



# Electric Railway Journal

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## Weed Out the Pessimists

THERE is no room in the industry for pessimists. It seems almost imperative that all electric railway executive positions be occupied by men whose visions are not handicapped and beclouded with pessimistic prejudice. The industry is in dire need of the best brains obtainable, brains open to new ideas of operation and new thoughts of management. The industry is not a dead one; nor is it going to die. It is too fundamentally essential to die. Nor is it in any danger of supersession at the present time, for no more economical and reliable system of transportation is in sight than the electric railway, Henry Ford's ideas to the contrary notwithstanding. Thanks to the efforts and faith of a part of the men of the industry, the worst has passed for most roads, and there is every reason for an optimistic outlook for the future. But the future is not to be easy. There are many serious problems ahead. This points to the demand for sound judgment and vision—vision born of honest faith in the industry. Looking back, there is much food for the pessimist; and the pessimist is a back-looker; he sees ahead only with eyes that color the future according to the trend of the past. It is not he who acts to bring about a controversion of the past trend. Hence the pessimists, with whom the industry has been harrassed the last few years, have no place in the present railway situation. He is a wise chief who will proceed forthwith to weed them out of his organization, clearing it for the task ahead. The future is not insolvable for men with minds unbiased by past discouragements.

## Shift Surplus Safeties to Big-Car Routes at Night

IT WILL naturally take a long time before all those who need safety cars will have enough of them to use on most of their lines most of the time. This does not mean, however, that the customary method of assigning available safety cars to certain lines only cannot be bettered. Let us assume that we have already equipped one-half of the routes with such cars. During the busier hours of the day practically every one of the safeties will be required to give the desired headways of three and one-half to five minutes. After the evening rush, however, the headways will probably be lengthened to such a degree that one-third and perhaps one-half of the cars are taken off. We are then confronted by the absurd situation of one-man, light-weight cars standing idle while two-man, heavy-weight cars are handling the lightest service of the day on certain lines.

It may not be orthodox to run one kind of car during certain hours and another kind of car during other hours on the same line. Yet there is no reason to

suppose that the public would object to a car with a different boarding and leaving routine so long as the change is effected during the off-hours. Incidentally, this would not prove a bad plan for getting the public used to what will eventually be the style of operation at all hours. It is obvious also that the diversion of surplus safety cars to other lines would make possible better headways and greater income aside from the savings in platform and power cost. Surely, it is just as logical to use light cars on heavy car lines during low-traffic hours as it is to use big cars on safety lines during the rush hours.

## Why the Public Can Misunderstand the Single-Truck Car

THOSE railway men who have an idea that the average man in the street doesn't know whether the cars are running on four wheels or eight would be disillusioned if they began asking people at random what they thought of the cars. We had this experience recently in a town where the single-truck cars came in with the Spanish-American War or thereabout. Since that war strong youths have changed to feeble men, but the same cars still roll and pitch along as in the days when propulsion by electricity covered a multitude of defects. In the same town are a number of double-truck cars, not particularly good but of such conspicuously better riding qualities that they are sure to get a good word from the same people who condemn the smaller cars.

Now the unfortunate thing is that in the minds of these people, single-truck cars are associated with bad riding and double-truck cars with good riding. The burden of their complaint is: "We want no single-truck cars." Of course, it is going to be quite a job to convince them that the single-truck car of today is quite a different proposition from that of a generation ago; to explain to them what even many a railway man forgets, namely, that during the big-car vogue the improvement of the single truck was almost entirely neglected. If our British brethren can devise spring suspensions that make even a double-deck single-trucker prove tolerable, we may rest assured that still better results are possible with single-deck cars. Certainly, the new trucks shown at the Atlantic City convention, as well as the slightly earlier designs now under hundreds of safety cars and in use in many parts of the country possess riding qualities that will popularize them with the public once an opportunity is given.

This fact is worth the attention of those operators who are still doubtful about using single trucks for one-man cars because of their feeling that their patrons will object to single-truck cars as "small-town stuff."

## Sell the Salesman First!

IF THE TERM "selling transportation" is not to be merely a phrase, electric railways must study all the schemes that merchants work up in putting out their products for purchase. In some respects the electric railway man has a more difficult task because he is selling a somewhat intangible article and one which is pretty much the same all the year round. Nevertheless, the general principles of selling are as applicable to the sale of rides as to the sale of shoes. One of these principles is that you must sell the salesman before you can hope to sell the ultimate purchaser. Applied to the electric railway this means clearly that the platform men, and more particularly the conductors, must have a concept of what the management is striving to do.

