, by the American Electric Railway Association, in annual midyear conference assembled at Chicago, Ill., that this association does hereby recognize the analyses made by the Federal Electric Railways Commission and by the special committee of the Chamber of Commerce of the United States as being fair and sound statements of the conditions surrounding the electric railway industry today. And it is hereby further

Resolved, that the conclusions and recommendations of these reports with reference to steps which should be taken by both railways and public to rehabilitate electric railway service and credit, for the common benefit of all, are bases upon which the electric railways should join with the public in efforts to meet local conditions. And it is hereby further

Resolved, that the electric railway industry, realizing that the public comfort and convenience as well as the growth and prosperity of communities and of individual business enterprises are largely dependent on electric railway service, hereby places itself on record as ready to do everything in its power to render the most complete service to its patrons, on the lowest possible profitable fare basis consistent with fairness in its wages and working conditions to its three hundred thousand employees, and relies on the public to allow a fair return for service rendered and to establish electric railways on a sound financial basis, which is essential to the general program as outlined by these reports.

electric railway situation and took an optimistic view of what lies in store in the future. A summary of his remarks follows:

OPTIMISTIC VIEW OF THE FUTURE

After outlining the subjects that had been discussed at previous association meetings during the past four years Mr. Gadsden said that we have at last unquestionably passed the peak of high prices both of labor and material. While there has been no appreciable effect as yet upon the operating costs of electric railways growing out of the decrease in the cost of materials, still it is a fact that we are no longer called upon to face increases in the cost of materials or demands for further increases in wage scales. For the first time in four years these questions are not uppermost in our minds and are not insistently demanding our undivided attention. Also for the first time in that period we are enabled to catch our breath and to look around and appraise the damage which has been done; to take account of stock; to marshal the remaining assets and form some intelligent and comprehensive idea of the condition of the industry as a whole. We have all the sensations of victors of a great war. We are survivors of the greatest

economic upheaval which this country has ever known. Wages have increased almost 100 per cent. Every class of material entering into the construction and maintenance of electric railways has advanced 150 per cent. With some notable exceptions, the electric railways as a class have succeeded, after desperate effort, in increasing their rates of fare from 20 to 100 per cent. With the exception of those companies which still for one reason or another are compelled to operate under the old 5-cent fare the rates now range from 6 to 10 cents. The average rate of fare throughout the industry is 7.09 cents, or an increase of 40 per cent.

On account of the great proportion which labor bears to the total cost of operation the electric railways have suffered most from the great increase in the wage scale. On account of the obsession on the part of the public over the fixed 5-cent fare the electric railways were the last of any of the public utilities to obtain relief by way of increased fares, and the relief granted was at no time sufficient to offset the increases in the cost of labor and materials which had already been incurred. Instead of being able to put into effect rates which would anticipate the continuing increases in the cost of labor and materials which were obvious to every one, the electric railway industry was compelled to stand the brunt of such increases for months before any relief by way of increased fare could be obtained. We have literally fought our way from a 5-cent fare to a 10-cent fare, every step of the road being fiercely contested.

Notwithstanding an increase in wages of almost 100 per cent and the grossly excessive prices of practically all materials, notwithstanding the unreasonable delays in securing increases in fares, the electric railways dur-

ing the period of the war and reconstruction have continued to "carry on"; they have continued to render an essential service in a most efficient way. They have carried countless thousands of workmen, whose daily wages had increased from 75 to 150 per cent and in some cases 200 per cent, to work in factories and industrial undertakings of every nature whose profits exceeded in most cases anything ever experienced in business before, while the electric railways were themselves compelled to fight desperately for any relief from conditions which, while threatening their destruction, were rolling up enormous profits to business generally throughout the country.

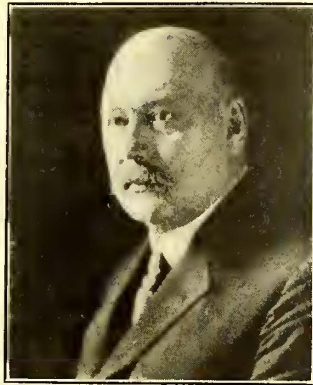
Notwithstanding the excessive burdens placed upon them by the increased wages and cost of material, notwithstanding the ruinous delay in granting of increased fares, notwithstanding the burdensome paving taxes and excessive taxes of various kinds imposed upon electric railways, in 1920 only sixteen companies out of a total of 943, having a mileage of 992 out of a total mileage of 44,835, with securities of \$94,174,230 out of total securities of \$4,889,962,096, were forced into the hands of receivers, and the service kept right on. It is true that in order to perform this necessary service to the public, in

order to live up to the high standard of service which the industry had established, it was necessary in most cases for companies to pass the dividends on their stocks, but the point is, before sacrificing the service or inconveniencing the traveling public by discontinuing service on unproductive lines, the stockholders of electric railways, and in many cases the bondholders, paid the price, a price which stockholders in no business outside of those regulated by law were called upon to make.

RAILWAYS OPERATED UNDER MOST SEVERE CONDITIONS

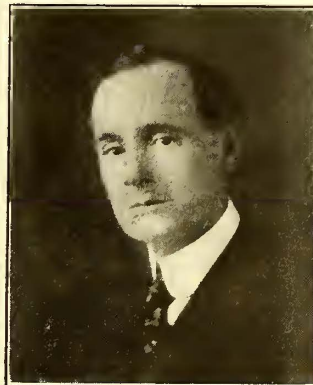
Is there any other business or industry which could have survived such treatment? The electric railways have been forced to operate under the worst possible conditions conceivable. The industry as an industry has been manhandled both by friend and foe. It has been ruthlessly exploited. The public has insisted upon its right to a nickel fare long after the value of that nickel had shrunk to 2½ cents. The concentration of population in cities during the war laid enormous additional burdens in the way of increased service upon the electric railways of the country.

And yet today the electric railways are carrying more passengers than ever in their history. That is to say, we are performing a greater service to the public than ever before. We have come out of this great economic encounter strong, efficient, courageous. Was there ever such an instance of inherent strength and stability in an industry? What greater evidence of essential and permanent values can be found as a basis for investment? Everything conceivable has happened to the electric railways, and yet they have survived.



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HON. J. W. WEEKS



CHARLES A. LEEDY

Two of the After-Dinner Speakers

Contrast this with the business world today. After four years of unexampled prosperity, at the first breath of adverse conditions, textile mills, shoe factories, automobile manufactories, steel mills, lumber mills, etc., first reduce working hours, then shut down, throwing hundreds of thousands out of work. Notwithstanding all that has happened to the electric railways, out of two million and more men reported unemployed in the United States today not one is an employee of an electric railway.

The electric railways have no large inventories to be marked down in the face of falling prices. When the whole business world is complaining of poor business, our facilities are taxed to their utmost capacity. From a standpoint of security of the investment, can there be any question that electric railways possess all the elements of a sound and stable investment?

And yet, with all of these elements of stable and essential value, the Federal Electric Railways Commission found officially that the electric railway industry as it now exists is without financial credit. Why is this? What further must be done to restore the credit of the electric railways of this country?

The answer is, fares of electric railways must be flexible, quickly responsive to changing economic conditions. The price charged for transportation on electric railways must bear some proper and definite relation to the character and quantity of the service rendered. Our system of electric railway regulation must be so amended as to provide a method as near automatic as possible whereby fares shall go up or come down with changes in operating conditions. With the revenues of electric railways adjusted so as to cover the cost of operation and provide an adequate return upon investment at all times the credit of electric railways, provided we have the proper financial structures, will rank next to municipal securities.

Already we are beginning to feel the effect of changed conditions. Every reduction in the price of coal, or rails, or crossties, every cut in the wage scale from now on, is going to show itself at once in our operating statements. We have weathered the storm. We have turned the corner. We are on the up grade. Even with present fares it is going to take considerable time to overcome the operating losses of the past four years and overtake the large deferred maintenance on all of our properties. But with steadily declining cost of material and labor, which we can reasonably look forward to, and constant if not increasing traffic, we can see the way out.

So out of the stress and strain of war and reconstruction the electric railways emerge from this dreadful period, having had burned into them the lesson of strict economy, and purged, I hope, of some, at least, of their misconceptions of the part which the public is entitled to play in the conduct of their business; keenly appreciative at least of the public good will and of the public viewpoint; spiritually chastened by their bitter experience, but, nevertheless, strong, self-reliant, proud of their wonderful achievements under most adverse conditions, and, lastly, full of courage to undertake the greater task which the future holds in store for them.

The address of Mr. Wilkerson is abstracted elsewhere in this issue. An abstract of that of Ex-Senator Weeks will be given in a later issue.

Approximately one hundred ladies were guests of the association and after the close of the banquet there was dancing until midnight.

Results of Committee Meetings Held During the Convention

THE special committee on the reports of Federal Electric Railways Commission and the Chamber of Commerce committee completed a draft of a resolution to recommend to the association for adoption.

The committee on company membership decided to follow a program of activity similar to that followed last year. The committee will ask present company members to work actively for new members, and will request all members to make greater use of the company membership emblem. The manufacturing members will be urged to use it on all advertising copy. The next meeting will be held in Pittsburgh, Pa., on April 8.

The committee on mail pay decided to recommend that it be authorized to continue its efforts for further increase in mail-pay rates.

The executive committee decided to authorize the Accountants' Association committee on standard classification of accounts to co-operate with the depreciation section of the Interstate Commerce Commission. The executive committee also authorized the committee on mail pay to proceed as recommended in its report. It also received a report from the publicity committee and approved the report of the special committee on the reports of the Federal Commission and the Chamber of Commerce committee.

Fritz Medal for Sir Robert Hadfield

THE John Fritz Medal Board, representing five leading American engineering societies, has awarded a gold medal for notable scientific and industrial achievement, especially in the invention of manganese steel, to Sir Robert Hadfield. This material was first described by him in 1893, but it did not become generally known until its qualities in the making of armament were realized. Manganese steel has proved of great use in the electric railway industry, especially in track construction, where the importance of wearing qualities predominates.

Among the men who have been awarded the Fritz medal previously are Thomas A. Edison, Gen. George W. Goethals, George Westinghouse, Orville Wright and Alexander Graham Bell.

Dr. Pupin Wins Edison Medal

AT THE midwinter convention of the American Institute of Electrical Engineers, to be held in New York City, Feb. 16-18, the Edison medal, bestowed annually on the scientist who has done most notable work in electrical engineering, will be awarded to Dr. Michael Idvorsky Pupin, professor of electro-mechanics at Columbia University. Not only is Prof. Pupin an eminent physicist, but he has been a leading figure in Serbian-American affairs and is now honorary consul-general in New York for the Serbian government. He was born at Idvor, Banat, Hungary, on Oct. 4, 1858, but has spent his entire professional career at Columbia.

At the annual meeting of the board of trustees of the United Engineering Society Jan. 27 the following persons were elected officers of the society for the ensuing year: President, J. Vipond Davies; first vice-president, Calvert Townley; second vice-president, W. L. Saunders; secretary, Alfred D. Flinn; treasurer, Joseph Struthers; assistant treasurer, George H. Pegram.

This is the Third of a Series of Articles on the Report of the Federal Electric Railways Commission, Written by a Commissioner

Service-at-Cost Means Co-operation

Electric Railway Labor Has Opportunity Under Service-at-Cost to Co-operate and Benefit from Results of Efficient Operation—Co-operation Between Public, Owners, Managers, Supervisors and Working Forces Is a Certain Result of the Adoption of This Plan — Stabilization of Financial Condition Is Another Result — Jitneys and Motor Buses Cannot Solve the Problem Alone

By W. D. MAHON

President Amalgamated Association of Street & Electric Railway Employees of America
Member of Federal Electric Railways Commission

A CAREFUL analysis of the report and recommendation of the Federal Electric Railways Commission would seem to lead to the conviction that the commission has placed before the public and street railway companies the logical immediate solution of the problem of municipal, urban and interurban transportation.

The Federal Electric Railways Commission, appointed May 31, 1919, by the President of the United States, had presented to it, as its report shows, the electric railway industry as it now exists at a time when it is without financial credit and is not properly performing its public function. A very exhaustive investigation was made and the solution of the problem may be well quoted in the language of the commission, wherein it says:

We strongly recommend the principles of the service-at-cost contract, not as the only solution, but as one means of solving a very difficult problem.

I may add to this that my judgment, formed after years of experience and observation in the business, leads me to believe that it is the best solution.

Most important to the common good of all parties interested in street railway transportation is that the method of the commission would impel active and studious co-operation on the part of the public, the owners and the operators. In the mention of operators I mean the managerial, supervisory and working forces who immediately direct and operate the business or, in other words, run the cars.

This active and studious co-operation of the public, the owners and the operators cannot fail under the method advanced by the commission. It cannot fail because of the fact



W. D. MAHON

that it at once establishes co-operative responsibility, which is not recognized under the present private ownership and operation. The commission's plan places such co-operative responsibility in a light beyond possible denial and commands immediate active co-operative participation.

CONDITIONS OF EARLY FRANCHISES

Under the present system we may regard the owners—stock and bond holders—as interested principally in obtaining a return upon their investment. Such a return may be operative, or that obtained from the profits of operation, or it may be speculative. There is no disposition on the part of the owners to limit the return. There is a natural ambition to make the property unduly accumulative. Certainly we cannot charge the public with having consciously or actively co-operated to make the street railway properties a success in

this line. Yet the speculative aspects of the situation have actually brought the public, face about, to confront the problem as it is today—a result of the public's indifferent tolerance.

Franchises were granted to early promoters under terms and conditions that were made in order to present inviting investments and speculative securities. The franchises were so constructed as to cause the patron element of communities to believe that its interest ended with each ride at the stipulated rate of fare. The tax-paying element sensed in those franchises a lightening of the burden of taxation that was transferred into a liability of the street railway properties, such as paving and other items to which the report of the commission calls attention.

These franchises granted twenty-five, thirty and thirty-five years ago by direct negotiation between the properties and municipalities were made on the basis of the going cost when a 5-cent fare may have been and presumably was an even too liberal concession to the properties; but those contracts, if we may call the franchises contracts, were made upon the basis of the then labor and material prices, which were, approximately, less than one-third of the cost of construction, equipment and operation under present prices. They were made on the basis of the going costs of operation. From that time there has been a progressive increase in the costs of construction, labor, equipment, etc.

Managements of the properties, to render creditable account to the stock and bond holders, were compelled to meet these ever-increasing burdens by passing them along to the wage-earning element of the employees of the property in the way of low wages and undesirable conditions

of employment, and to the patrons in the way of inadequate service. When the World War broke out these properties were paying the lowest of wages, were working employees under most embarrassing conditions of exactment and were rendering the least possible service to the public. Also, equipment and roadways were being neglected. The properties couldn't respond fully to the requirements. Bonding possibility had reached its limit.

CO-OPERATION DIFFICULT IN SUCH CIRCUMSTANCES

Certainly there had been cultivated no spirit of co-operation. The properties held out no inducement or attraction to labor. The type of service exacted the contempt of patrons. The results of operation were no longer a credit inducement. How could there be co-operation? It did not exist. The two elements that naturally will be led into co-operative responsibility with the property through the service-at-cost plan were rebelling, and perhaps they had some occasion to rebel. It is certainly conceded that labor may not be comfortably employed in a business that is losing money. We must admit that only that transportation can be afforded patrons which comes within the limit of receipts. In other words, no greater service will be long supplied than that for which patrons pay. How can there be co-operation under such a condition?

Jitney competition, which added greater burdens, rode in on the popular condemnation of street railway properties.

ESSENTIAL TO COMMERCIAL LIFE

Can any one dispute that street railway service is a necessary public utility? Not only is it necessary to life and health in relieving congestion by making it convenient for people to live in rural and urban communities, but it is essential to the commercial life of a large city. It is necessary to our large manufacturers and to the armies of workmen employed by them.

We all know what an interruption of that service means in the business and social world. Perhaps I am specially competent to know that there is as yet no substitute for the modern street railway. Jitneys, at the most, can be only a makeshift and a very inadequate means of transportation. Modern business cannot continue if dependent upon jitney service alone.

I think the intelligent public will agree with me that it requires a perplexing, distressing wage and employment condition for employees to discredit the directorate or management of one of these properties to a degree warranting them to suspend work or go on strike. And in practically every instance the public declares for the employees and takes sides against the company. Does not this show absence of the spirit of co-operation? Does it not show absence of any co-operative incentive except that which is displayed by the public and employees?

Under the plan recommended by the federal commission the strike method of adjusting differences is abandoned by the substitution of the collective agreement with equitable arbitration enforced by the co-operative spirit. From the fact that capital's return is fixed and labor, organized, stands as an important element of the co-operative management and operation, the lockout is abandoned. This is an added insurance of uninterrupted service. I have every reason to believe that the

respect accorded the rights of labor as incorporated in the commission's service-at-cost plan would eliminate the strike and the lockout and enlist the hearty co-operation of employees in effecting and perpetuating an economic service. Employees would recognize their responsibility to cooperate in eliminating waste, preserving property, keeping the rate of fare at a minimum and rendering at all time an efficient and convenient service.

SERVICE AT COST DOES NOT AFFECT MUNICIPAL OWNERSHIP

The commission very clearly enlightens the public and the railway companies upon the fact that the service-at-cost plan not only does not stand in the way of municipal ownership, but so interests the public by actual participation in the management and the operation under the service-at-cost plan that it is better qualified to determine upon the subject of municipal ownership at any future time when the communities interested are prepared to undertake municipal ownership. In the meantime, the municipalities may find themselves operating under a more acceptable arrangement than could be had under municipal ownership and operation.

Under municipal ownership, the municipality assumes the roll of private ownership and operation, with an ever-changing directorate resulting therefrom in political antagonisms not at all of benefit. On the other hand the service-at-cost plan retains the property under expert management with a skilled operating organization in which the public cooperates by means of a supervisory commission or commissioner—all working to the one ideal, an efficient service at the least possible rate of fare.

WIDER DISTRIBUTION OF REPORT DESIRABLE

There is much that can be written and said in support of the federal commission's report that would be highly enlightening upon this all-important subject. I believe the government could do a wonderful service by placing copies of the commission's report in the various homes in our large cities. May there be some means of obtaining such publicity.

If this were done, I believe it would lead to the early adoption of the commission's recommendation by various municipalities.

Transportation Essentiality Demonstrated

THE accompanying advertisement, prepared recently by the San Francisco-Oakland Terminal Railways, Oakland, Cal., is a straight-

What is Transportation?

A bushel of wheat,—a house and lot,—your own services—are equally valueless, without a market. Transportation provides and develops this market. Transportation, therefore, is wealth to the community. Each business day 890 Key System trains furnish transportation to residents of the Eastbay cities and to visitors.

Should this system deteriorate, or cease, your own discomfort would be the first result. Your value would diminish.

Depreciation of every dollar invested in the Eastbay district and every advantage of living here inevitably would follow.

To maintain the existing service the income must meet the necessary expenses of operation. We have no source of revenue except fares.

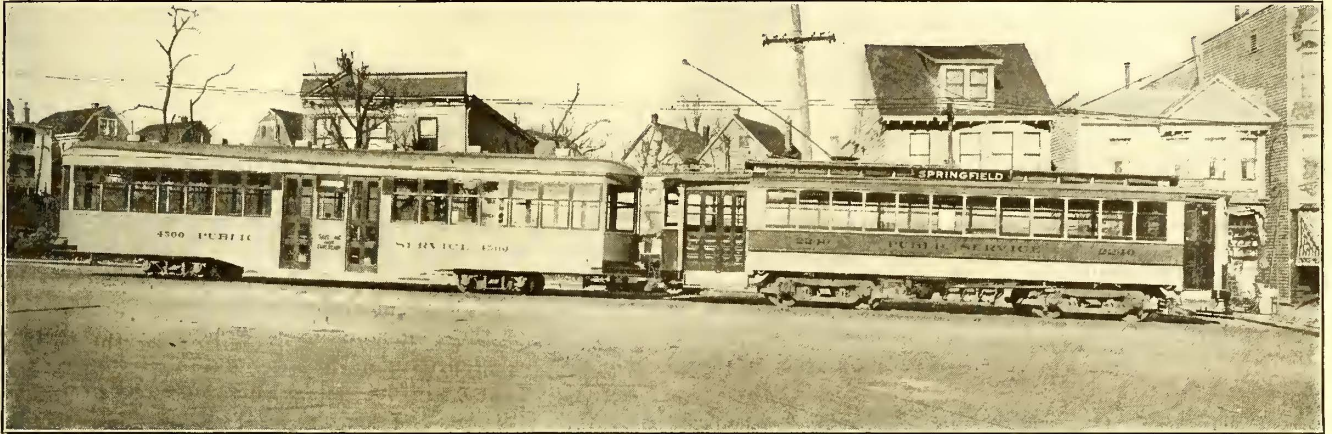
SAN FRANCISCO-OAKLAND
TERMINAL RAILWAYS

RECENT EXAMPLE OF PUBLICITY MATERIAL FROM THE PACIFIC COAST

forward plea for logical consideration of the fare question. It is the kind of publicity material that is calculated to set the minds of the railway's patrons to work.

Train Operation in New Jersey

After Tests Covering Various Operating Conditions, in Which Considerable Research Work Was Done and Both the Theoretical and Practical Aspects of the Subject Were Given Full Consideration, the Public Service Railway Adopts Trailer Operation on a Large Scale—Details of Recent Tests Are Given



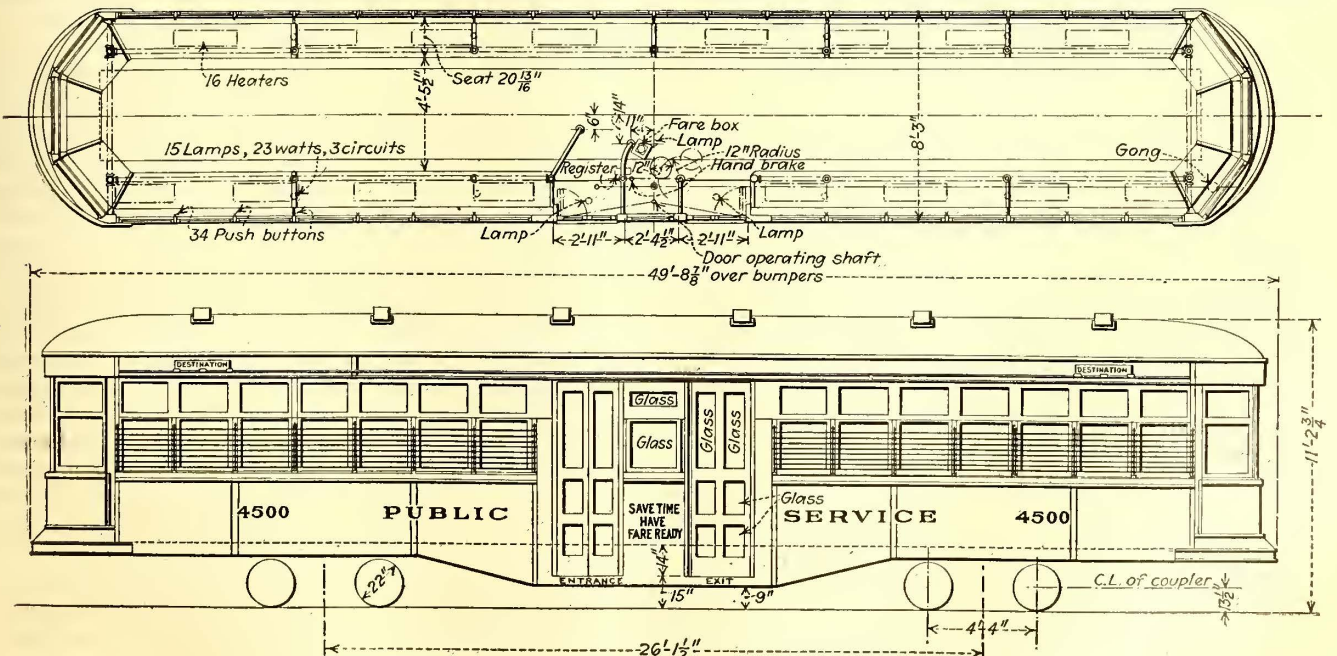
MOTOR CAR WITH TRAILER OF NEW TYPE, PUBLIC SERVICE RAILWAY

THE Public Service Railway, with headquarters at Newark, N. J., has received the first of an order of 100 trailers from the Osgood-Bradley Car Company. This forerunner of the large group of cars has been in operation in Newark for several weeks with good results.

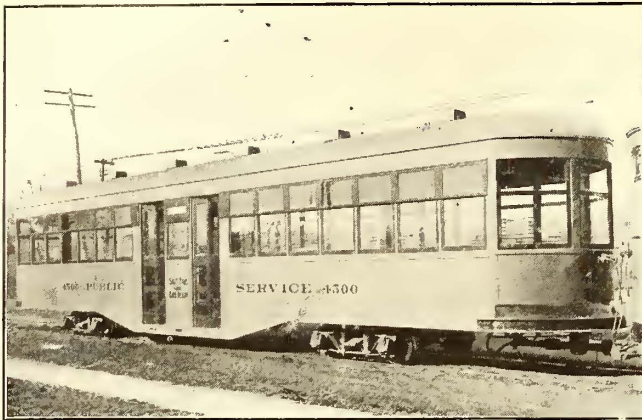
The use of trailers is a comparatively new development on this property, although multiple-unit trains have been used for several years. The company has done considerable research work in the field of train operation, and the present plan involving the use of light trailers rather than multiple-unit cars is the result of an evolution in which both the theoretical and practical aspects of the subject have been given full consideration.

About eight years ago the company made a series of train tests which were summarized in the issue of this paper for July 5, 1913, page 10. These tests were the result of the necessity for increasing track capacity during the rush hour on certain sections of the property. They demonstrated the practicability of train operation under local conditions, and the effect in slowing up schedules was found not to be so serious as to offset the greater carrying capacity of the train unit. In the tests the characteristics of a single car, a multiple-unit train and a motor car and trailer were compared, with the result that the multiple-unit train appeared to be the best.

Following the test period a number of trains were put in operation on the property and are still giving



PLAN AND ELEVATION OF PUBLIC SERVICE RAILWAY TRAILER



NEW TRAILER FOR PUBLIC SERVICE RAILWAY

cars so equipped were put in service. These cars have the advantage of ease of coupling and uncoupling, and the plan was to use them singly or in trains as the exigencies of the service required. As a practical operating proposition, however, it has worked out that the administrative difficulties in the carhouses in getting trains made up and broken up at the right times have worked against the use of the cars other than as single units. The consequence is that the multiple-unit train has proved somewhat of a disappointment, and in expanding train operation the trailer plan has been adopted. It is felt that the extra expense for equipment and control is not warranted under the conditions, particularly as later tests show that practically as good results can be secured with the trailer plan.

THE 1920 TESTS

good service. A number of trains were made up with two cars equipped with two 50-hp. motors each, on maximum-traction trucks. These were permanently coupled, the four motors on this train being handled like a four-motor equipment on a single car, with a bus line connecting the two cars. This type of train has not proved satisfactory, for these among other reasons: First, on stiff grades with heavy loads the traction in wet weather or on wet rails is not sufficient to maintain speed, hence the line is "slowed down." That is, the drivers slip and spin too much to permit the making of schedule speed. Again the unit gives trouble at switches, the derailments being too frequent for dependable operation.

A better train was found to be one made up of four-motor cars with H L multiple-unit control, and 128

During the war and early post-war periods the Public Service Railway found itself confronted with a tremendous rush-hour problem in Newark. This was the center of a great industrial development and the handling of the thousands of workmen employed in the vicinity, with provision for the expected larger numbers, brought train operation into the focus of interest again. This was the reason for the large investment in the new trailers. Since they were ordered there has been a temporary slump in the local industries so that the trailers will not at once be used in their intended service, but they will be distributed to points of maximum rush-hour congestion.

To determine the probable effect of the trailer operation on the schedules and on the equipment of the motor car some service tests were made last spring

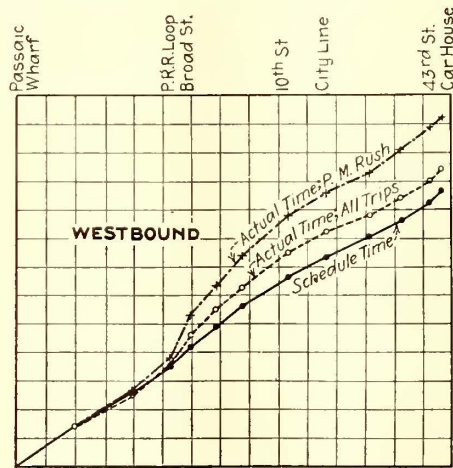
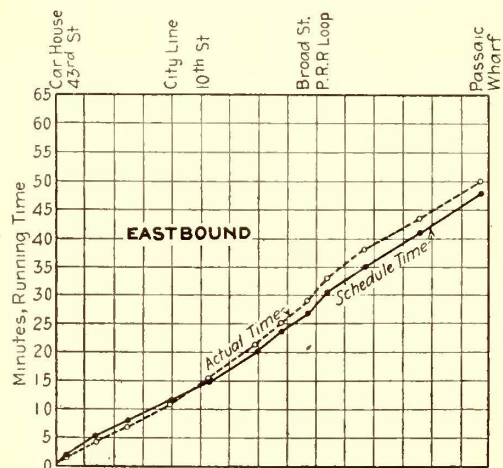


FIG. 1

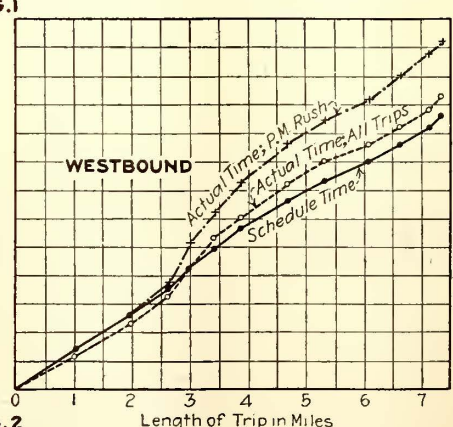
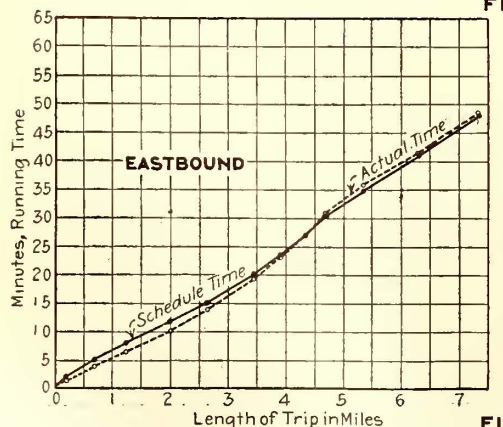


FIG. 2

RESULTS OF TESTS OF DIFFERENT TYPES OF TRAIN UNITS IN NEWARK:
FIG. 1—4-4 TYPE TRAIN. FIG. 2—4-2 TYPE TRAIN.

with the single car (four motors), the 4-4 motor train (four motors on each of two cars), the 4-2 motor trains and the 4-0 motor train (motor car and trailer). These tests were made on the Springfield line, Newark, and they covered the morning and evening rush hours for four days, from March 29 to April 1, 1920.

The data secured were as follows: Leaving time, arriving time, schedule trip time, actual trip time, per cent off schedule time, mileage of trip, total number of stops, average number of stops per mile, average duration of stop, total duration of passenger stops, total duration of delay stops, schedule speed, actual speed, actual speed exclusive of stops, number of passengers interchanged, average number of seconds per passenger interchanged, percentage of passengers off by front exit, percentage off by rear exit.

Some of the results of the tests are shown graphically in Figs. 1 to 4. These show averages for the four days.

On the first of these days the prevalence of a fine drizzle resulted in slippery rail, but particular attention was given to sanding to offset this. On the other days conditions were practically perfect. The results show that under conditions of the test there was little difference among the units so far as adherence to schedules was concerned. The following table, which covers averages of twenty-four trips, indicates this:

RESULTS OF TRAIN TESTS IN NEWARK				
Type of Train	Per Cent Adherence to Schedule	Stops per Mile	Average Number of Passengers Carried per Trip	Number of Trips Made in Schedule or Better
4 = 4	108.1	6.4	76	6
4 = 2	102.2	5.4	71	12
4 = 0	105.4	6.6	83	8
Single car	106.8	6.3	66	11

The 4-0 train was very slow on grades, often not starting until the third point on the controller was reached, picking up very slowly until that last two points had been attained and then going with a jerk. Starting conditions were better on the level. There was a perceptible jerk on the second car on stopping and starting. The public, being unused to this train arrangement, was slow in boarding the second car, consequently the load on this was small except on the heaviest of the rush-hour trips. The tests did not show what would have occurred if track conditions had not been good. The train would presumably encounter some difficulty on the grades.

The 4-2 train started almost as smoothly as the 4-4, although in the test the latter naturally shows up best of all. The former, however, made somewhat fewer stops per mile and carried fewer passengers.

In a comparison between the 4-4 and 4-2 trains, the latter was seen to be as good as the former for all practical purposes, while the 4-0 train was evidently all right for fairly level routes or on reasonable grades with good track.

Figs. 1 to 4 show that all units can hold schedule outside the congested districts, which lie largely between Tenth Street and the Pennsylvania Railroad loop. In the congested districts the traffic and the traffic officer have more influence on the operation of the cars than the equipment or the motorman.

One might ask why the schedule should not be fitted to the actual rush-hour condition. To this the company replies that it is better to set the schedule to suit the non-rush hours and to adjust the lay-over, over which the timetable department can exert control, to provide for delays.

The new operating unit will comprise a motor car of the "2200" type and a trailer of the "4500" type. The motor car is equipped with four 40-hp. motors. It is single-end, and 100 of the type are in operation.



CONDUCTOR'S STATION IN NEW PUBLIC SERVICE TRAIL CAR

The trailer is in most respects similar in design to the latest Cleveland trailer. It is mounted on the Osgood-Bradley Car Company's light archbar swing-bolster trucks and weighs fully equipped, with farebox, 23,300 lb. The trailer has been made as simple as possible and longitudinal seats are provided to furnish the maximum capacity. As many as 180 persons can be accommodated with reasonable comfort, and in a pinch 200 can be carried.

Both motor car and trailer are wired for passengers' electric stop signals, but clapper bells are used for the start signals. The conductor's station is near the middle of the car, between the doors and facing toward the rear. Railings are installed on the trailer so that entering passengers pass to the conductor's right and distribute themselves throughout the car after paying their fare. The arrangement is such that he has ideal control over passenger interchange.

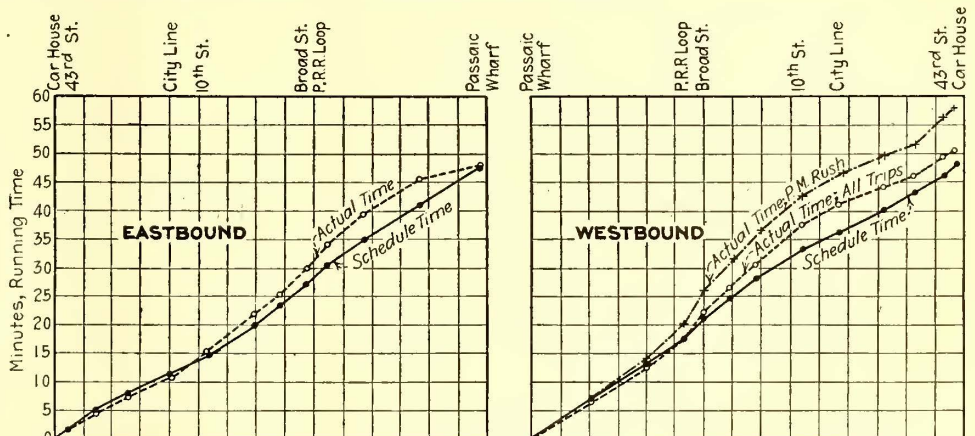


FIG. 3

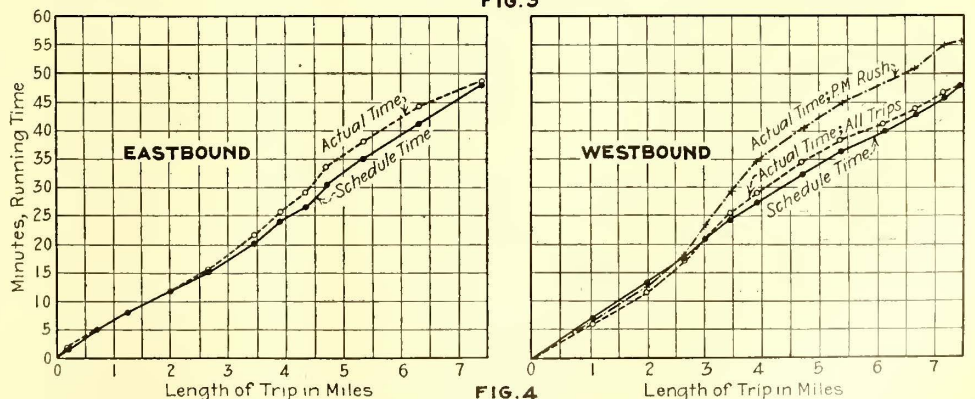


FIG. 4

RESULTS OF TESTS OF DIFFERENT TYPES OF TRAIN UNITS IN NEWARK: FIG. 3—4-0 TYPE TRAIN. FIG. 4—SINGLE CAR

Association News

Joint Utility Committee Appointed

A JOINT committee of three of the national utility associations has been organized by the American Gas Association, the National Electric Light Association and the American Electric Railway Association. The purpose of the committee is to promote co-operation and each of the organizations mentioned has designated a group to represent it as members of the joint committee, which, as at present constituted, consists of:

Randall Morgan, B. C. Cobb, Frank W. Frueauff, H. G. Bradlee, Lucius S. Storrs, Charles A. Munroe, Joseph K. Choate, E. C. Faber, J. B. McCall, John W. Lieb, R. A. Carter, O. D. Young, Henry L. Doherty, S. Z. Mitchell, P. S. Young, P. H. Gadsden, W. W. Freeman, Charles L. Edgar, A. P. Lathrop, B. I. Budd, M. H. Aylesworth, E. B. Burritt and O. H. Fogg.

Committee on Safety Meets

THE joint T. & T. and Claim Associations committee on safety met at association headquarters on Feb. 2. Those present were E. C. Spring, Lehigh Valley Transit Company, Allentown, Pa., chairman; R. E. MacDougall, New York & Harlem Traction Lines; H. V. Drown, Public Service Railway, and J. W. Welsh, special engineer of the association.