Let us take, for example, a change in the cost of transportation worked out through the use of a new kind of fare ticket. The management has adopted the ticket after weighing all the pros and cons. Perhaps it has even gone so far as to advertise to the public the merits of the innovation; but it has omitted an important link if it failed to take the platform men into consultation.

Conductors are as human as anyone else. If asked to give their opinion about a new form of fare they will not only be pleased at this recognition of their importance but will be glad to offer suggestions that might not occur to the man at the desk. The larger part of such co-operation, however, is that the men are enlightened as to the "why" of the change so that all of them can tell the same story to their customers on the car and tell that story straight. It is the conference before the sale that puts behind a department store's bargain all the dynamic energy of the sales organization.

To paraphrase an expression from the business world: There is a great difference between a salesman (of transportation) and an order (fare) taker!

## Jitneys or Trolleys— Take Your Choice

THE EYES of the street railway world are focussed on Massachusetts, where the electric railway companies have succeeded in crystallizing present-day public opinion so that the people apparently realize that unless sufficient revenue is obtained to pay the cost of operating cars, the service must be discontinued. This business axiom was brought sharply to the attention of everyone interested in urban electric railway transportation by Governor Coolidge several days ago, when in response to an appeal by the officials of one of the cities in the Salem District of the Eastern Massachusetts Street Railway Company for the restoration of service, suspended by the public trustees of that road, he said the public could expect nothing but what it was willing to pay for in transportation any more than in anything else. Salem lost its car service when the city officials failed to choose between the trolleys and the jitneys.

Soon after taking charge of the affairs of the former Bay State Street Railway on a service-at-cost plan, under an Act of the Legislature, the public trustees announced unequivocally that trolleys and jitneys could not operate competitively without an economic waste. To this policy the trustees have adhered throughout the several spectacular controversies with city officials.

In consequence of this position jitney competition

has been gradually disappearing from the Bay State territory since last September. In the few spots, however, where it remains there is a constantly growing public sentiment in favor of the elimination of wasteful rivalry in the transportation field, and newspaper comments indicate that the trolley company has a host of new friends, ready and willing to champion its cause whenever necessary and without fear of being labelled as "corporation tools."

The fact that a State Board directs the affairs of the Eastern Massachusetts Street Railway and that the communities served have to make up any deficit from operation, if they want the service continued, undoubtedly was of help in bringing about the result secured. A privately owned company might not always find it judicious to use such heroic measures. Nevertheless, that a private company can also secure the support of the community is shown by the recent action of the Springfield (Mass.) Chamber of Commerce, where, at a mass meeting, 300 of the leading business men voted practically unanimously in favor of granting the street railway a monopoly of transportation.

The railway men never had a better time than now, as any student of psychology will tell them, to assert with telling effect every ounce of available energy they possess for what rightfully belongs to them, as the public is ready and willing, if handled rightly, to give the traction companies a square deal.

## Real and Fictitious Bus Flexibility

MR. PALMER'S well-reasoned article on "How Buses Are Run in Baltimore," published in our Jan. 3 issue, carried a tip on a way to make profitable use of the motor bus even where the service does not pay in itself. We refer to the possibilities offered by routeing buses over near-by but not congested streets. This characteristic advantage of the bus is not developed by jitney bus operators, as the latter are not originators but stealers of traffic. Their claim that the bus is faster because more flexible is a joke, so far as concerns operations over streets where there is, at every corner, a traffic control officer who sees to it that practically all traffic, whether on rails or rubber, moves along at the same gait. The superior schedule speed of the jitney bus really arises from the fact that a smaller vehicle makes fewer stops in the district outside the congested area—a fact that is proved quickly enough when a thirty-two-seat safety car replaces a forty-four jumbo.

It is, therefore, not surprising that it has remained for the first American street railway which uses buses in co-ordination with cars on a large scale to point out not the fictitious but the genuine flexibility of the bus that comes from exploiting a vehicle that can use almost any highway at will.

The situation as regards Charles Street, Baltimore, is paralleled in many other cities. We have in mind a municipality where traffic has absolutely reached the saturation point, so far as the tracked highways downtown are concerned, an index to the degree of congestion being afforded by the fact that the rush-hour schedule is 15 to 20 per cent slower than at other times of the day with a corresponding increase in platform wages. To widen the streets or build a subway in what is naturally the costliest territory of the city would be out of the question. The solution, at least so far as

speed of transportation is concerned, apparently lies in diverting as much rush-hour travel as possible to other thoroughfares by means of special bus services between the principal factories and the residential sections. Under present conditions, almost every car on this system comes down to the congested area for both routing and passenger transfer reasons. With the aid of buses, a large part of the present transfer passengers could be routed direct by means of by-roads running blocks away from the congested streets. For such high speed service a special fare could properly be charged and easily collected.