The committee plans to send a request to member companies for information covering accidents, their costs and what has been done during the past year in the way of safety-first campaigns. The report for the year will carefully analyze the replies received. Deductions will be drawn and an attempt made to show the necessity and need for electric railway companies co-operating with local safety councils and committees in accident reduction. The committee will also urge that the local electric railways give both moral and financial support, so far as is possible, to the work now being undertaken and carried forward by these local safety councils and committees in the interest of reducing all kinds and types of accidents.

It is planned to hold the next meeting the latter part of March, at which time it is hoped much of the information sought will have been received.

January Bulletins Now Available

THE following special reports and compilations have been prepared by the Bureau of Information and Service of the American Electric Railway Association during the month of January, 1921. Any or all of these reports may be had by member companies upon request to Secretary E. B. Burritt.

Rate of Return.—Twenty recent decisions of public utility commissions where the rate has been fixed after an official appraisal.

Effect of Business Conditions on Passenger Traffic.—A comparison of the last four months of 1920 with 1919, showing separately the situation of a number of companies both with and without fare increases.

Interurban Rates of Fare.—This shows the present and former rates, effective dates and whether on a mileage or zone basis, etc.

Analysis of Agreements Covering Working Conditions of Trainmen.—Supplementing report of last month.

Supplement on Trackless Trolleys.—This includes descriptions of systems in Bradford and Tees-Side, England, and Wurzen, Saxony, a proposed alternating current system, and a bibliography of all articles up to date.

The bulletins on city fares, wages of trainmen, cost of living and cities having motor bus service have also been brought up to date.

Letters to the Editors

Interurbans Need More Attention

THE WINONA INTERURBAN RAILWAY COMPANY
WARSAW, IND., Feb. 1, 1921.

To the Editors:

The editorial under the caption "The Interurbans Require Greater Attention," in the Jan. 1 issue of the JOURNAL, sounds a keynote that should arouse considerable interest.

You will remember that in a letter to you some months ago I contended that strictly interurban problems had become entirely lost in general publicity campaigns, so that in looking at the traction situation as a whole the general public could see only the street car problems of our larger cities.

I am still insisting that interurban transportation is entirely different in character than city street car service, and am glad to see your valuable publication take the matter up editorially.

J. C. SHADE,
General Manager.

Service in Cincinnati

DEPARTMENT OF STREET RAILROADS
CINCINNATI, Jan. 28, 1921.

To the Editors:

The article from Lucius S. Storrs in your issue of Jan. 1 is so valuable that I hesitate to say anything that might be construed as a criticism. However, the statement that I ordered a reduction of service in order to keep down fares is susceptible to some misinterpretation. What I did order was a readjustment of service by reducing service in the non-rush period, where it was excessive, and applying it to the rush hour, where it was needed. This resulted in a saving of \$500 a day in platform time, and actually improved the service during the period when the people are riding. No headways were reduced enough to cause any material inconvenience.

The footnote on page 17 gives the area of Cincinnati as 58 sq. miles. The area of Cincinnati proper is 72 and the area served, including contiguous communities, is 83.27 sq. miles, with a population of 454,000.

The density of population is low, and as a consequence the density of traffic is lower than in most cities, being only a little over 4 on some lines, with an average of 5.5 for the entire city. These long hauls through sparsely populated territory are characteristic of Cincinnati and affect the car-mileage costs and consequently the rates of fare.

W. C. CULKINS, Director.

News of the Electric Railways

FINANCIAL AND CORPORATE • TRAFFIC AND TRANSPORTATION
PERSONAL MENTION

Franchises Canceled

Chicago Council Acts to Nullify 1907 Ordinances—Disposal of \$25,000,000 Traction Fund a Poser

The City Council of Chicago, Ill., on Feb. 4, voted to cancel the 1907 traction contract-ordinances with the several companies constituting the Chicago Surface Lines. The considerations leading up to this action were quite fully reviewed in the **ELECTRIC RAILWAY JOURNAL** for Feb. 5, 1921.

There is some question as to what effect this action of the City Council will have upon the franchise situation. Inasmuch as these ordinances were originally adopted by referendum vote, it is probable that action of the same authority will be required to cancel them. Furthermore the companies have not been a party to the cancellation.

The action will probably hasten the decision of the Circuit Court, which has had before it for several months a petition from the city hall to cancel the contracts. If this court should hand down a decision declaring that the contracts had been abrogated by the companies by the steps they have taken in violation of the contract provisions but in keeping with the orders of the State Public Utilities Commission, it is quite probable that the matter would be appealed to a higher court.

The ordinance passed by the City Council carried with it instructions to the law department immediately to petition the new Public Utilities Commission to order track extensions amounting to about 110 miles, and other service improvements.

When the City Council was about to vote on the cancellation of the contracts, an Alderman raised the question whether the city would not thereby lose its right to the 55 per cent share of the net profits of the companies. The city law department admitted that it would. The city's share of the profits for 1920 will be approximately \$2,100,000. The sum of approximately \$1,700,000, which accrued to the city for the fiscal year ended Jan. 31, 1920, has not been paid, since the city hall declined to accept it because it was alleged that in so doing it would acknowledge the contract ordinances to be in effect, whereas it had declared them abrogated.

The traction fund has accumulated about \$25,000,000, which was to be used, according to the ordinances, in the purchase of the traction lines or in building subways. If the contracts are canceled, there is some question as to how this fund may be disposed of. According to a State Supreme Court decision, the city has no power to divert

this fund to general corporate purposes. The city's special traction counsel has suggested that the city might construct subways with this and lease them to the proposed transportation district boards. It is quite probable that the General Assembly will want detailed information about this fund, when it comes to the consideration of the proposed act which would create the transportation district and bring about public ownership.

According to one of the Aldermen, it is the intention of the city administration to submit the Mayor's plans for a transportation district to the voters at the election on Feb. 22. This is, however, probably impossible.

Ousting of Commission Heard

The Court of Errors and Appeals of New Jersey on Jan. 19 heard argument in the appeal of the State Public Utility Commissioners from the recent decision of the Supreme Court which upheld Gov. Edwards' power to remove the board and name a new commission. The Supreme Court's ruling was the result of quo warranto proceedings brought in the name of the State by Attorney-General McCran, questioning by what right the utility board continued in office after the Governor's order of ouster.

The old board is not fully functioning, and the new board appointed by the Governor to take the place of the ousted commissioners cannot act until the Senate confirms the names of the appointees.

Violence Follows Attempt to Restore Service

Violence attended the effort made on Feb. 8 by the United Traction Company to restore service on its lines in Albany and Troy, N. Y. No attempt was made at first to run cars in the Cohoes, Watervliet, Rensselaer or any of the villages served by the company's lines.

The effort to restore service was made under orders of the Public Service Commission for the Second District in the face of the opposition of 1,200 employees, who went on strike more than a week ago in protest of a wage reduction from 60 to 45 cents an hour.

A great deal of damage was done to the overhead work in Albany by the strikers and their sympathizers so that no cars were run there on Wednesday. Attempts at repair work, however, resulted in so much disorder that the need was felt for the State Police to use their pistols to quell the rioting.

The only car sent out in Troy that day was stalled by the wires being cut.

Toledo's Trial Week

Traffic Increased 7 per Cent Under Lower Fare, but the Earnings Decreased 5 per Cent

The first week of operation of the railway system of Toledo under the Milner service-at-cost ordinance by the Community Traction Company has resulted in an increase of 7 per cent in passengers carried.

A. Swartz, superintendent of transportation, declared the decrease in fares from 7 to 6 cents ought to be responsible, according to past experience, for a gain of about 5 per cent in riding. It is thought the other 2 per cent gain is due to the feeling on the part of the public that the railway system is semi-publicly owned and controlled under the new plan.

The decrease in fares, however, has resulted in a decline of 5 per cent in the revenues derived from the passenger service.

The reduction in the charge for fares from 7 to 6 cents and in the charge for transfers from 2 to 1 cent means a reduction of approximately 12 per cent on the local lines.

The offices of the Community Traction Company, have been set up in the fourth floor of the Toledo Railways & Light building, the entire floor having been turned over to the new company.

As will be noted from the figures on the first week's traffic, the railway is losing over what it was doing on the seven and two rate of fare. What effect this will have upon the stabilizing fund cannot yet be determined. However, all officials of the Community Traction Company and the commissioner are trying to cut expenses of operation to the bone in order to prevent an increase in fare at the end of the first six-month period.

JITNEYS MUST GO

The Rail-Light lost approximately \$700 a day from jitney competition during the last year. No complaint was made by the Rail-Light, but the public has begun to take up the matter since the new ordinance has gone into effect, it being realized now that additional revenue of \$700 a day to the railway would tend to bring down fares.

The railway campaign against accidents has also received impetus from the turning over of the property to the Community Traction Company as savings in these accounts now have a direct bearing on the fares charged.

W. E. Cann, the new street railway commissioner at Toledo, has entered upon his duties. A portrait and a biography of him are published elsewhere in this issue.

Seattle Drove Poor Bargain

City Paid \$15,000,000 for Property Investigator Reports Worth \$7,843,000—Rescinding of Purchase Recommended

Presiding Judge J. T. Ronald of the Superior Court of Seattle, Wash., has received the report of the King County Grand Jury's investigation of the purchase of the railway lines of the Puget Sound Traction, Light & Power Company at Seattle by the city. The Grand Jury finds that the terms of the city's contract cannot be fulfilled. It says that the city is entitled to equitable relief and that the City Council should take steps to obtain such relief. It considers the lines taken over at \$15,000,000 by the city to be worth only \$5,000,000. It also says that if the city completes the purchase according to the contract the cost will be \$23,752,550 in principal and interest.

AT THE same time Wilmon Tucker, special investigator for the Mayor, has reported to Mayor Caldwell that the company is guilty of constructive if not actual fraud with reference to the value of the railway property.

He says that the city should be relieved of the unjust burden.



SEATTLE "TIMES" IDEA OF FARE INCREASE

The Grand Jury goes on to say that "the city has taken over a property which was earning less than 2 per cent on \$15,000,000 and has undertaken not only to pay 5 per cent interest on \$15,000,000 of utility bonds but also to pay out of the gross revenues of the system the entire amount necessary to retire the bonds in twenty years in addition to operating and maintenance expenses and depreciation. In our opinion it cannot be done."

The text of the report of the Grand Jury is concerned very largely with the history of the negotiations, all of which were followed closely in the *ELECTRIC RAILWAY JOURNAL* at the time. The findings of the Grand Jury are scattered throughout the report of that body.

The Grand Jury agrees with Mr. Tucker that at the time of the purchase the fair physical value of the property in its then depreciated condition was not to exceed \$7,843,000. That body says, however, that the earnings of the system had been such that considering it as an investment on the basis of its revenue earning capacity the jury believes that at the time of the transfer to the city it was worth not more than \$5,000,000.

The principal findings of the Grand

Jury detached from the text are as follows:

It appears from the evidence that no proper or sufficient investigation was made by the city authorities to ascertain the true value of the system which the city was proposing to buy.

What would seem to the jury to be the most important and the one indispensable precaution to have taken before binding the city to such an agreement would have been to have an actual physical appraisal of the properties made. This was never done.

After diligent search and investigation of all sources of information known to this jury we feel it only fair to those individuals in public office or otherwise, whose names have been mentioned in connection with the deal, to say that we find no evidence of corruption and nothing tending to show that anyone holding an official position with the city profited financially by the transaction. The jury has attempted to trace certain rumors of corruption which have been called to its attention, but in every instance it has concluded that such rumors were founded on idle talk by individuals having no knowledge of the facts.

On the basis of the evidence submitted and available to the jury, however, it appears that the negotiations leading up to the purchase were characterized by slack business methods on the part of the Mayor and Council. We find nothing which subjects the city law department to criticism in connection with this transaction.

In view of the apparently extortionate price paid for the properties we feel that the public should be advised of the facts indicating how the purchase of the street railway system came to be made.

The terms of the contract were never agreed upon or made known until long after the vote of the people taken on Nov. 5, 1918. This vote was taken without authority of law. The final contract was not



NOTHING LEFT FOR PUBLIC, ACCORDING TO SEATTLE "TIMES"

executed until long after the war emergency had passed.

We find that if the city of Seattle completes the purchase of the street car lines, according to the terms of the contract, that the people will pay \$15,000,000 principal and \$8,752,550 in interest, a total of \$23,752,550, and in the same period of time it will be practically necessary to reproduce the system.

In addition to these figures the city will have lost by reason of the fact that under the ownership of the Puget Sound Traction, Light & Power Company 2 per cent of the gross receipts were paid to the city, which

no longer will be paid, in a period of twenty years a sum estimated at over \$3,750,000, and will have lost in the same period in taxes formerly paid by the traction company approximately \$4,601,280, making in all a total of over \$32,103,830.

In this connection it should be borne in mind that by the terms of the contract the city has bound itself to purchase power from the Puget Sound Traction, Light & Power Company or purchase power from that company until such time as the city sees fit to buy the substations now belonging to the Puget Sound Traction, Light & Power Company, which were not included in the original purchase, these substations to be purchased at a price based upon the then reproduction cost of such substations, less depreciation.

We find further in connection with the operation of the street car system by the city that there has already been charged to and paid out of the general tax fund, and not out of the city railway funds, during the year 1919, the sum of \$105,725, and in the year 1920 \$117,803.

The present financial condition of the system, which is a matter of public knowledge, is not in our opinion due to mismanagement of the lines since the city acquired them.

The city has taken over a property which was earning less than 2 per cent on \$15,000,000 and has undertaken not only to pay 5 per cent interest on \$15,000,000 worth of utility bonds, but also to pay out of the gross revenues of the system the entire amount necessary to retire said bonds in a period of twenty years, in addition to operating and maintenance expenses and depreciation. In our opinion it cannot be done.

From the evidence submitted and available we believe this contract is incapable of performance according to its terms. We believe that the evidence in the hands of the Mayor and otherwise available shows facts such as should entitle the city to equitable relief.

We, therefore, recommend to the City Council that it take the necessary steps to secure the same.

As stated previously Mr. Tucker charges constructive if not actual fraud with reference to the value of the property turned over to the city in the \$15,000,000 purchase. He recommends in brief that the City Council return the property taken on the contract and ask the return of the bonds issued in payment for the lines, and recommends that in the event the Council is unwilling to take such action the taxpayers themselves initiate legal proceedings to relieve themselves from the unjust burden.

The Mayor concurs in the recommendations of Mr. Tucker. He further advises the employment of Mr. Tucker as counsel to assist the Corporation Council in any legal action that the Council may take. Mr. Tucker's report was sent to the Council accompanied by a letter from the Mayor, in which the latter says that while some may be disappointed that the investigation disclosed no graft or corruption the reports of the Grand Jury and of Mr. Tucker justify every statement the Mayor has made in connection with the purchase either during his campaign or subsequently.

Mr. Tucker says that the property as of the purchase date represents a value not to exceed \$7,843,000. In concluding his report Mr. Tucker says:

The city of Seattle has not invested any of its money in the street railways and has not agreed to do so. It is in the position of a trustee, having taken possession of the lines under an agreement to pay the former owners first and the necessary operation expenses thereafter, and it has been demonstrated that the instrument creating the trust is incapable of performance according to its terms.

In the event that the company is not willing to rewrite the contract upon a fair and just valuation and under terms that can be performed, the trustee (the city of Seattle) is in a position to restore the com-

pany to its former position. It has paid to the bondholders, for the company (for the latter was obligated to pay them under the terms of the mortgage for which the bonds were substituted), 5 per cent on the full \$15,000,000, or to date \$1,125,000, which can be regarded either as interest, dividends or rental for the property. The city has paid to the Stone & Webster interests for power with which to carry out the terms of trust, during 1919 and 1920, the sum of \$1,103,101, about half of which is clear profit to the former owners of the lines.

When it is considered that for five years immediately preceding the taking over of the lines by the city the company was making five-eighths of 1 per cent on a basis of \$15,000,000 and since that time it has been receiving full 5 per cent on the \$15,000,000 it is apparent that the lines were turned over to the city under a contract pursuant to which the company could not lose, and it has been amply compensated in every way.

From my investigation of the facts and the law I have reached the following conclusions:

1. That the company was guilty of constructive if not actual fraud with reference to the value of the property, by which the city was induced to agree to pay more than twice its real value.

2. That the contract is impossible of performance according to its terms, and the city is under no obligation to enhance the value of the bonds by furnishing additional funds or security in an endeavor to carry out the contract.

The case of Twitchell vs. the City is not determinative of the city's right, as the way is left open to show in a proper proceeding by actual proof that the contract cannot be carried out by the city on the plan adopted without invasion of tax funds.

I advise that the city make an offer to rescind, tender back all the property and ask for a return of the bonds. If the tender is not accepted the city should bring an action in equity to rescind the sale. If the City Council does not wish to do this, and takes the position that it is satisfied with the sale, as it apparently did in the Twitchell case, then taxpayers should institute appropriate legal proceedings to relieve us from the unjust burden.

Campaign Against One-Man Cars

Plans are being made to induce the passage by the Missouri Legislature of a bill to prohibit the operation of one-man cars in St. Louis, Kansas City, St. Joseph, Springfield and Joplin, the five largest cities in the State. The measure would require a motorman and conductor on every car and one additional man for each trailer. It follows:

An act to amend article 5, chapter 33 of the Revised Statutes of Missouri, 1909, entitled "Corporation, private" by inserting after section 3303a thereof a new section to be numbered section 3303aa.

Be it enacted by the General Assembly of the State of Missouri, as follows:

Sec. 1. Amending article 5 chapter 33, by enacting new section . . . That article 5, chapter 33 of the Revised Statutes of Missouri, 1909, entitled "Corporations, private" be and the same is hereby amended by inserting after section 3303a thereof a new section to be numbered section 3303aa and to read as follows:

Sec. 3303aa. It shall be the duty of every corporation, company, individual, association of persons, their trustees, lessees or receivers, that now or hereafter may own, control, operate or manage any street or electric railway in any city in this state containing more than seventy-five thousand inhabitants to provide not less than two employees or agents for the operation and control of each one of its cars, provided, that in cases where two or more cars are attached to each other then not less than two employees or agents shall be provided for the operation and control of the first of said cars and one additional employee for each additional car.

A similar measure is being agitated in Iowa. Charles Rogers, president of the local union of Amalgamated Association in Davenport, is quoted as follows:

We have a mass of information on these cars and their operation all over the Middle West. We have no occasion to use it now but when the question crops up in a way to affect labor we will be able to back whatever stand we take with sufficient evidence.

Municipal Railway Crossing Illegal

Court Orders Discontinuance of Service Over Crossing at Detroit City Stole in Defiance of Injunction

Judges Ray Hart of Midland and Clayton C. Johnson of Coldwater decided on Feb. 4 that the crossing of the Mack Avenue tracks of the Detroit United Railway by the city railway was illegal. In consequence operation of the municipal cars over the St. Jean crossing was discontinued Saturday afternoon, but not until Elliott G. Stevenson, attorney for the Detroit United Railway, had requested Clarence E. Wilcox, Corporation Counsel, to stop the city cars from crossing Mack Avenue. A further court order had been expected by the Street Railway Commission than that contained in the original injunction allowed by Judge Dingeman and violated by the city.

THE judges held in the opinion handed down that city wires touching the Detroit United Railway wires must be disconnected. The crossing was not ordered removed. Tracks and wires are to be disconnected upon the order of Mr. Goodwin, municipal railway manager, as soon as possible, as a result of the judges' decision. Judge Dingeman's restraining order was held valid and the judges' opinion also stated that the order was properly served by E. J. Burdick, assistant general manager of the Detroit United Railway, before he was arrested by the police and taken to Belle Isle. It is also held by the judges that the crossing was not properly constructed from an engineering standpoint.

The court held that although a mandatory injunction could be issued compelling the removal of the crossing, and while it believed that the crossing should be restored to its original condition, it also believed that the people should not be inconvenienced by having the tracks, wires and road bed again torn up.

The writ provides for the disconnection by the city of its tracks, and all connecting wires from the tracks and wires of the company in such a manner that no electric current will be diverted from the company's tracks and wires, and the city is restrained from using or crossing the street railway tracks of the company with city cars or wires at the intersection of the streets mentioned, until further order from the court. The motion of the city to dissolve and vacate the restraining order issued by Judge Dingeman, is denied by the court.

In reviewing the evidence, the court, in accord with the contention of the Detroit United Railway is of the opinion that if Mr. Burdick did not succeed in making a complete service of the restraining order it was due to the interference and conduct of city officials and employees. The city officials are held to have had sufficient knowledge of the purpose and terms of the order to have observed the provisions and refrained from constructing the intersection until the legal rights could have been finally determined by the court.

As a result of the decision application will be made to the Wayne County Circuit Court to have the city's right determined relative to crossing the Detroit United Railway tracks with the municipal ownership tracks. This right or lack of right was not discussed in

the opinion of the judges who heard the arguments in the case last month. The form of mandatory order which the Detroit United Railway asks of the judges conforms in general with the one outlined in the court's opinion.

Much depends upon the action the higher court takes upon this question of crossing, since several of the other proposed municipal lines are planned to cross Detroit United Railway tracks. The Municipal system would be seriously hampered in event the Supreme Court upheld an order restraining the city from making the crossings.

Passengers using the St. Jean line after the cars were stopped from crossing Mack Avenue were given car-to-car transfers and had to walk across the Detroit United tracks.

According to Mr. Goodwin, the car schedule has been worked out so that no waiting for connections will be necessary. The municipal ownership cars which are shut off from the temporary St. Jean carhouse by the Mack Avenue crossing are being left at night at the end of the line in care of a watchman. Necessary repairs made in the open. Two steam road crossings have been installed eliminating the two former breaks in the municipal ownership line at these points.

Secretary and Securities Disappear Simultaneously

Warrants issued on Feb. 1 at Minneapolis for Berger T. Jaeger, until a week before that confidential secretary of A. M. Robertson, president of the Duluth Street Railway, revealed that coincident with Jaeger's disappearance on Jan. 25 negotiable securities to the amount of \$157,000 of the Duluth company also disappeared.

The police of eastern cities have been notified to be on the lookout for Jaeger. He was one of Mr. Robertson's most trusted employees.

Herbert Warren, vice-president and general manager of the railway company at Duluth, has said that the securities had been held in reserve for the purpose of paying taxes and bond interest of the company and that the theft was not protected by any security company. The securities missed include \$80,000 in United States Treasury certificates, \$25,000 in Canadian Northern bonds and \$52,000 in British Government bonds.

The warrant for Jaeger is based on the disappearance of a check for \$4,825.

Expert Not Enthusiastic

Dr. Wilcox Sees Perpetuation of Strife Between State and City Under Governor Miller's Plan

The discussion that has been precipitated by the message of Governor Miller to the Legislature of New York on the public utilities is characterized by so much positiveness and so much opposition that the still, small voice of moderation can hardly make itself heard. This was the opinion expressed by Dr. Delos F. Wilcox, speaking before the City Club of New York on Feb. 7. Dr. Wilcox said that the Governor's plan strives to do the impossible. As he saw it the Governor went as far as he could in taking away from the municipality the power of control, but the city would still be clothed with power to obstruct action through its constitutional control over routes and through its conceded control over the use of city funds. It was the opinion of Dr. Wilcox that if in the nature of the case co-operation of state and local authorities was an essential condition precedent to a wise solution of the problem it would be fatal to proceed in such a way as further to arouse the spirit of antagonism between the city and the state.

He said the club was practically in complete accord with the Governor's declared objective, but was sure the Governor's plan for a state-appointed commission clothed with all the state powers of action was the wrong method of approach to a solution of the problem. It was his opinion that the Governor need not fear the attitude of the people of New York if the plan to be devised by the Governor's commission should prove to be all that he promised for it. The Governor's commission might be able in the face of local opposition to raise fares. It could not, however, bring about a permanent and salutary solution of the entire problem without local co-operation.

Dr. Wilcox summarized his remarks as follows:

The Governor's ultimate objective as outlined in his message of Jan. 24 is almost wholly in harmony with the ultimate purpose to which we have long given our support.

The Governor's proposed method of reaching the ultimate objective in transit development through the arbitrary exercise of state authority and the abrogation of the partial home rule now enjoyed by the city is fundamentally unsound. It might be successful in bringing temporary financial relief to the companies through an increase in fares, but it could not effect a permanent solution of the problem consistent with the public interest or with the Governor's own declared purposes.

The logical first step toward a permanent solution based upon the public interest, which the Governor sets forth as his objective, is the enactment of the permissive municipal ownership bill applicable to all cities of the state and to all franchise utilities. This bill is now pending in the Legislature.

The second logical step would be the appointment, under the enlarged powers of home rule granted by the municipal ownership bill, of a local commission to make a comprehensive study of the traction problem from the point of view of municipal interests, and to devise a plan for its solution. In lieu of this the Governor's program might be made acceptable to the people of New York City if the proposed transit commission's plan were made conditional upon its approval by the Board of Estimate and Apportionment or by the electors of New York City at a referendum.

As it stands the Governor's commission plan invites local hostility where local co-operation is requisite to the success of any transit settlement that may be proposed. Without such co-operation the practical result of the legislation recommended by the Governor is pretty sure to be a surrender of public rights without compensating concessions from the companies; a deepening of the political antagonism which has poisoned the relations between the city and the State for the last hundred years; and a distinct weakening of the forces at work in New York City loyal alike in victory and in defeat to the ideals of efficient self-government.

Detroit Preparing to Buy More Equipment

Thorough surveys of proposed routes and equipment for the remaining 82 miles provided for by the A and B routes of the Detroit (Mich.) Municipal Railway have been ordered by the Board of Street Railway Commissioners.

The engineers have been directed to proceed with a view to beginning actual construction as soon as possible. It is planned to double the construction equipment now on hand and bids will soon be asked for steel rails, ties and special work. General construction will be undertaken in the spring, including the completion of the Charlevoix-Buchanan cross-town line, the Clairmont-Owen cross-town system and two north and south lines on the east side. These two are named as the next sections to be constructed.

Lawsuits are anticipated by the commission opposing the construction of some of the lines. If suits are started it is believed that the building of the line involved will be postponed and another started in its place.

The city proposes to build 82 miles of track this summer. It has already issued bids for ten steam shovels and will place orders through the city purchasing department for wire, rails and special work shortly.

Construction of a carhouse has been started on newly acquired property on St. Jean Avenue.

Separate Industrial and Rate Functions Proposed

In a special message to the Kansas Legislature Governor Allen has recommended taking public utilities from the jurisdiction of the Industrial Court, and creating a new commission to regulate them. A bill to that effect has been introduced, also containing a provision that in utility matters where labor is interested the judges of both courts shall sit *en banc*.

The effect of this would be that in most of the really important utility cases the two courts would join, but the Industrial Court would be relieved from a multitude of small utility matters. A short experience has demonstrated that these minor matters have hampered the efficiency of the Industrial Court, and the law has not had a full opportunity to prove its usefulness.

The Governor feels that the Industrial Court should not be hampered by other functions but should give all its attention to promote continuity of service in industry.

New Orleans Case Urged

General Agitation Begun to Secure Start Toward Basis for Permanent Settlement

George H. Terreberry, recently elected president of the Association of Commerce at New Orleans, La., in a recent address, said that the electric railway problem of New Orleans was one which needed to be settled at once and that he intended the chief work of his administration should be devoted to this end.

Mr. Terreberry was one of the special masters appointed by the judge of the federal district court to settle the strike among the platform men of the New Orleans Railway & Light Company and to reach some solution of the railway problem. He frankly admitted in a talk to the members of the Council, of which body he was chairman for two years, "that nature did not endow him with the talent required for solution of the problem."

From the study which he has made of the matter, however, Mr. Terreberry favors the service-at-cost plan as perhaps the most promising of the schemes advanced for consideration. Any attempt at reaching an understanding must be predicated on capital, labor and the public approaching one another in a spirit of fair play and forbearance. Unless this was done the result, he predicted, would be unavailing. It would mean an end to future investments in utilities in New Orleans.

Excerpts from Mr. Terreberry's address have been reproduced in advertisements in all the New Orleans newspapers in the hope of stilling what Mr. Terreberry calls "the clamor of the stupid and ignorant."

An editorial in the New Orleans *Daily States* of Jan. 26 demands a complete reorganization of the local company. That paper said in part:

In any attempt to solve the city's transportation, fuel and power problem the thing that ought to be kept in mind is that nothing short of complete reorganization will answer. No makeshifts will meet the situation.

One of the reasons why the company is so frequently compelled to change its operating head is that satisfactory service is out of the question under existing conditions. A superman probably could not render it.

A. L. Kempster came here last year with a high reputation as an operating executive. Others with equally high reputations preceded him, men like Wyman, Pevear, Sloan, Bleecker and others who made successes elsewhere—at times, too, when the conditions were more favorable than they are now. But Mr. Kempster, even with his experience and energy, has not been able to achieve the impossible.

The 8-cent fare ordinance is to be effective only until April. Unless a real move toward reorganization is made before then we shall face a worse condition than ever, for the public protest is sure to gain in volume against a continuance of this excessive fare unless a genuine reorganization is under way.

Such a reorganization ought to contemplate a discharge of the receivership; local control; a valuation of the property which will make its success possible, not one so high as to make failure inevitable; and the investment of capital enough to put the equipment of cars and tracks in a condition to meet the public needs and enlarge the power plant, which has practically reached its capacity, to take care not only of the demands soon to be made on it, but such future demands as a growing city will develop, and to make possible the efficient and economical operation of both systems. All New Orleans asks is good service under reasonable charges.

"Journal of Electricity" Enlarges Its Scope

Enlargement of the editorial scope of the *Journal of Electricity* and a change in its name to *Journal of Electricity and Western Industry* were announced at a dinner on Feb. 1 in the Palace Hotel, San Francisco. The date marked the thirty-fifth anniversary of the *Journal of Electricity*, which has been one of the McGraw-Hill publications since September, 1919. Robert Sibley will continue as editor of the enlarged paper.

The *Journal of Electricity and Western Industry* will be devoted to the upbuilding of the West as an industrial section, and it will interpret Western progress through the application of electric power, light and heat in industries and homes. In its enlarged scope the publication will record the progress of the Far West not only of the electrical industry as such but also of all industry dependent upon electrical energy. The fullest editorial support will be given to financing the huge building programs of the Western electrical utilities in the development of hydro-electric power, as this is held to be the greatest single asset of the West.

Among the hundred guests were included prominent representatives of the utility, banking, irrigation, agricultural and manufacturing interests of the entire West.

News Notes

Franchise Rejected at Akron.—Following the amendments relative to the method of valuation and rate of return the City Council of Akron, Ohio, on Feb. 1 rejected the proposed franchise to the Northern Ohio Traction & Light Company looking toward a settlement of the local railway problem.

No Wage Reduction in Seattle.—The bill recently introduced in the City Council of Seattle, Wash., advocating a 15 per cent cut in the wages of all municipal employees including those of the Municipal Railway effective on March 15, has been killed in the Council by a vote of seven against and one in favor.

Want Service Restored.—The Mayors' Club of Massachusetts, composed of present and former executives of all the cities of the State, will probably ask for restoration of car service in the various communities that have lost this means of transportation. It is stated that consideration is being given to adopting a measure to call the matter to the attention of the Legislature and then to the Department of Public Utilities.

Wants Municipal Bus.—Provision for a city bus line to operate in addition to the electric railway has been proposed as an addition to the home rule charter voted at the last general election by the people of Minneapolis. The amendment is proposed by the Prospect Park Improvement Association alleging that railway service is insufficient. There is now a private bus line operating through Prospect Park between Minneapolis and St. Paul. The fare on this line is 25 cents against 12 cents on street cars.

Restraining Injunction Dismissed.—The Supreme Court of Tennessee has affirmed the decree of the Court of Civil Appeals in affirming the decision of the chancellor in dissolving the injunction and dismissing the case of the Nashville Railway & Light Company against John B. Lawson, labor organizer, against whom the Nashville Railway & Light Company secured a temporary injunction restraining him from organizing the employees of the railway company into a union in violation of their contract with the company.

Home Rule Again the Issue.—The City Council of Minneapolis, Minn., by a vote of eleven to ten opposes the Brooks-Coleman legislative bill planning to place the electric railways in the hands of the State Railroad & Warehouse Commission. By a vote of fourteen to eight the Council has appropriated \$3,200 from the current expense fund to pay expenses of the city street railway inspection office. Several months ago the Council refused to do this. It then sought to abolish the office. A league of Minnesota cities which have electric railways was discussed at the third annual meeting of the Mayors on Feb. 7 and 8 in Minneapolis.

Ohio Opposes Coal-Carrying Roads.—Ohio is attracting attention at this time from railroad officials and state utilities commissions and boards because of the determined stand taken by the three members of the Ohio State Public Utilities Commission against the demands of coal-carrying roads traversing the State for the differential rates on coal in addition to the 40 per cent increase in rates granted some time ago. Added interest attaches to the case because of the action by the Interstate Commerce Commission in ruling that intrastate rates for freight and passenger service should enjoy the same increase as had been awarded the roads by the Interstate Commerce Commission on interstate rates.

Names Submitted for Neutral Arbitrator.—In the arbitration case involving the Detroit United Railway and its platform employees, and the question as to the company's right to open the wage reduction question prior to the expiration of the existing contract on May 1, John A. Russel, arbitrator for the railway, has submitted a list of sixteen names to Judge Edward J. Jeffries, the men's representative, with the understanding that the appointment of any of the men named would be agreeable as a

third arbitrator. In his letter to Judge Jeffries Mr. Russel urged that the arbitration be arranged for and finished as soon as possible consistent with the deliberation due to the parties represented.

Programs of Meetings

Central Electric Railway Association

The Central Electric Railway Association will hold its annual meeting on Feb. 24 and 25 at the Secor Hotel, Toledo, Ohio. The program includes the annual address of the president, Robert I. Todd; an address by James P. Barnes, president of the Louisville Railway; a paper on the conservation and preservation of line poles, illustrated with a motion picture, by R. R. Cunningham, and a general discussion on "The Future of the Central Electric Railway Association." The meeting on Friday will be devoted to the subject "Traffic and How to Sell Transportation," led by a discussion by Bert Weedon, traffic manager Interstate Public Service Company, Indianapolis, Ind., followed by a paper, "A Freight Traffic Manager's View," by C. O. Sullivan, traffic manager Western Ohio Railway, Lima, Ohio, and a paper, "An Operating View," by L. M. Brown, superintendent of the Interstate Public Service Company, Indianapolis, Ind. This will be followed by a general discussion by the members. The annual report of the secretary-treasurer will be presented and officers for the ensuing year will be elected and installed. A special car will be run from Indianapolis to Toledo. Railway and supply men are invited to join the party.

American Institute of Electrical Engineers

The ninth annual midwinter convention of the American Institute of Electrical Engineers will be held Feb. 16-18, 1921, in the Engineering Societies Building, New York.

The Wednesday evening session will be opened by an address by President A. W. Berresford, followed by the presentation of papers by H. R. Woodrow and Philip Torchio under the auspices of the protective devices committee.

On Thursday morning six papers will be presented, by W. A. Del Mar, Philip Torchio, D. W. Roper, W. S. Clark, H. W. Fisher and L. L. Elden. This session will be under the auspices of the subcommittee on wires and cables of the standards committee.

On Thursday afternoon the telegraphy and telephony committee has arranged for the presentation of two papers.

Friday morning will be occupied by a session arranged by the instruments and measurements committee.

Friday afternoon there will be a session with three papers, by R. E. Doherty and E. T. Williamson, W. Fondiller and W. H. Martin, and Carl J. Fehheimer.

Friday evening will witness the presentation of the Edison Medal to Dr. M. I. Pupin "for his work in mathematical physics and its application to the electrical transmission of intelligence.

Financial and Corporate

Gain Is Negative

Increase in Expenses in New York City Greater Than Increase in Operating Revenue

According to the report of the revenues and expenses of the surface and rapid transit electric railway lines operating in New York City as issued by the Public Service Commission for the First District for the quarter, January to March, 1920, the passenger revenue increased \$3,158,000, or 12.2 per cent, over the corresponding 1919 quarter. At the same time the operating expenses increased by \$4,152,756, or 21.1 per cent. This made the total expenses \$23,870,067 as compared with a total revenue of \$31,366,186. The operating ratio was 76.1 per cent. The gross income decreased over 1919 by about 5 per cent. After subtracting interest, rentals, etc., which increased about \$890,000, the net corporate in-

come was \$1,247,626 short of the 1919 figure.

Although there was a decrease of more than 5,000,000 revenue car miles the total passengers carried increased by more than 18,000,000 persons. Due to the fact that transfers were either not issued or there was a charge of 2 cents for them the total revenue passengers increased by 65,000,000 while the free transfer passengers decreased by nearly 47,000,000. The balancing of these allowed the gain in passengers, as has been mentioned, to be only 3.1 per cent, making a total in 1920 of 609,826,677 persons.

Municipal Road May Be Abandoned

It is reported that the city authorities may discontinue service on the municipally-owned Norton, Taunton & Attleboro Street Railway, Taunton,

Mass. Attempt has been made to assess \$15,000, or half the purchase price, on the abutting property owners, but the abutters are planning to fight the assessment in the courts. The road is said to be operating at a loss of about \$1,000 per month.

Indiana Merger Voted

\$3,000,000 in Property to Be Taken Over by Interstate Public Service Company

Stockholders of the Louisville & Southern Indiana Traction Company, the Louisville & Northern Railway & Lighting Company, the Central Indiana Lighting Company, the Bloomington Light & Gas Company, and the Interstate Public Service Company, Indianapolis, met in Indianapolis recently to ratify contracts signed by directors of the various companies for the consummation of negotiations amounting to more than \$3,000,000 in property to be taken over by the Interstate Public Service Company according to Ira E. Guthrie, secretary-treasurer of the last named company.

The property of the Louisville & Southern Indiana Traction Company, which consists principally of the inter-urban line between New Albany and Louisville by way of Jeffersonville, also the local railway systems in New Albany and Jeffersonville, together with the property of the Louisville & Northern Railway & Lighting Company, will be purchased by the Interstate Company for \$2,000,000.

The other deals were the acquisition by the Interstate Public Service Company of the property of the Central Indiana Lighting Company, Columbus, Ind., which owns both the light plant and the railway lines in Columbus, and also the light and gas plants in Bloomington, Ind. More than \$1,000,000 will be paid by the Interstate Public Service Company for the properties of the Columbus and Bloomington companies.