It is in such service as this, as auxiliary to the electric railway system of a city, that the main field for buses in city transportation lies, and preferably such service should be supplied under the direction of the existing railway company. If those who are advocating the use of buses for city transportation would turn to such cases as these, rather than to that of paralleling existing rail lines, communities would be much better off.

### No Procrastination With This Commission

IT IS with much satisfaction that we review the recent decision of the Public Service Commission of Maryland in the case of the petition of the United Railways & Electric Company for an increase in the rate of fare. Such fearless and rapid-fire action on the part of a utilities commission in a case known to be meritorious is indeed encouraging and suggests that there is still relief for those who find their burdens unbearable.

The Baltimore decision, we believe, establishes a record for a quick hearing and prompt decision on such a petition. The hearing occupied the entire day of Dec. 30 until 4 p.m., and the decision of the commission was announced the same evening. It is true that this was really a continuation of the fare case heard by the commission during August and September, when the company felt that it had proved the necessity of a 7- or 7½-cent fare but was allowed a cash fare of 7 cents with metal tickets to be sold at four for 26 cents, afterward voluntarily reduced to two for 13 cents. The commission, therefore, was thoroughly familiar with the whole case and with the results that had been obtained for the nearly three months since the fare went into effect on Oct. 1, and granted a straight 7-cent fare.

The action of the Maryland commission is in sharp contrast to that of the commissions of some states where procrastination in granting relief and help to the hard-pressed electric railway companies has resulted in great damage and financial loss to the companies and, in many cases, actually in receiverships. These serious results in some cases certainly could have been avoided had the commissions assumed the proper responsibility. The idea of a public regulatory body maintaining an existence only for the purpose of downward regulation of fares and rates has been demonstrated by actual results to be fallacious and much credit is due a commission which accepts its responsibilities and, in the face of almost certain adverse public opinion, grants to a public utility that rate which is essential to insure efficient operation.

Would that certain other commissions might follow the good example set by the Maryland body.

### Depreciation Is a Fact, Not a Theory

DURING the past three years capital and labor, hand in hand for the country's best interests, have been directing their efforts so intensely toward distinctly war efforts that no maintenance or replacements of electric railway property have been authorized on most roads beyond those absolutely required to permit the roads to give satisfactory service. The consequent state of the physical property is such as emphatically to call attention to the depreciation which has occurred. To add to the problem, the rise in the cost of materials and labor without a corresponding rise in rate of return has increased to alarming proportions the amount of money needed to bring the physical property to a satisfactory condition. From the standpoint of both the public and the company, we must insure against any similar situation arising in the future from causes which may not now be foreseen.

In conditions like these it is indeed refreshing to have the analysis of the treatment of depreciation by various commissions and courts which Mr. Fish presented at Cleveland on Jan. 8, in his address proposing a policy of the establishment of an adequate depreciation reserve fund by all electric railway companies. The JOURNAL is glad to be able to present an extended abstract of this address. It represents the type of thinking and analysis from which we believe the industry can well profit and which it should encourage. There is no subject other than giving satisfactory transportation service to the community which appeals more to those interested in electric railway management than the maintenance of the integrity of the legitimate investment in the enterprise. As Mr. Fish points out, this can be accomplished only by an adequate depreciation reserve fund, and fortunately this is the view generally accepted by the courts and commissions. This is a healthy situation for both public and company. The transportation question is of community interest and any permanent system for providing transportation must be on a financially sound basis.

But there is also a word of warning in all this. While there has been a tendency in some valuations to allow inclusion of the cost of property abandoned or replaced years ago, there is an expressed feeling that that is merely the best way at present of settling the past and getting a fresh start, and that the future must be conducted in a different way. The whole trend of opinion points definitely to the conclusion that depreciation, both as maintenance and as replacements, is an operating charge and, as such, takes precedence over fixed charges and dividends. This warning is not a threat, but a logical result of evolution in the financial and accounting history of the industry and constitutes a more or less generally accepted basis of standard practice.

There will be no excuse in the future for failure to make provision for depreciation. To be sure, no universally accepted basis has yet been evolved for a depreciation reserve or for many other related questions, but it would appear that this fact merely accentuates the duty of the industry to get as far as possible toward an answer. It is a joint problem for the accountants and engineers, and we hope they will be encouraged to continue to work on the subject. Depreciation is always with us and we cannot evade its consideration if we would.

# How One Railway Eliminated Jitneys

**Public Trustees Use Courage to Curb Unfair Competition and Are Backed Up by Governor in Their Actions — Only One District Now Has Jitney Competition**

**T**HAT the trolley car is still recognized by the public in several Massachusetts cities served by the Eastern Massachusetts Street Railway, to be the best mode of transportation, has been demonstrated frequently during the past few weeks. Even the Governor has assisted the trustees in their endeavor to provide the public with the best transportation service possible at the lowest fare consistent with the cost of the service rendered.