Service Discontinued at Rockport

The announced purpose of the officials of the Evansville & Ohio Valley Railway to stop running cars on Main Street east of Fifth Street at Rockport, Ind., was put into effect a few days ago. At a meeting of the City Council and representatives of the company with Rockport citizens interested in having the cars continue the run, a determination to refer the matter to the Indiana Public Service Commission was reached. The Council has also received its former order authorizing or petitioning the Public Service Commission to allow this part of the railroad to be removed.

The railway has given the city a bond in the sum of \$1,200 to cover the expense of putting the street into good condition after the removal of the track, should the company fail to repair the street. For the present the track remains in the street but the company will not operate cars unless ordered by the Public Service Commission to do so.

EARNINGS OF NEW YORK CITY COMPANIES

Quarter January-March	1920	1919	Percentage Change Over 1919
Passenger revenue.....	\$29,091,623	\$25,933,551	12.2
Other transportation revenue.....	229,638	159,393	44.1
Total revenue from transportation.....	\$29,321,261	\$26,092,944	12.4
Other railway operating revenue.....	2,044,925	1,620,573	26.2
Total railway operating revenue.....	\$31,366,186	\$27,713,517	13.5
Operating expenses:			
Maintenance expended.....	\$6,767,938	\$5,514,038	22.8
Depreciation reserve (credit).....	197,982	825,404	-76.0
Operation of power plant.....	4,429,945	3,904,057	13.5
Operation of cars.....	10,876,403	9,136,684	19.0
Injuries and damages.....	875,952	1,108,689	-21.0
Traffic and general expenses.....	1,117,811	879,247	27.1
Total operating expenses.....	\$23,870,067	\$19,717,311	21.1
Net operating income.....	\$7,496,119	\$7,996,206	-6.3
Street railway taxes.....	1,800,201	1,801,912	-0.01
Operating income.....	\$5,695,918	\$6,194,294	-8.0
Non-operating income.....	1,192,199	1,050,843	13.5
Gross income.....	\$6,888,117	\$7,245,137	-4.9
Deductions from gross income:			
Interest.....	\$5,650,763	\$4,665,997	21.1
Rents.....	3,671,864	3,998,565	-8.2
Miscellaneous.....	686,847	454,306	51.2
Total deductions from gross income.....	\$10,009,474	\$9,118,868	9.8
Net corporate income.....	* \$3,121,357	* \$1,873,731	61.7

*Deficit.

TRAFFIC AND MISCELLANEOUS STATISTICS OF NEW YORK CITY COMPANIES

Quarter January-March	1920	1919	Percentage Change
Miles of track, exclusive of storage and yard tracks.....	1,790.62	.....	.....
Average daily maximum number cars operated (March).....	8,293	.....	.....
Passenger car-miles (active).....	80,038,295	.....	.....
Car-seat miles.....	4,037,687,843	.....	.....
Total revenue car-miles.....	81,879,614	87,365,307	-6.3
Passenger car-hours.....	6,810,366	.....	.....
Ratio C.M. to C.H. (speed m.p.h.).....	11.75	.....	.....
Revenue passengers.....	580,238,542	522,193,413	11.1
Revenue transfer passengers.....	7,394,059	.....	.....
Total revenue passengers.....	587,632,601	522,193,413	12.5
Free transfer passengers.....	22,194,076	69,082,333	-67.8
Total all passengers.....	609,826,677	591,275,746	3.1
Operating ratio (per cent).....	76.10	71.06	5.04
Statistics per car-mile:			
Operating revenue (cents).....	38.31	31.70	20.8
Operating expenses (cents).....	29.14	22.58	29.0
Net income (cents).....	*3.15	*2.15	77.2
Number of passengers (total).....	7.45	6.77	10.0
Car-miles per revenue passenger.....	0.140	0.167	-1.6
Current generated (kw.-hrs.).....	356,304,081	337,920,692	5.4

Eastern Massachusetts Outlook Better

Platform Labor Costs Have Been Reduced and Many Other Operating Economies Worked—Reduction in Fare Unlikely

The public trustees of the Eastern Massachusetts Street Railway, Boston, Mass., have presented their report for the first eighteen months of public control, ended Nov. 30, 1920. The financial results have been unsatisfactory. The future, however, looks encouraging. Jitney competition, high cost of maintenance, enormous winter loss, increased cost of coal, increased wages and finally a serious business depression have been encountered successively. Even with improved operating efficiency and extreme economy, say the trustees, satisfactory earnings cannot be expected during the present business depression. When business revives, as the trustees believe it must before long, the earnings are expected to improve substantially.

FOR the year ended May 30, 1920, and the six months ended Nov. 30, 1920, earnings and expenses were as follows:

The public control act permits the trustees to charge in each district fares sufficient to earn the cost of service. The cities served are of moderate size,

	Twelve Months Ended May 31, 1920	Six Months Ended Nov. 30, 1920
Total revenue and income.....	\$13,471,220	\$6,863,861
Expenses:		
Way and structures.....	\$2,106,670	\$1,063,108
Equipment.....	2,008,767	848,369
Power.....	1,909,722	1,168,413
Conducting transportation.....	5,230,889	2,295,918
Traffic.....	17,144	13,906
Injuries and damages.....	276,569	184,650
Insurance.....	153,735	71,192
Stores and stable expenses.....	115,040	80,673
Rent, tracks and equipment.....	113,313	54,430
Clerical salaries and expenses.....	256,262	108,495
General and miscellaneous.....	196,328	119,567
Operating expenses.....	\$12,386,439	\$6,008,721
Taxes.....	323,333	103,394
Operating expenses (including depreciation) and taxes.....	*\$12,709,772	\$6,112,115
Gross income.....	\$761,447	\$751,745
Interest and rentals.....	1,484,518	796,904
Interest and rentals not earned by.....	\$723,071	\$45,159
Additional amount necessary to meet cost of service.....	1,164,747	499,489
Cost of service not earned by.....	\$1,887,818	\$544,648

* Includes \$750,000 extraordinary snow expense.

Depreciation charges included in operating expenses amounted to \$976,862 in the twelve months' period and \$574,863 in the six months' period.

† Cost of services includes 6 per cent on valuation established by Public Service Commission of the property operated.

At the outset of public control, the trustees agreed that the railway, in order to regain public confidence, must be put in closer touch with the people. With this end in view, local managers were given increased authority and responsibilities, and committees of citizens were appointed in the various districts, either by the Mayors or Chambers of Commerce, with the power of supervising service and to make recommendations for any improvements which they believed would result in better relations between the car riders and the company.

Control by committees of local citizens has worked out very satisfactorily. These committees give their time and thought to the study of local service problems, without compensation, and through their wide acquaintance and standing in their own communities have been of great assistance in solving numerous traffic problems and creating an atmosphere of mutual understanding between communities and the company, the absence of which in the past caused considerable friction. The trustees, in the light of their experience, are now more than ever convinced that the railway can be much more successfully operated when thus treated than under a long distance control plan when sole authority is vested in Boston executives.

and the experience of the company has proved that every increase in city fares somewhat reduces the number of short-haul riders. Therefore, special rates of fare for daily riders proved desirable. It also has been clearly demonstrated that traffic density and operating costs so vary in different districts that uniform fares are impracticable. The cash fare is 10 cents, but reduced price punch card tickets are sold at rates varying from 6½ to 8½ cents a ride. In Fall River, monthly commutation tickets are also sold at the rate of 6 cents a ride. The use of reduced rate tickets is so general that the average city fare on the system is approximately 8 cents.

When the trustees entered upon their duties there were nearly 1,000 licensed and unlicensed jitneys over-running the territory. The trustees immediately became convinced that the railway and jitneys could not continue to operate in the same community, and the cities and towns affected were persuaded that they could not support both. Until June, 1920, earnings were very seriously reduced by this competition. At the present time there are practically no competing jitneys.

For several years, it was evident that the Bay State System, the predecessor to the Eastern Massachusetts Street Railway, included many miles of road

which never should have been built, and other lines which changed conditions and the competition of private automobiles have since made unprofitable. The receiver discontinued 34 miles. The trustees have discontinued 123 miles, leaving 681 miles of single track in operation. The future of the discontinued mileage is uncertain. If the State and the communities served do not consider continued operation of sufficient necessity to warrant public support, the plan is to take up the rails.

Cities and towns are permitted by law to contribute by taxation to avoid discontinuance of railway lines. During 1920, Hingham and Hull agreed to contribute \$15,000; Weymouth, \$28,000; Tyngsboro, \$1,800; North Reading, \$2,500; Milton, \$10,000, and Norwood and Walpole, \$6,000. Gloucester refused to contribute, and since the operation of the Gloucester Division resulted in a loss of \$74,000 during the last year, the trustees discontinued service on June 20, 1920.

ONE-MAN CARS PREDOMINATE

In September, 1919, the trustees ordered 200 one-man cars. Delivery was delayed by the severe winter until April, 1920. The cars have been successful from the first. The company now owns 250 of the latest light weight type of one-man cars, which have cost \$1,500,000. In addition to these 250 light weight cars the company is operating 280 one-man double truck cars. In December, 1920, 76 per cent of the total car miles operated was by one-man cars. But for the introduction of one-man cars, say the trustees, there is no doubt that a large part of this system, including many city lines, could not earn bare operating expenses and would have to be discontinued.

When the trustees took control in June, 1919, conductors and motormen were being paid 41, 43 and 45 cents an hour. In August, 1919, the War Labor Board increased this rate to 46, 49 and 51 cents, retroactive to June 1, 1919. In September, 1920, a board of arbitration awarded a further increase to 62 and 67 cents, and \$400,000 back pay. On the basis of the number of men employed in June, 1919, the increases in wages during trustee control have been at the rate of \$1,900,000 a year. Only by one-man cars and a large reduction in miscellaneous employees has this increase been partially offset.

The trustees point out that as costs of other commodities decline car riders naturally will expect to pay reduced car fares, but that as labor cost is by far the largest expense in the operation of an electric railway substantially lower fares will be impossible while wages continue on a war-time basis.

Next to labor costs, the trustees point out, the largest source of expense is coal. In 1920 141,714 tons were consumed on the Bay State System. The average cost of coal delivered in 1915 was \$3.25 per ton. The average cost of coal delivered in 1920 was \$13.40 per ton. Since April, 1920, the cost of coal has increased at the rate of \$700,000 a year. Indications are that there

will be a substantial reduction during 1921 in the price of coal at the mine, but coal freight charges today are about \$5.80 per ton, or 75 per cent more than the entire cost per ton delivered in 1915.

FREIGHT SERVICE ABANDONED

In May, 1920, it was decided to abandon the freight business. High and increasing cost of rent of terminals, increased wages, motor truck competition, and damage to roadbed by the heavy freight equipment made the business unprofitable. All freight equipment was disposed of to advantage or converted into snow sweepers and snow plows.

The total expenditures for track repair and rehabilitation for the twelve months ended Dec. 31, 1920, were \$1,600,000. A summary of the track work done in 1919 and 1920 follows:

	1919	1920
Track constructed with new rail	28,900	57,000
Track rebuilt with old rail, ft.	34,600	98,100
Ties replaced	98,273	105,252
Joints welded	856	15,226

With high priced coal, high priced labor, and high priced material, operating economies and lower costs have been difficult to obtain. Only through greater efficiency have savings been possible. The use of one-man cars has reduced platform labor from 15 cents to 10½ cents per car mile. Building and office rents paid have been reduced 70 per cent. Thirteen carhouses have been closed. The Boston organization has been reduced from 245 to 75 employees. On Jan. 1, 1921, the total number of employees was 2,557, compared with 4,836 in January, 1920.

The reorganization plan provided \$500,000 as an operating reserve fund, \$1,000,000 for rehabilitation, and \$2,000,000 for new construction and equipment. The reserve fund was exhausted by the extraordinary 1920 winter expense, and \$325,000 of the rehabilitation fund has been expended on track and equipment. The \$2,000,000 improvement fund has been entirely expended, \$1,500,000 for one-man cars and the balance for snow fighting equipment, track construction, shop alterations and miscellaneous new work.

The physical condition of the entire property has been substantially improved. Probably two more years will be required to bring it up to a high standard.

In accordance with the directions contained in the public control act the trustees, after hearings and conferences with representatives of various communities, created the following operating districts: Lowell, Lawrence, Haverhill, Gloucester, Salem, Lynn, Chelsea, Melrose-Woburn, Hyde Park, Norwood, Quincy, Hingham - Hull, Weymouth, Brockton, Taunton and Fall River.

Each district is operated as if it were a separate railway. Earnings and expenses are accounted for separately and fares are regulated according to the cost of service in each district.

Toledo Lines Segregated

Railway and Lighting and Gas Properties Separated Under New Arrangement at Toledo

The Toledo Railways & Light Company, Toledo, Ohio, at the stroke of 12 o'clock on Jan. 31 ceased to operate the street railways of Toledo and from that time on the railway lines have been operated by the Community Traction Company at a 6-cent fare with a 1-cent charge for transfers.

CAPITALIZATION APPROVED

All arrangements necessary for the new company had been completed with the Secretary of State of Ohio and the Ohio Public Utilities Commission. The handing over of the property to the new company has been approved, together with the capitalization of \$10,000,000 of common stock, \$2,000,000 of 8 per cent preferred stock, and \$8,000,000 of 6 per cent first mortgage bonds.

The common stock of the new company will be deposited with the sinking fund commissioners of the city, and when all the bonds are retired the common stock will become the property of the city, representing the equity of the city in the railway properties, the \$8,000,000 in bonds representing the payment by the Community Traction Company for the city electric railway property.

OFFICERS RE-ELECTED

At the annual meeting of the Toledo Railways & Light Company held on Jan. 29 all retiring officers and directors were re-elected. The stockholders voted to accept the service-at-cost franchise ordinance and approved the

transfer of the railway properties of the Toledo Railways & Light Company to the Community Traction Company, the new corporation created by the ordinance.

The only railways which the Toledo Railways & Light Company now operates are the Adrian Street Railway and the Toledo, Ottawa Beach & Northern Railway, a summer resort line owning no rolling stock. It will, however, control and continue to operate the power, lighting and heating plants in Toledo.

Frank R. Coates is president and general manager; F. J. Derge, assistant general manager; Henry T. Ledbetter, secretary; A. C. Van Driesen, assistant treasurer; and T. A. Wallace, assistant secretary.

The negotiations between the city and the company which have resulted in the arrangement now in effect have been reviewed from week to week in the ELECTRIC RAILWAY JOURNAL since their inception.

\$1,326,072 Net Income for Capital Traction Company

The Capital Traction Company, Washington, D. C., has submitted its annual report for the year just ended. Large increases are shown in its net operating revenue, operating income, gross income and net income. After deducting \$305,655 for interest on funded debt, rent for leased road and other miscellaneous debits the company shows a net income of \$1,326,072. This was an increase of \$212,579 over the same period a year ago. In its profit and loss statement the company shows a credit balance of \$693,543, which is an increase of \$196,000 over the credit balance of 1919.

SUMMARY OF OPERATIONS OF THE CAPITAL TRACTION COMPANY FOR YEAR ENDED DEC. 31, 1920

	1919	Increase Over 1919
Passenger revenue	\$5,435,939	\$919,754
Special car revenue	23	51*
Mail revenue		170*
Total revenue from transportation	\$5,435,962	\$919,533
Revenue from operation other than transportation	30,555	11,324
Railway operating revenue	\$5,466,517	\$930,857
Operating expense (60.30 per cent of gross revenue)	3,302,061	470,902
Net operating revenue	\$2,164,456	\$459,955
Taxes assignable to railway operations	541,727	228,393
Operating income	\$1,622,729	\$231,562
Non-operating income	8,999	3,942*
Gross income	\$1,631,728	\$227,620
Deductions from Gross Income:		
Interest on funded debt	\$280,300	
Interest on unfunded debt	10,716	
License truckage space	1,200	
Rent for leased road	9,533	
Miscellaneous debits	3,905	
Total deductions	305,655	15,039
Net income	\$1,326,073	\$212,581
* Decrease.		

PROFIT AND LOSS STATEMENT

Credit:		
Balance beginning of year	\$497,355	
Net income for year	1,326,072	1,823,427
Debits:		
Dividends	\$720,000	
Loss on real estate sold and equipment retired	409,660	
Loss on material sold	71	
Uncollectible accounts written off	152	1,129,883
Credit balance at close of year	\$693,544	\$196,188

Replacement Value Expected to Guide New Body

In commenting on the prospect of a valuation of the transit lines in New York under the program of Governor Miller the *Wall Street Journal* of Feb. 8 said in part:

It is evident that the replacement value of Interborough's properties is now far in excess of its outstanding securities, whatever watering may have accompanied their issuance.

Precedent for a revaluation of the rapid transit lines on a basis of reproduction cost has been set by a decision of a Missouri federal court in the case of St. Joseph Railway, Light, Heat & Power Company. This ruling, which is expected to guide the commission Governor Miller proposes to appoint for an investigation of the local fare problem, declared that it was confiscatory to determine traction rates on a valuation based on the original cost. "No one can say what degree of depression may ultimately come," the decree read, "but it is reasonably certain that the cost of the properties now under consideration will never again approximate figures prevailing in the years before the world war."

It is just as certain that a fair appraisal of the present cost of replacing Interborough's investment would greatly exceed the amount of securities outstanding, some authorities placing the increase that would be shown over the original cost so high as 100 per cent. Taken in this light continuation of a fare which does not even yield fixed charges on Interborough's pre-war investment can only be considered, in the words of the court, as "inadequate and practically confiscatory."

The decision in the so-called St. Joseph case was referred to at length in the *ELECTRIC RAILWAY JOURNAL* for Nov. 27, page 1122.

Interurban Purchase Suggested

Purchase of the interurban line of the Columbus, New Albany & Johnstown Traction Company is contemplated by the Columbus Railway, Power & Light Company, of Columbus, Ohio, as one probable quick solution of the demand of the city that service be extended to the suburb of Shepard. If the company succeeds in buying the Columbus, New Albany & Johnstown line, it will be able to make plans immediately for the extension. To date the matter is still one of conjecture, with progress suspended, so far as the city is concerned. Further conferences are, however, being arranged.

The Columbus Railway, Power & Light Company, announced its willingness last summer to take advantage of an opportunity afforded at that time to purchase certain interurban lines, but the interurban companies opposed the proposal, and the matter was dropped.

Pratt Street Station, Baltimore, Sold by Railway

A contract has been entered into between the United Railways & Electric Company, Baltimore, Md., and the Consolidated Gas, Electric Light & Power Company of the same city by which the Pratt Street power station of the former company is sold to the latter company, which hereafter will supply the power for the operation of the cars of the United Railways & Electric Company. The price at which the power station is said to have changed hands is \$4,000,000.

It is expected that owing to the di-

versity factor the lighting and power company can supply energy in the future to the railway at less than the latter could generate it. In fact, the contract provides that the cost will be no more than that now paid to the lighting company for current taken in the past and of any saving made one-third will be paid to the railway.

The power contract is for five years but is automatically renewable. Another clause provides that at any time, if the contract or any part of it results in serious injustice to any of the parties thereto and an equitable distribution of the benefit is not obtained, the terms may be readjusted by arbitration.

71,768,440 Revenue Passengers in St. Louis in Three Months

The United Railways, St. Louis, Mo., has filed its quarterly report with the City Register of St. Louis, covering the final quarter of the year 1920. The report gives the average number of cars run daily and Sunday, the total number of revenue passengers of all descriptions and the average number of trips made daily and Sunday. The report is as follows:

Trips	1,614,616
Miles	10,510,026
Fare Passengers Carried	
3,974	7½ cent
70,133,210	7 cent
1,102	3½ cent
1,629,300	3 cent
854	2½ cent
71,768,400	

The average number of cars operated was as follows:

Average per weekday	1,321.5
Average per Saturday	1,224.9
Average per Sunday	699.0
Final average	1,207.0

The average number of trips made per week was as follows:

Weekdays	85,897
Saturdays	14,699
Sundays	10,486
Total	111,082

Brooklyn Receiver Reports

Lindley M. Garrison, receiver of the Brooklyn (N. Y.) Rapid Transit Company, filed with Judge Mayer of the District Court of the United States for the Southern District of New York on Feb. 8 a report of 120 pages on the affairs of the various companies involved in the receivership and sought instructions with respect to the report.

In general the receiver says that the transportation problem in Brooklyn should be treated as a whole, but that under existing conditions there is no centralizing authority capable of treating the situation as an entity. While it is not suggested that the court can deal adequately with the question presented to it, it is nevertheless important in the opinion of the receiver for the court to consider the necessities of the situation as a whole with a view to meeting them as fully as the existing law permits.

Financial News Notes

Two New Directors at Detroit.—C. R. Nutt, Cleveland, Ohio, and Charles Laurondau, Montreal, Que., have been elected directors of the Detroit (Mich.) United Railways, succeeding B. M. Swift and Alonzo Potter.

Merger Bill Reported Favorably.—While a bill has been reported favorably to the House of Representatives taking the initial step toward consolidating the Washington Railway & Electric Company and the Capital Traction Company in Washington, there is said to be little chance that action will be taken before Congress adjourns on March 4.

Time for Deposits Extended.—The protective committee, representing the holders of the first mortgage 5 per cent bonds of the Columbus, Buckeye Lake & Newark Traction Company, Newark, Ohio, due in 1921, has announced that the time for the deposit of the bonds under the protective agreement of Nov. 10, 1920, has been extended to April 1, 1921.

Notes of Baltimore Company Offered.—A syndicate of bankers headed by Alexander Brown & Sons, Baltimore, Md., offered for subscription on Jan. 17 an issue of \$1,500,000 of 7½ per cent five-year collateral trust notes of the United Railways & Electric Company, Baltimore, Md. The proceeds of the notes were used in part to pay off notes which matured on Feb. 1.

Receivership Made Permanent.—The temporary receivership under which the Alton, Granite City & St. Louis Traction Company, East St. Louis, Ill., has been operating for the last four months, has been made permanent by Federal Judge English at East St. Louis. The appointment of W. H. Sawyer and Frederick Allen as temporary receivers and C. B. Thomas as their counsel has also been made permanent.

Interest Paid Promptly.—The City & Suburban Railway, Washington, D. C., deposited with the Baltimore Trust Company, trustee, funds to meet the semi-annual interest due on Feb. 1, on the \$1,750,000 of first mortgage 5 per cent bonds. At the last two interest paying periods on these bonds the company took advantage of its ninety-day clause in the mortgage before meeting payment on the securities.

Court Authorizes Abandonment.—Supreme Court Justice Morschauer has directed Receiver Miller, of the Westchester Street Railway, Mount Vernon, N. Y., to abandon operations on the mile and a half Shore line route from Mamaroneck to Larchmont as the receiver has reported that the company was losing \$35 to \$40 a day on that line. The action was taken in

the face of an order of the Public Service Commission for the Second District of New York directing Receiver Miller to run the road.

Foreign Corporations to Be Prohibited.—Harold A. Moise, elected delegate to the Constitutional Convention, from New Orleans, La., to meet in Baton Rouge early in March for the purpose of revising the organic laws of the State, gives notice that he proposes to introduce a measure requiring all companies operating public utilities to incorporate under the law of the State and making it prohibitive for foreign companies to own or operate public utilities or in any way exercise control over them. The proposed new law is directed primarily at the New Orleans Railway & Light Company and affiliated companies, but its effect necessarily will be statewide.

Notes of Oklahoma Railway Offered.—The Mississippi Valley Trust Company, St. Louis, Mo., is offering at 98 and interest to yield 8.35 per cent \$450,000 of bond-secured 8 per cent gold notes of the Oklahoma (Okla.) Railway. The notes are dated Jan. 1, 1921, and are due Jan. 1, 1928. The notes are secured by the deposit of \$680,000 of first and refunding mortgage 5 per cent bonds, \$120,000 of Guthrie Railway first mortgage 5 per cent bonds and \$500,000 of Guthrie-Edmond Electric Railway first mortgage 5 per cent bonds. They are convertible into first and refunding mortgage bonds at the rate of 80 or \$5,000 of bonds for \$4,000 of notes.

\$600,000 Due for Taxes.—The illness of City Attorney Kittredge has delayed the preparation of the intervention to the receivership in the Federal Court which the city intends to file against the New Orleans Railway & Light Company for the collection of approximately \$600,000 due for the 1920 taxes now delinquent. There is a penalty of 10 per cent attached to the delay in making the payments for which the company will be held accountable. The receiver has offered to pay its indebtedness to the city in three payments, declaring that it is without funds to discharge itself of the debt in one lump sum. This privilege has been denied on the grounds that the company stands in the same light as any other taxpayer.

Interborough Accounts Questioned.—Transit Construction Commissioner Delaney has filed objections to reports of the Interborough Rapid Transit Company, New York, containing extraordinary charges for promotion of higher fares, for publicity generally for strike and financial investigations and for legal advice, said to have been improperly reported in operating expenses, amounting in all to \$423,000. Frank Hedley, president of the company, has explained that the contract between the city and the company provides a method of adjudication by arbitration of all disputed items, and that in due course the items in question will be considered by orderly process.

Operating Lease Made at Dallas.—Contracts for lease and operation of the Standard Traction Company's Mount-Auburn-Parkview lines in the city of Dallas, Tex., by the Dallas Railway and for the construction of a passing switch on Beacon Street have been approved by the City Commission of Dallas. The Dallas Railway will have free use of the lines of the Standard, will receive all fares collected and will bear the cost of the passing switch. Through service will be maintained from the down-town section to the ends of the lines, and it will be no longer necessary to maintain transfer points in the city's suburbs as has been the case.

Readjustment of Capital Proposed.—The Kansas City, Clay County & St. Joseph Railway, St. Joseph, Mo., has filed with the Public Service Commission of Missouri a request for authority to issue \$6,000,000 of 7 per cent cumulative preferred stock and \$4,000,000 of common stock. In October the company obtained authority from the commission to reissue its capital stock of \$10,000,000, of which \$3,000,000 was to be preferred and \$7,000,000 common. It sought to amend the articles of incorporation later, but the Secretary of State would not permit it to do so because all of the holders of the preferred stock had not given their consent. The company proposes to dissolve as a Maine corporation.

\$300,000 of Notes for Improvements.—The issuance of \$300,000 in notes for the purpose of purchasing equipment and rolling stock and making other improvements has been authorized by the board of directors of the Utah-Idaho Central Railroad, operating an electric line between Ogden, Utah, and Preston, Idaho. The greater part of the money will be used in the purchase of freight cars for the purpose of taking care of increase in the livestock and sugar beet business of the towns along the line of the road. The expenditure for the improvements will be made at once by the company. In fact, 100 new steel gondola cars have been purchased from a car manufacturer at Columbus, Ohio, and will be delivered to the electric line within the next two months.

Ancient of Days.—Three memberships in the Merchants' Exchange of St. Louis, acquired by independent street railway lines to permit their representatives to buy feed on exchange for the horses and mules that used to pull the cars, have been retained by the United Railways since the merger of the independent lines in 1900. The memberships cost \$100 a year, so that the United Railways has paid \$6,000 in twenty years without any beneficial return, a fact which Receiver Wells noted in an application to the Federal court for authority to sell the memberships. Their usefulness long since has passed away, according to Mr. Wells, who states that he believes he can obtain \$1,000 each for the memberships. An order for their sale was immediately issued by Judge Faris.

Extension of Time for Discontinuance.—Justice Charles H. Brown, in the Supreme Court of Erie County, has granted an order extending until March 31 the time within which George Bullock, as receiver for the Buffalo & Lake Erie Traction Company, Buffalo, may discontinue operations of the road along the lake shore between Buffalo and the Pennsylvania state line, except that part of the line formerly owned by the Hamburg Railway, Buffalo. The original date for discontinuing service was Jan. 31. The application for an extension of time was made by the receiver, who informed the court he wished to determine the extent the revenue of the company would be increased by reason of the recent advance in the rates of fare between points on the interurban line. It is within the power of the receiver to discontinue service on March 31 and negotiate for a purchaser of the property before that time.

Wants Valuation Law Amended.—In accordance with resolutions adopted by the League of Municipalities at its annual convention Ledley H. Phinney, executive secretary, has sent letters to all members of the Senate, urging support for Senator Parry's bill, No. 13, amending the act of last year relative to the appraisal of electric railway property in the State of New Jersey and also urging that some steps be taken to break the present deadlock over the confirmation of public utilities commissioners. The Parry bill is now before the corporations committee. The valuation law provides that the report of the engineers must be submitted by March 1, but it is understood that the firm of Ford, Bacon & Davis, which is doing the work, has nearly completed the valuation of the Public Service Railway and will be able to turn over the figures to the Valuation Commission at an earlier date than that required by the law.

Stock Sold to Provide for Improvement.—The Public Service Company, San Antonio, Tex., has announced plans for the issuance of additional stock in accordance with an amendment to its charter filed in the office of the Secretary of State at Austin providing for the creation of \$2,000,000 of preferred stock and by raising the amount of common stock from \$4,700,000 to \$5,000,000. W. B. Tuttle, vice-president and general manager, announced that \$100,000 of the issue of common stock had been subscribed before the amendment was filed, leaving only \$200,000 additional common stock to be sold. The proceeds from the stock, both preferred and common, will be used to keep pace with the growth of the city. Heretofore money needed for improvements and betterments has been raised by the issuance of bonds paying an annual interest rate of 5 per cent. This year it was deemed advisable to issue additional stock and to enroll among the stockholders of the company as many citizens of San Antonio as was found possible.

Traffic and Transportation

Main Street—Paterson

Complete Rerouting of Jitneys and Trolley Cars Suggested—Every Phase of Traffic Covered

The city of Paterson, N. J., has just received from John A. Beeler, consulting engineer, New York, an exhaustive study of traffic conditions in that city together with suggested remedies for betterment of the existing congestion. The report is in two sections, the first deals with the problem from the viewpoint of municipal regulation of vehicular traffic other than the trolley car, and the second takes up the contribution of the trolley cars to traffic congestion and the remedies that are suggested for the consideration of the Public Service Railway.

In dealing with the jitney bus topic, Mr. Beeler suggests that all jitneys be eliminated from the main streets by establishing terminal loops.

In handling the trolley situation, Mr. Beeler suggests the elimination entirely of the loop lines and the making of through lines of the strictly local car routes. He would make the interurban lines express lines with stops after leaving the center of the city, at intervals averaging about 1,200 ft.

Altogether the changes suggested are voluminous, so far as the rerouting of the trolley cars is concerned, but are of a nature not likely to meet with insurmountable objections. It may be said that the remedies proposed by Mr. Beeler are rather drastic, but then the problem is a difficult one, and its solution depends upon getting as much traffic as possible out of Main Street, a very narrow thoroughfare. To remove the trolley cars from Main Street would mean great expense in laying new tracks, repaving streets, and perhaps cutting through new thoroughfares, and, after all, the trolleys were there first. Mr. Beeler sums up the Paterson situation in the following paragraphs:

The traffic difficulties are due to a number of causes. Chief among these are the physical layout of the city and its narrow streets, the street car routing, also fare collection, location of street car stops, the tremendous growth of automobiles, jitney and truck traffic, and vehicle.

The fact that vehicular traffic centers on Main Street has made this the focus of the congestion.

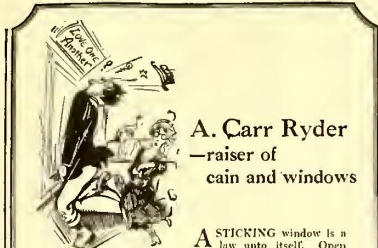
Rerouting Plans in New Orleans

A tentative plan for the rerouting and relooping of cars in the business section of New Orleans, La., has been announced by Stanely Ray, commissioner of public safety. The system which has been gone over very carefully by Public Utilities Commissioner Maloney has the sanction of the New Orleans Railway & Light Company. The proposed scheme, which will eliminate congestion and so reduce delays, will affect about

seventeen lines, changing sixteen and eliminating one. Certain business district streets running parallel with the river will be designated as one-way streets.

Judge by the Acts, Not the Lacks

The accompanying illustration was published by the Western Electric Company in a recent issue of the *Literary Digest* and will appear in the Feb-



A. Carr Ryder
—raiser of
cain and windows

A STICKING window is a law unto itself. Open when it's snowing, closed when we're stifled—glued tight, deadlocked against the pull of bruised tingling fingers and straining muscles. Oh! to put your foot through it! Confound the trolley company anyhow! Why don't they fix it?

This is a natural way to go on—unless we happen to think of the other—and bigger—problems which the street railway people have to wrestle with.

How to get ten extra cars at Main and Center Streets at ten minutes past five every evening—how to take care of the crowd when Caruso or the circus comes to town—how to shovel a blizzard or two off the tracks and keep things moving day and night.

If the trolley company didn't ordinarily find the right answers, getting down to work would be even more of a hardship.

And in recent years this business of carrying people has meant some pretty tall figuring in the effort to make both ends meet. Many communities have seen the light and granted a higher fare to assure a better service.

If our town has not, maybe it ought. Certainly in our daily life we need good service, and if the town is to grow the street railway should grow with it.

This service may never be perfect, but what human thing is? And that man who runs down the company and all its works because he can't judge a window, ought he not mix with his blame some feeling of appreciation for the service he undeniably is getting—the safe journey in fair weather or foul?

In any case, let us judge our public servants on the same human basis we want to be judged ourselves, not by the little lacks but by the bigger acts.

Published in the interest of Electrical Development by an Institution that will be helped by what ever helps the Industry.

Western Electric Company

No. 22. The mechanical perfection of each telephone instrument bearing the Western Electric name plate is one basis for confidence in every electrical product which this Company distributes for use in office, home and factory.

Freight Terminals a Problem

New Stations May Be Erected by the Interurbans Now Entering Indianapolis

As a result of the suggestions of the Public Service Commission of Indiana in connection with their recent order covering additional fare increase for the Indianapolis Street Railway the interurban lines entering Indianapolis have held conferences seeking to improve the interurban freight terminals at Indianapolis. It is possible that new freight stations may be established at the Kentucky Avenue and South Street terminal of the Terre Haute, Indianapolis & Eastern Traction Company. This would relieve the congestion at the freight house located in the heart of the city at the Traction Terminal Station.

The Terre Haute, Indianapolis & Eastern Traction Company already has a large freight house on the Kentucky Avenue property and should additional buildings be erected at this point the freight stations adjoining the Traction Terminal building would probably be used for handling express or dispatch freight.

In the conferences held to consider these matters, the Indianapolis Street Railway, which holds contracts with the interurban companies for power, use of tracks and freight terminals, has proposed to cancel the freight provision from the existing contracts between the city company and the interurban companies and to surrender its lease of the Kentucky Avenue freight terminal so that it would be available for all of the interurban companies for such part of their freight business as would relieve the congestion at the present freight house at the Traction Terminal Station.

A question has, however, been raised by the city of Indianapolis as to various provisions of existing contracts and the charges made by the Indianapolis Street Railway to the Interurban lines using its property in Indianapolis. It has, therefore, been suggested by the Indianapolis Street Railway to submit to the Public Service Commission of Indiana the question as to the extent and character of the suggested modifications to be made to existing contracts, so that all interests may be protected. A hearing on this matter was held on Jan. 31.

FAIR-PLAY APPEAL IN THE MAGAZINES

February 26 number of *Collier's*. In the interest of electrical achievement the Western Electric Company carried on a similar advertising campaign last year. The advertisement shows the attitude of the average car rider when a detail in service falls below the 100 per cent mark. The electric railways, after all, are only a human agency. The idea behind the ad is that the 2,350,000 subscribers to the *Literary Digest* and to *Collier's* will learn the lesson contained herein and "judge public servants not by the little lacks but by the bigger acts."

Court Upholds Commission

The Court of Appeals of New York affirmed, with costs, on Feb. 1 the order in the action of the People ex rel. New York, Westchester & Boston Railway against the Public Service Commission, First District, and decided that the commission had the right to increase above the 5-cent maximum the rate of fare prescribed in the agreement between the city of New York and the railroad.

Judges Hogan and Pound held against the right to increase fare, but Chief Judge Hiscock and Judges Cardozo, McLaughlin, Crane and Andrews decided the question.

To the question, "Is a railroad of the New York, Westchester & Boston Railway a 'street railroad,' within the meaning of Section 18 of Article III. of the Constitution of the State?" the court answered in the negative.

The First Appellate Division held that the commission had jurisdiction to authorize the company to charge a higher rate of fare than that prescribed by the ordinance, provided the rate so prescribed was found by the commission to be insufficient to give the company reasonable compensation for the service rendered, and that the commission was authorized to fix a just and reasonable rate of fare.

Additional Recommendations by Peter Witt at Trenton

The City Commission of Trenton, N. J., has again engaged the services of Peter Witt, Cleveland, to advise it in connection with the problems of the Trenton & Mercer County Traction Corporation, Trenton, N. J. Three years ago Mr. Witt urged the purchase of at least fifty one-man cars. Sixty cars were afterward purchased at a cost of between \$350,000 and \$400,000, but they have not met with popular favor.

Mr. Witt says he approves of one-man cars, but objects, however, to the narrowness of the platform of the cars used in Trenton. He claims the Trenton company did not purchase the type he suggested. Mr. Witt declares the one-man cars are by far the safest in this section. He stated that the rule in Cleveland was for an operator colliding with another car to consider himself discharged at the end of the run. In his opinion if such a rule was put into effect in Trenton there would be fewer accidents.

Mr. Witt left Trenton on Jan. 28. He suggested that the railway follow out the recommendations made by him when he visited Trenton the first time at the request of the City Commission. Among the plans advocated by him for the betterment of the service were the placing of seats in a longitudinal manner in the one-man cars and the diverting of auto and other traffic from the center of the city during the rush hours.

Non-Rush Hour Service Reduced in Milwaukee

Announcement has been made that the Milwaukee Electric Railway & Light Company, Milwaukee, Wis., has increased the headway on eight of its city lines during non-rush hours from one to three minutes. Decreased riding, due to the industrial depression and the mild winter which has permitted the uninterrupted operation of automobiles, is given as the cause for the revision in schedules. The change had the approval of the Milwaukee representative of the Wisconsin Railroad Commission, since the revised schedules would still be above the minimum fixed by the commission. Incidentally,

the statement has been made by Superintendent of Transportation Kuemmerlein of the company that the month just ended is the first January in his twenty-six years with the company that it has not been necessary to use a snow plow or sweeper in Milwaukee.

States' Rate Power Overruled

The Michigan Public Utilities Commission has been permanently restrained by the federal court sitting at Detroit from reducing railroad passenger rates from 3 to 2½ cents a mile within the State. The order was issued on application of thirteen Michigan roads. The case was regarded as a test of authority between the State and the Federal government. There is a "twilight zone" between war and peace, said the court's opinion, in which the Federal Congress has the right to fix fares to aid national reconstruction.

State passenger fares in Iowa must be raised to the same level as those prevailing in interstate commerce, the Interstate Commerce Commission ruled on Jan. 24. It said present rates discriminated against the interstate rates.

The commission said that the Iowa case was similar in many respects to the New York and Wisconsin cases on which similar rulings were made. The fares involved, which are to be raised on or before March 1, include a 20 per cent increase in passenger fares.

Double Fare Charge Affirmed

The decision of the Appellate Division that the Brooklyn (N. Y.) City Railroad had the right to charge two fares on the Flatbush Avenue line was affirmed on Feb. 4 by the Court of Appeals. No opinion was written. An order of the Public Service Commission directing the company to cease making the double charge was reversed.

Vincent Victory, assistant to Corporation Counsel John P. O'Brien, who had charge of the case, said:

The decision is important because it may open the way for double fares on many of the surface lines in Brooklyn which claim the right to charge one fare under a franchise granted in one of the old towns and another fare under a franchise granted by another town.

The Brooklyn City Railroad through its counsel appeared recently before Deputy Public Service Commissioner Morgan T. Donnelly for permission to charge 10-cent fares on the Broadway-Cypress Hills, the Smith Street and Franklin Avenue lines to Coney Island and the Wilson Avenue line from Delancey Street to Canarsie. Counsel argued that the railway was well within its rights in charging an additional 5-cent fare to Coney Island south of the Brooklyn Park Circle. This point is near what was once the dividing line between the old City of Brooklyn and Flatbush. It is claimed that the line south of Park Circle was originally run on a steam railroad franchise which permitted the charge of 3 cents a mile. A public hearing will be held by the commission on Feb. 18.

Transportation News Notes

Tokens in Duluth.—The Duluth (Minn.) Street Railway is now using metal tokens in place of strip tickets. The tokens are sold in lots of fifty for \$2.50. The cash fare is 5 cents.

North Shore Line Asks for Three Cents a Mile.—At a recent hearing before the Interstate Commerce Commission the Chicago, North Shore & Milwaukee Railroad, Highwood, Ill., petitioned for an increase in passenger rates to basis of 3 cents a mile. At present the rate in Illinois is 2 cents a mile, while it is 2.7 cents in Wisconsin.

Will Fight Fare Increase.—The City Councils of Gadsden and Attalla, Ala., have voted against an increase in fares asked by the Alabama Power Company. Representatives of the two communities will be sent to Montgomery to contest the application of the company now before the State Public Service Commission.

Would Charge Six Cents.—The Texas Electric Railway, Dallas, Tex., has filed with the City Commission of Sherman an application for permission to charge a six-cent fare on its lines in that city. The present fare is 5 cents. The company states that unless an increased fare is granted service will have to be curtailed.

Two-Man Rule at Issue.—The city of Durham, N. C., has brought suit to compel the Durham Traction Company to operate its cars with two men at all hours. An ordinance passed some time ago instructed the company to place two men on all cars. The result of the order was two-man operation during rush hours. Complete two-man operation is demanded.

All Skip Stops to Go.—The Northern Texas Traction Company, Fort Worth, Tex., will abolish the skip-stop plan of operation, which has been retained on its Fort Worth lines since the war, according to an announcement by George H. Clifford, vice-president and general manager. Skip-stops were abandoned on Jan. 1 last on all of the lines except those located in the downtown section.

Three Cents a Mile on Interurban.—The Winona Interurban Railway, Warsaw, Ind., is now charging at the rate of 3 cents a mile on its interurban lines. This rate has been in effect for some time. In the issue of Jan. 15, page 158, it was indicated that the company had only just filed a petition for an increase to the 3-cent basis. The railway connects Warsaw, Leesburg, Milford, Goshen and other Indiana towns.

Indiana Fliers Named.—From a list of more than 2,000 suggestions the

Indiana Service Corporation has selected the names of "Wabash Valley Flier" and "Hoosierland" for its two new fast trains which are now running between Fort Wayne and Indianapolis. Prizes of \$15 for the best names and \$10 for the second best names were offered. The trains have been heavily patronized since being put into operation.

"Oncinawile" in East St. Louis.—Not for ever and ever nor for all of the time but only "Oncinawile" will the East St. Louis & Suburban Railway employees issue their new pamphlet giving inside facts on the doings of this Illinois Railway. The editor of the new publication states that stories, personal ones, too, will be accepted. No sermonizing in stories is permitted. All such material will be for the reign of Blue Sundays.

Safety Zones in Indianapolis.—The Board of Safety of Indianapolis, Ind., has decided to establish triangular safety zones at the north intersection of Meridian Street and the Circle, extending north in Meridian Street to the sidewalk line of the Circle and east and west in the Circle to the sidewalk lines of Meridian Street. This will prevent pedestrians from crossing the intersection except in direct line with the sidewalk.

Washington Fares a Problem.—The present rate of fare in Washington, D. C., of 8 cents cash or four tokens for 30 cents expires on March 31. This will necessitate action on the part of the Public Utilities Commission before that date as the old 5-cent rate would become effective automatically on April 1. Since costs of operation have not declined since the 8-cent fare was authorized, it is anticipated that the present schedule on the lines of the Washington Railway & Electric Company and the Capital Traction Company will be maintained until Congress takes action during the extra session.

"Knocking Down" Brings Heavy Fine.—Judge Marshall, in the Mercer County Criminal Court, recently imposed a fine of \$200 and costs upon a conductor in the employ of the Trenton & Mercer County Traction Corporation, Trenton, N. J., who was convicted of "knocking down" fares. The trolleyman failed to register thirty-seven fares which he collected on the East Trenton Division. The court in imposing the heavy sentence said it was going to break up the practice of well-paid employees stealing money from the traction company. More conductors are awaiting trial for a similar offence.

Loading Platforms in Pittsburgh.—A number of loading platforms have been put in operation for the convenience and safety of riders by the receivers of the Pittsburgh Railways. More will be installed as soon as arrangements can be completed. The platforms, of wood, are about 70 ft. long and 3 ft. wide and are designed to safeguard those boarding and alighting from cars. Traffic rules require automobiles and

other vehicular traffic to pass around the back of the railway loading platform which is guarded with iron railings. Charles A. Fagan, S. L. Tone and W. D. George, receivers of the company, have expressed satisfaction with the platforms and announced others will be installed.

McKinney Fare Rise Under Consideration.—The Texas Electric Railway, McKinney, Tex., has requested the City Council of that city for authority to increase local fares from 5 cents to 6 cents. In reply, Mayor Finch notified the company that the city has no authority under the franchise granted to regulate the rate of fare to be charged. The city authorities also notified the traction company that extensions of service in McKinney were not needed but the construction of a line to the McKinney Junior College was desired. No action has been taken on either the fare request or the extension of lines.

Hearing on Louisville Petition.—The injunction proceedings of the Louisville (Ky.) Railway for the purpose of preventing the city administration from interfering in any way with the proposed plan of increasing fares to 7 cents, was to come up in the United States District Court of Judge Walter Evans, on Feb. 10. Following the filing of the suit the company inserted car cards in its cars reading: "Our case is in the courts because we believe the establishment of our rights will enable us: First, to maintain efficient service; second, to maintain reasonable wages for our employees; third, to pay a fair return to our investors."

Suburban Line Asks Dime Fare.—The Port Jervis (N. Y.) Traction Company has made application to the Public Service Commission, Second District, for authority to charge a 10-cent fare from any point on its line in the town of Deer Park to any point in the city of Port Jervis. The company will maintain its 7-cent fare in Deer Park Township and in Port Jervis. The company alleges that its outstanding bonded debt is \$70,000, upon which no interest has been paid since 1914, and that for the last three years the company has not been able to earn sufficient money to pay its operating charges and taxes and that for the years 1913-1919, inclusive, its total deficit is \$24,169.

Bus Merger Under Consideration.—Protests have been made before the State Public Utilities Commission of Utah by certain drivers of automobile stages between Salt Lake City and Bingham, against becoming part of a company to be incorporated under the Utah law for the purpose of conducting the stage line. Owing to lack of unity in the stage line, the commission had recommended that it be centralized into an incorporation. The drivers prior to this move had been driving independently and getting a large percentage of what they took in. They object to having their equipment merged into a company. The Utilities Commission has not receded from its position that the business should be centralized. The

matter, however, is still under advisement by the commission.

Muskogee Car Order Modified.—The Corporation Commission has granted the application of the Muskogee Electric Traction company for modification of the order of Sept. 2, 1920, granting increased fares. The order provided that 50 per cent of the net revenues from the operation of the company's lines be used for improvement of physical property and service. Company and city officials stated in testimony before the commission that the agreement between the city and company was that 50 per cent of the net profits "received from the operation of the company's lines due to the increased fares" should be utilized for improvements of the property and service. The company asked for modification of the order to comply with this agreement and the application was granted by the commission.

Eight-Cent Fare Stands.—An 8-cent cash fare with four tickets for 25 cents will continue to be collected on the McKeesport (Pa.) lines of the West Penn Railways, Pittsburgh, under the terms of a recent order of the State Public Service Commission. The fare was raised from 5 cents to 8 cents last August. The commission holds in abeyance a complaint of the city of McKeesport and orders that the company continue the new fares for one year, during which time a complete statement of the operating expenses and revenues is to be filed with the commission. The commission also reserves the right for future action on the complaint of service, which the order says patrons of the McKeesport Division can expect to be improved under the new trolley fares. In the opinion the commission indicates that it does not believe that operating costs will continue to increase and that a reduction in fares should be made with the lowering of operating costs.

Will Charge 2.7 Cents a Mile.—The Northern Texas Traction Company, Fort Worth, Tex., has announced a flat increase in fares on its interurban lines between Dallas and Fort Worth, Fort Worth and Cleburne and all intermediate points. The advance in rates will amount to approximately 33½ per cent. The new fares will be based on a rate of 2.7 cents a mile. The minimum charge will be 12 cents instead of 5 cents as heretofore. Between Dallas and Fort Worth the new fare will be \$1 for one-way passage, or \$1.80 for round trip, against 76 cents for one-way passage or \$1.35 for round-trip passage under the old rate. George H. Clifford, vice-president and general manager, in announcing the increase stated that the company plans extensive improvements. Four large interurban cars will be ordered at once, and other cars now in service will be overhauled. Improvements will also be made in the roadway and in depot and station facilities. The double track of the Dallas-Fort Worth line will be extended and the number of cars in service on this line will be increased.

Personal Mention

Mr. Gale Honored

Operating Head, Hull Electric Company, Chosen President of the Canadian Association

Meeting at Ottawa, Ont., on Jan. 31 and Feb. 1 the Canadian Electric Railway Association elected as its president for the ensuing year G. Gordon Gale, vice-president and general manager, Hull (Que.) Electric Company. During the past year Mr. Gale has served as vice-president of the association. He has also been a member of the executive committee for several years.

An experience of fifteen years as a railway operator has qualified Mr. Gale to undertake the duties of president of the association. The Hull Electric Company, of which he has been in



G. G. GALE

charge as general manager since 1914, serves a community of more than 30,000 persons. It controls and operates an electric line 30 miles in length connecting Ottawa, Hull and Aylmer, and furnishes power for lighting in several communities.

Mr. Gale is a graduate of the electrical engineering department of McGill University. Prior to 1907 he was assistant engineer of the electrical plant of the Canadian Rubber Company. In that year he became superintendent of the Hull Electric Company. In the fall of 1908 he was made acting general superintendent of the company, and a year later was advanced to general superintendent. Five years later he was given the title of manager, and, in 1917, he assumed his present position as vice-president and general manager.

Civic and association duties have for several years occupied much of Mr. Gale's attention. He is a member of Council and past chairman of the Ottawa branch of the Engineering Institute of Canada. He is also an asso-

ciate member of the Institution of Electrical Engineers of Great Britain and of the Canadian Society of Civil Engineers.

J. B. Woolum Made Pine Bluff Superintendent

J. B. Woolum has been appointed superintendent of the street railway department of the Pine Bluff Company, which operates the street railway, electric light and water systems in Pine Bluff, Ark. Mr. Woolum succeeds J. J. Kress, who has been transferred to special work with the Arkansas Light & Power Company. Mr. Woolum is a native of Arkansas. He was in the train service of steam roads from 1900 to 1911, most of the time with the Missouri Pacific. He then entered the electrical business, and was manager of the Camden electric plant when it was purchased by the Arkansas Light & Power Company in 1914. Later he was transferred to the management of the Russellville plant of the Arkansas Light & Power Company, which serves Dardanelle, Morrilton and other towns. While at Russellville he helped install a 750-kw. turbo-generator with a special furnace for the burning of pulverized fuel. He was succeeded at Russellville by B. C. Fowles, a central station operator of many years' experience in the Southwest.

Mr. Davis to Report on South African Line

William J. Davis, Jr., Pacific Coast engineer, General Electric Company, has been transferred to the International General Electric Company and is en route from San Francisco to South Africa, via London, to make studies in connection with the proposed electrification of the government railroad between Cape Town and Pietermaritzburg, a distance of about 800 miles. This work is expected to take about a year. Mr. Davis graduated from Rose Polytechnic Institute in 1892. After spending three years in construction work he entered the employ of the General Electric Company at Schenectady. In 1898 he was transferred from the testing department to the railway department, where he remained for ten years, working from time to time on a number of the notable early electrifications. Some of these were the Albany & Hudson, the Central London, the London Underground, the New York Central, the Detroit River tunnels and the West Jersey & Sea Shore. For the past eleven years Mr. Davis has made his headquarters in the Pacific Coast office and has gained an intimate knowledge of railroad electrification in the West which will be of great aid to him in his new work.

A. R. Baxter Chosen

Auditor of Indiana Interurban Becomes President of Central Electric Railway Accountants' Association

Amos R. Baxter, auditor of the Indianapolis & Cincinnati Traction Company, Rushville, Ind., was elected president of the Central Electric Railway Accountants' Association at its annual meeting at Dayton, Ohio, on Jan. 22, 1921, to succeed C. B. Kleinhans, auditor of the Toledo Indiana Railroad. Mr. Baxter held the office of first vice-president of the association last year.

Mr. Baxter entered electric railway work with the Indianapolis & Cincinnati Traction Company in the spring of 1908 as a night ticket agent at Rushville, Ind. After serving five months in that position he entered the accounting department as a clerk, and subsequently served in various capacities as assistant cashier, cashier, bookkeeper and chief accountant. In 1917 Mr. Baxter was appointed auditor of the company.

Mr. Baxter was born in Rising Sun,



A. R. BAXTER

Ind., Nov. 23, 1890. He was graduated from the Rushville High School in 1908.

The Indianapolis & Cincinnati Traction Company is one of the larger electric interurban systems of the Middle West. It operates 107 miles of line.

New Illinois Commission Named

Frank L. Smith has been appointed chairman of the Public Utilities Commission of Illinois by Governor Small. Mr. Smith is at the present time Congressman from the Bloomington district, having been appointed to succeed the late John J. Sterling. In 1920 he was a candidate for the United States Senate, but the nomination went to William B. McKinley, now Senator-elect. Other commissioners named are Cicero J. Lindly, Greenville, former member of the old Railroad and Warehouse Commission; Patrick H. Moynihan, South Chicago, former alderman and member of Mayor Thompson's traction commission; Harold W. Trevillion, Herrin, editor of the Herrin News, and James F. Sullivan, Chicago.

Practical Operator Wins Toledo Post

Wilfred E. Cann of Detroit Selected for Position of First Street Railway Commissioner Under Service-at-Cost Plan

When Wilfred E. Cann assumed his duties on Feb. 1 as the first Street Railway Commissioner of Toledo, Ohio, no doubt remained that the city's interest in the local traction system would be efficiently looked after. Mr. Cann takes up his new work with a background of operating experience which well qualifies him to perform the varied tasks that will fall to his lot as Street Railway Commissioner. For the past fifteen years he has served the Detroit United Railway, first as a junior engineer, later as chief engineer and most recently as assistant to F. W. Brooks, president and general manager. The knowledge of operating practice thus obtained has given him a thorough understanding of the engineering, financial and transportation problems which confront the executives of a large urban electric railway.

Charles B. Hart, superintendent of the light and power department of the Indiana Service Corporation, Fort Wayne, Ind., since September, 1917, has resigned his position to go into business with his brother in Chicago. He had been connected with the corporation for nineteen years.

A. S. B. Little has resigned as first assistant engineer of the Illinois Public Utilities Commission to accept a five-year contract with the City of New York to handle all rate matters of the city before the state and national courts. Mr. Little has been with the Illinois Public Utilities Commission since 1914.

B. T. Longino has been appointed general superintendent of the Columbus (Ga.) Railroad. Mr. Longino will assume a number of the duties formerly coming under the jurisdiction of C. M. Young, who recently resigned as superintendent of power. Mr. Longino is a native of Georgia. He has been connected with the company for several years.

George B. Anderson has been made manager of transportation of the Los Angeles (Cal.) Railway. The appointment, which was announced by G. J. Kuhrts, general manager, was made effective Feb. 1. As announced in the *ELECTRIC RAILWAY JOURNAL* for May 15, 1920, Mr. Anderson was the manager of service, in which capacity he had charge principally of the relations of the company both with the public and with its own employees. In his new position he will have added duties along these general lines, besides other work relating to schedules, operation, dispatching, etc.

H. S. Russell has recently taken the position of general superintendent of the St. Joseph Railway, Light, Heat & Power Company, St. Joseph, Mo. In 1916 he was the electrical engineer of the Denver Gas & Electric Company, Denver, Col., which, like the company at St. Joseph, is controlled by the Doherty interests, but he left in 1919 to become superintendent of distribution for the Empire District Electric Company, Joplin, Mo., another Doherty property. Last year Mr. Russell was promoted to the position of general superintendent of this company. He was graduated from the electrical engineering course of Purdue University in 1908.

Robert R. McCoy, division superintendent of the Illinois Traction System, with headquarters at Staunton, Ill., has resigned that position to enter private business at Oklahoma City, Okla. J. H. Morris, recently stationed at Mackinaw Junction, Ill., as superintendent of the northern lines of the Illinois Traction System, will succeed Mr. McCoy at Staunton. O. C. Genung, former terminal trainmaster at Springfield, Ill., has been appointed superintendent of the northern division of the company, with headquarters at Mackinaw Junction, to succeed Mr. Morris. S. P. Sheibley, former chief dispatcher at Decatur, Ill., succeeds Mr. Genung as terminal trainmaster at Springfield.

W E. CANN won his appointment as commissioner in competition with more than forty other candidates for the position. He was selected by the members of the board of street railway control, Henry C. Truesdall, W. W. Knight and David H. Goodwillie, the appointment being ratified

Canadian Pacific and for four years did maintenance of way and surveying work for that railroad, the Canadian Northern and the Grand Trunk Pacific. One of his early experiences was on the original survey of the Grand Trunk Pacific route through the Hudson's Bay country.

Fifteen years ago Mr. Cann entered the employ of the Detroit United Railway as a junior in the engineering department. He was later promoted to chief engineer. Since his promotion to assistant to the general manager his work has had to do largely with the network of interurban lines which the Detroit United system operates in southern Michigan.

Commissioner Cann is married and has two sons and a daughter. He has been a member of the Detroit Engineering Society and of the Detroit Board of Commerce. Big game hunting in the Canadian Northwest is his favorite sport.

Commissioner Cann spent his first week in office in "getting acquainted." He set out to make himself thoroughly familiar with the details of his new work, and made a careful study of the system of the Toledo Railways & Light Company, now the Community Traction Company. On Friday, Feb. 4, he made a flying trip to Cleveland, where he conferred with officials of the Cleveland Railway on their methods of checking and of accounting in general. He also collected operating data with a view to instituting measures of economy in Toledo. To the Cleveland traction men he expressed himself as favorably impressed with the accounting system in use there. That system has been in effect in that city for the past ten years.

Sam W. Greenland has been appointed general manager for the receiver of that portion of the Ohio Electric Railway system known as the Fort Wayne, Van Wert & Lima Traction Company. This line extends from Fort Wayne, Ind. to Lima, Ohio. Mr. Greenland will take charge of the operation of this property in addition to the other duties which devolve upon him as vice-president and general manager of the Indiana Service Corporation, general manager of the Fort Wayne & Decatur Traction Company, and president of the Service Coal Company, Fort Wayne.



W. E. CANN

by Mayor Cornell Schreiber. Mr. Cann was highly recommended by Prof. H. E. Riggs of the University of Michigan, who had been called into consultation by the board of control. Professor Riggs formerly conducted an engineering practice in Toledo. He at one time or another made valuations of properties in the vicinity of the city, and served as a member of the board which fixed the value of the "Rail-Light" system. The salary of the Street Railway Commissioner has been fixed at \$7,500, the same as that of Mayor Schreiber.

Commissioner Cann has held the position of assistant to General Manager Brooks of the Detroit United Railway for nine years. He is 37 years old, and is a native of Winnipeg, Man. He was educated in the Winnipeg public schools and at St. John's College, Winnipeg. Since his graduation from college he has been constantly engaged in railroad work. He entered the service of the engineering department of the

Manufactures and the Markets

DISCUSSIONS OF MARKET AND TRADE CONDITIONS FOR THE MANUFACTURER,

SALESMAN AND PURCHASING AGENT

ROLLING STOCK PURCHASES

BUSINESS ANNOUNCEMENTS

Aluminum Conductor Orders Show Increase

Plenty of Mill Capacity and Raw Material Now Available to Handle Future Business Looming Up

Contrary to conditions existing last year in the aluminum field there is now sufficient capacity available, both raw material and mill, to place aluminum conductor production on a satisfactory basis. Less than a year ago there was little metal that could be turned over to conductor business, but with a decline in output in the automotive and other fields and an increase in orders for conductors, there is now plenty of capacity at hand which it is expected will be devoted permanently to that trade.

There have recently been placed several orders of good size for aluminum conductor, and the outlook for the future is reported particularly bright. Ingot aluminum, 98 to 99 per cent virgin, is quoted now at 28 cents a pound. With 14-cent copper the first cost of these two metals would be about on a par when it is considered that aluminum for equal conductivity weighs just under one-half what copper weighs.

Malleable Iron Castings Deliveries Short

Market Very Quiet and Prices Reduced—Some Foundries Have Lowered Wage and Operating Scale

The supply of malleable iron, which six months ago was all the way from a year to half a year behind orders on hand, has eased up very materially. As regards new business the market is absolutely quiet, for little or nothing in this line is being bought at the present time.

Those manufacturers specializing in supplying the automobile trade have probably been hardest hit by the slump in business, as the automobile industry was about the first to react to the general falling off of demand. The previous press of orders for malleable castings had been so great, however, that some producers are only just now beginning to catch up with their back orders.

Others who were perhaps quicker to feel the buying slump are at present working on a curtailed operating schedule that is down to three days a week in some instances. Wage reductions of 10 to 15 per cent and laying off of workmen have been quite numerous too. On the other hand, many malleable iron factories have taken no steps in that direction.

Deliveries cover a wide range, de-

pendent on the manufacturer and the type of casting. On the whole, the situation is favorable, because mills are now so situated that they can speed up if necessary. In order to keep the working forces intact and busy, however, there is probably a current tendency not to hurry on filling orders unless the need is urgent. This, as well as the large amount of pattern work required on certain material, may account for the extreme delivery period of two to three months that is quoted. From close to stock up to four or five weeks would seem to be a more representative figure. Stocks of finished material, as a matter of fact, virtually do not exist,

as the unsteady market makes this inadvisable. For the same reason raw material is being bought in sparing quantities by some of the malleable castings makers.

Prices have trended downward following declines in fuel, pig iron and in some cases labor costs. The reductions made from peak prices average in several instances from 10 to 20 per cent. Further price developments, of course, depend upon the trend of the underlying markets, but according to one of the large companies in this field, which has already made two price reductions during January, the malleable-iron market has not yet touched bottom.

Will Price Cuts Stimulate Buying?

Several Large Equipment Manufacturers, Though Indicating a Desire to Pass Lowered Costs on to Consumer, Discount Effect of This on Buying

Electric railways on the whole are playing fair with manufacturers with regard to the price situation, according to the consensus of opinion of more than half a dozen large producers of railway equipment. One or two of the latter, it is true, state that the more prices are reduced, the more traction companies seem to await and expect further reductions. As a general thing, however, manufacturers take an extremely liberal view of the present quiet market, stating that they realize the railways of the country are in a bad way financially, and are unable to buy, regardless of price.

Proceeding on this view equipment manufacturers are building for the future rather than counting upon the present market. Attention is being devoted to the time when business will return to normal, and by making price concessions and by carrying slow accounts for long periods producers are endeavoring to cultivate good will against this return of business.

Without exception each manufacturer interviewed gave it as his opinion that the price cuts would be no stimulous to buying at present, as traction companies are endeavoring to keep their inventories as low as possible. At the same time it can be safely stated that it is a general policy of manufacturers in this field to pass lowered costs squarely on to the consumer. At least one manufacturer, it is true, indicates that no reduction in the price of his product may be expected regardless of lowered costs. This company prefers to tide over the existing period of depression until better demand will warrant the price now in effect. In ex-

planation it might be said that in the above mentioned case, increased costs which the company absorbed during the period of rising prices, automatically preclude any great price drops.

Nevertheless, the policy outlined in this instance is far from being representative, according to the attitude taken by other manufacturers. These frankly say in a number of instances where prices have not changed, that lower quotations may be expected. This applies usually to those manufacturers who have not reduced wages. On some products labor costs are as much as two-thirds of the expense of production. Where wage cuts have been made the reduction is usually passed on, but the point to remember is that after a wage cut of 10 or 15 per cent has gone into effect, a second cut cannot be made very soon again without causing trouble. Where labor costs are still unchanged, there is naturally room for lowered prices. In this connection manufacturers point out that they have taken considerable losses on stocks of high-priced material which had to be sold at low levels during the past few months. This, of course, is equalized when producers stock material on a rising market.

Several manufacturers state that they are fully as much if not more anxious for prices to reach a firm basis than is the buying end of the industry. But as prices of electric railway material have not been inflated as have many commodities in everyday use, it is pointed out that to expect price declines in the same percentage as have taken place in the clothing industry, for example, is but deluding oneself. As was noted in last

week's issue, consideration of what may be termed a fair price level on any article must include such factors as labor and raw material cost reductions, the amount of previous price increases, and the further element as to how much competition is involved.

Good Prospects Seen in Line Hardware Field

Although Present Buying is Light, Some Manufacturers Are Going Ahead on a Stocking Program

The market for pole-line hardware is only fair from the standpoint of buying. The present month is usually a period of light buying, but though it is true some utilities are covering their spring needs the general demand is considerably less than normal. As far as prospects for good business go, however, the situation is very favorable, according to several manufacturers. Almost without exception producers express confidence that the contemplated extension of power lines by electric railways and central stations will result in heavy buying in the coming spring.

In accordance with this view some hardware producers are going ahead with production, although on a curtailed basis, for the purpose of piling up reserve stocks.

Other manufacturers have only recently caught up with back orders and so are not able to ship large quantities of other than standard material from stock. Deliveries, on the whole, are good, ranging from stock up to two or three weeks.

Prices have held steady since general decreases, ranging from 5 to 15 per cent, were made during the month of December and the early part of January. In some quarters still lower prices are expected, but in others the view is expressed that present quotations will hold steady.

Apparatus Price Drops Announced

Following recent wage cuts of 10 and 15 per cent, depending on the class of work performed, put into effect at the Schenectady works of the General Electric Company, there have been some reductions in prices of apparatus. The wage reduction, however, it is announced, lowered costs only 4 to 6 per cent.

A general reduction of 10 per cent is now reported, effective Feb. 8, on alternating and direct current motors (including welding apparatus), switchboards, regulators, rotary converters, motor generator sets and generators of all descriptions excepting turbo-generators. Power transformers and turbines have not been changed in price. These price changes are in the list prices, not the discounts, new lists having been published.

Westinghouse industrial motors and motor generator sets have been reduced 10 per cent as of Feb. 9.

Electrical Exports Reach Record Volume

Total for 1920 Passes \$100,000,000 Mark —With Lowered Prices Indicated Volume Should Hold Up

One of the most encouraging features of the electrical market now is the volume of apparatus and supplies that is being shipped out of the country. The month of December just passed turned in \$13,812,251 worth of electrical exports, the highest value for any month on record. Of course much of this material was ordered months ago when business was more active than it is now. But prices in general were higher then, and with that fact in mind there is not so much chance for a falling off in foreign trade as there would have been had prices remained at their high level.

The exports of electrical materials during 1920 amounted to \$102,618,508, fifteen per cent higher than the best previous year on record—1919. There has been a good volume of traction materials shipped out of the country right along and with lower prices in view and bettering rates of exchange there is no reason to expect 1921 exports to be any lower. Hydro-electric developments planned or under way in many foreign countries call for railway electrifications.

Buying of Copper Line Material Nominal During 1920

During the year 1920 buying of rail bonds, trolley ears, crossings, splicers, hangers, etc., was merely nominal as electric railways for the most part placed orders to cover their actual repair needs and no more. The supply was generally favorable except that during the period of transportation delays and labor troubles raw material supplies were held up and shipments lengthened somewhat. At no time, however, did deliveries of rail bonds run much beyond one month and overhead line material three months. These figures, of course, improved to a very great extent during the last half of the year.

Prices present a gradually ascending curve to a peak point reached in about the latter part of the third quarter, and from then on the curve gradually descends. Price increases of from 6 to 15 per cent went into effect on copper line material the last of July, while as late as the end of August the price of rail bonds was increased slightly. The discount on the latter commodity, which early in the year was 12½ per cent, in the last quarter rose to 25 per cent following the decline in the price of copper.

Since the first of the year the market has remained quiet, with railways barely covering their repair needs and no more. Deliveries, of course, are good, running from one to two weeks. Prices have declined the past month under the influence of low copper and in some cases lower labor costs. On

January 3 price decreases amounting to 5 per cent were put into effect by two producers, while another dropped the price 15 per cent on the same date. On Jan. 12 a fourth large manufacturer lowered prices 10 per cent.

Asbestos Sheet Demand Light in Open Winter

With the open winter to date, there has been little maintenance required in asbestos materials of such nature as asbestos sheet for lining controller cases, contactor boxes, etc. Buying has been light, for the arc-breaking chambers on electric cars have been called on for little extra heavy duty generally necessitated when snow and ice on the tracks make the going heavy.

There is plenty of asbestos sheet available for this market and the supply of raw asbestos above ground is good. In the past few years, though, the demand for asbestos products has been so great that proper care has not been exercised in all the mines to clean up the properties as the work progressed. Consequently some waste has taken place. This, however, is being overcome and production is progressing in good shape. Prices now are about 25 per cent lower than they were a year ago.

Rolling Stock

Detroit (Mich.) Municipal Railway, it is reported, proposes to purchase this year from 200 to 300 cars of various types. Orders will be placed through the city purchasing department.

Hudson & Manhattan Railroad Company, New York City, has just placed an order with the General Electric Company for 866 ceiling fans for its tube cars. These are similar to the four on the Brooklyn Rapid Transit cars. Installation is expected by June 1.

Illinois Traction System, Peoria, Ill., suffered a loss recently through fire which partly destroyed two freight cars and their contents. The damage to the cars is estimated at \$3,500 and to the merchandise at \$1,115. The trucks and braking equipment were not damaged to any extent.

The Metropolitan (England) District Railway has received the first installment of an order for 100 cars of a new type, placed some time ago with the Metropolitan Amalgamated Carriage, Finance & Wagon Company, Ltd., of Birmingham. The cost of this order, according to the Jan. 7 issue of the *Electrician*, London, England, is estimated at £750,000, or at present exchange rates in the neighborhood of \$2,870,000. The electrical equipment is provided by the British Thomson-Houston Company, Rugby. A photograph of the new cars indicates that they are somewhat similar in construction to the subway cars in service on the New York Municipal Railway Lines. The

width of the cars is 9 ft. 6 in., and there are three sets of double doors on each side. A speed of 45 miles per hour is attained on non-stop runs. It is the company's intention to establish a regular service of eight-car trains during the rush-hour periods in place of the five, six and seven car trains now operated.

Utah-Idaho Central Issues \$300,000 Notes for Improvements.—The issuance of \$300,000 in notes for the purpose of purchasing equipment and rolling stock and making improvements has been authorized by the board of directors of the Utah-Idaho Central Railroad, Ogden, Utah, operating an electric line between Ogden, Utah, and Preston, Idaho. The notes are to be held by the large stockholders of the company. The expenditure for the improvements will be made at once by the company. In fact, 109 new steel gondola cars have been purchased from a Columbus, Ohio, firm and will be delivered to the electric lines within the next two months. The new cars are of the latest type and will have a capacity of 55 tons each. They will be used for the handling of sugar beets, coal, lime, rock, sand and gravel.

Track and Roadway

Oklahoma Railway, Oklahoma City, Okla.—The Corporation Commission has granted additional time, or until September 1, 1921, to the Oklahoma Railway to construct a bridge over Lightning Creek and make loop connections on its lines in Capitol Hill, a suburb of Oklahoma City. By a previous order the company was required to have the bridge completed by December 31, 1920. The company, however, found it impossible to secure the funds because of the depressed financial situation and asked for an extension.

United Traction Company, Albany, N. Y.—The United Traction Company and the Schenectady Railway have been petitioned by the Troy Chamber of Commerce for favorable action in the project of extending their lines through Nineteenth Street, Watervliet, and over the Congress Street bridge to Troy. The Troy Chamber of Commerce after careful investigation of this extension believes that both the railway management and patrons will benefit if this plan is carried through.

San Francisco (Cal.) Electric Railways.—The cost of the proposed extension of the municipal street railroad into the Haight, Ashbury and Sunset districts will be made by the city engineer at an early date. The extension has been proposed by Supervisor Colonel James E. Power and the public utilities committee recommended that the supervisors finance committee appropriate \$8,500 from the municipal railroad fund.

Northern Texas Traction Company, Fort Worth, Tex.—The Northern Texas Traction Company plans to improve its right-of-way and its depot and station facilities. The double tracks of the

Dallas-Fort Worth lines will be extended and the number of cars in service on the line will be increased.

Dallas (Tex.) Railway.—The Dallas Railway stands ready to build the single-track extension out Seventh Street from Tyler to Edgefield, thence on Edgefield to King's Highway, as ordered by the City Commission under recommendation of the City Plan Commission, according to announcement by Richard Meriwether, vice-president and general manager. The company has opposed the Seventh Street route and has twice gone to the City Plan Commission in an effort to have the line routed out King's Highway instead. The line will cost about \$75,000. Work has been held up pending the laying of a storm sewer on Seventh Street. As the sewer is now complete work on the railway will start soon.

Dallas (Tex.) Railway.—The Dallas Railway during the year 1920 spent \$1,500,000 for extensions and betterments in Dallas, according to the annual report of Richard Meriwether, vice-president and general manager. In addition to these extensions and improvements the company has added sixty-two new safety cars to the operating equipment at a cost of \$430,000.

Gray's Harbor Railway & Light Company, Aberdeen, Wash.—According to a decision by the City Council the Gray's Harbor Railway & Light Company must pave its tracks on Curtis Street after May 1, and notice in writing to this effect has been sent the company. The company had been given orders to plank the intersection in the interval as a matter of public safety.

Power Houses, Shops and Buildings

Montreal (Que.) Tramways.—The Montreal Tramways is planning the construction of two waiting rooms at Place D'Armes Square in Craig Street.

Southern Pacific Company, San Francisco, Cal.—The Railroad Commission of the State of California has ordered the Southern Pacific Company to erect depot facilities in the city of Oakland upon the block bounded by Webster, Fourteenth, Franklin and Thirteenth Streets.

Augusta-Aiken Railway & Electric Corporation, Augusta, Ga.—The Augusta-Aiken Railway & Electric Corporation of South Carolina will build a terminal station at the southeast corner of Seventh and Calhoun Streets, Augusta. The building, which will be of metal and concrete construction, will cost approximately \$12,000.

San Antonio (Tex.) Public Service Company.—The San Antonio Public Service Company is not planning any immediate extension of lines, but will install new machinery and equipment in the power plant on the Conception road and at the substation on Tenth Street at a cost of between \$250,000 and \$300,000.

Trade Notes

William S. Higbie, electrical engineer, 114 Liberty Street, New York City, has established an inspection and purchasing service for buyers of power equipment, with offices at the above address. Mr. Higbie was formerly with the Chile Exploration Company, New York City.

Electric Service Supplies Holds Sales Conference.—All of the sales force of the Electric Service Supplies Company covering the eastern territory met at the Philadelphia plant, Seventeenth and Cambria Streets for a sales conference last week. The field men were thus kept in contact with the factory for an entire week. The daily discussion of conditions in the railway, central station, mining and industrial fields gave indication of increased activity and an optimistic outlook in those lines.

The McGraw-Hill Book Company has just removed from its old quarters at 229 West Thirty-ninth Street, New York City, to 370 Seventh Avenue. The company occupies the entire tenth floor of the new Penn Terminal Building, extending from Thirtieth to Thirty-first Street, with floor space of 20,000 sq.ft. This is the third home of the book company since its organization in 1909, the two former homes having been in different spaces of the Thirty-ninth Street building.

Arthur H. Abbott, who was formerly connected with the Boston office of the General Electric Company as transformer specialist, has recently gone into business as a manufacturers' agent, with offices at 88 Broad Street, Boston. He is handling Schweitzer & Conrad outdoor-substation equipment and liquid fuses, "Hi-Voltage" air-break switches, "Ohio" lifting magnets and fractional-horsepower motors, automatic electric control manufactured by the Sundh Electric Company, Karge-Baker flexible couplings, and stokers and steam-jet ash conveyors manufactured by the Frederick Engineering Company.

New Advertising Literature

Condulets.—Crouse-Hinds Company, Syracuse, N. Y., has issued a folder illustrating actual conduit installations.

Diesel Engines.—The Western Machinery Company, 900 North Main Street, Los Angeles, has issued a catalog describing and illustrating the "Western" Diesel engines, including stationary and marine types.

Circuit Breaker.—The new U-Relite circuit breaker in capacities up to 60 amp. is described in a bulletin of The Cutter Company, Philadelphia, Pa.

Blowers.—The Electric Blower Company, 352 Atlantic Avenue, Boston, is distributing a six-page leaflet describing its different types of "Marvel" electric blowers, rivot forges, ventilating fans, etc.