The special act of the Massachusetts Legislature, under which the board of trustees operate the road, provides that the cost of service must be borne by the car rider, and unless traffic conditions are such as to bring this about, service can be discontinued providing the communities affected are not willing to meet the deficits incurred by continued operation.

The public trustees assumed control of the property on June 1, 1919, and divided it into twelve operating districts, each of which was expected to be self-supporting in that the revenue from operation would be sufficient to cover not only operating expenses but fixed charges and a depreciation allowance. Continued operation, however, showed that in the so-called Lawrence, Salem, Brockton and Quincy districts, where jitney competition was most prevalent, a deficit was being incurred during each month of operation.

Under the terms of the service-at-cost act there was nothing for the public trustees to do but to discontinue operation, unless aid could be secured, either financial or otherwise, from the cities and towns in these several non-profitable districts.

## QUINCY AND WHITMAN VOTES FAVORED ELECTRIC CARS

The first decisive step was taken on Sept. 10, 1919, when the trustees notified the mayor of Quincy that unless the jitney buses on the Hough's Neck line were removed it would be necessary to discontinue service on and after Oct. 1, due to the fact that the cost of service was greater than the receipts.

Prior to the date set for discontinuance, the Mayor took a post card referendum of all the people served by this route, with the result that more than 700 recorded themselves in favor of the trolley car, while less than twenty favored the jitneys. Within a few days thereafter the citizens at Hough's Neck in public meeting declared themselves for the retention of the street railway service. The final result was that the mayor ordered the motor buses which were operating under hackney licenses to discontinue operations in that part of the city and since that time no competitive service on that route has been run.

On Oct. 28, 1919, the people of Whitman, one of the towns in the so-called Brockton district, in special town meeting voted by ballot for the retention of car service after being informed that if the jitney competition to Brockton continued the trolley cars would be taken off. The so-called jitney act was likewise accepted. Within

a few days thereafter the Whitman selectmen adopted an ordinance prohibiting jitneys from operating on any street where the railway company was giving service. For a time the jitney men defied the ordinance, but finally withdrew.

## JITNEY DRIVERS IN BROCKTON DISTRICT APPEAL

On Nov. 11, 1919, notices were posted in all the cars operating within the Brockton district that service on five designated local lines would be discontinued on Nov. 17 unless the unfair jitney competition was eliminated. Two days after this the local manager met with the city officials and discussed the situation. The outcome was that the day set for discontinuance was extended so that public meetings could be held to determine the sentiment of the people and on Nov. 17, four days after the notices were first posted, the board of aldermen, following the sentiment expressed in the public meetings, voted 7 to 1 for the revocation of all city jitney licenses to take effect at the end of the week. When the jitney men, at this meeting, indicated their intention to operate in defiance of the action of the aldermen, they were informed by the mayor that "their destination would be the police station and that they would get tired of operating before he would tire of having them arrested." Instructions were given to the city marshal to that effect. Two or three men who attempted to operate were promptly arrested, and since that time no jitneys have been operating in the city of Brockton or from any of the surrounding towns into that city.

However, the Brockton jitney interests have been before the Supreme Court on injunction and certiorari proceedings. Their counsel argued particularly upon the ground of no hearing, but Justice Carroll ruled that the appearance of the agent of the Brockton Auto Bus Association, even though he was not served with a formal notice by the city council and the further fact that he did speak before the Council, constituted a hearing, providing there was actual necessity within the meaning of the law for a hearing. The ruling of the judge on the facts presented were to the effect that the City Council was confronted with the necessity of choosing between an adequate form of transportation which served the public convenience and necessity of all of the people and an inadequate form of transportation which served only a part of the people. The case was appealed and will go before the full bench on its merits, and a decision was expected some time in January.

The unfair competition being eliminated, the railway company, in accordance with a previous agreement with the city, established a reduced rate ticket of sixteen rides for \$1, good from any point in the city zone to the traffic center, without the privilege of transfers. No change, however, was made in the cash fare or limited commutation tickets.

On Nov. 11 the trustees notified the Mayor and City Council of Lawrence that, owing to the unfair jitney com-

petition that existed in that city and which so materially affected receipts, all local service, as well as most of the interurban service, would have to be discontinued on and after Nov. 26, until such time as the jitneys were effectually restrained. To substantiate the actual financial condition of the railway, monthly figures showing the operating revenues and expenses were submitted with the notice of suspension. These statements showed conclusively that the receipts were insufficient to pay any fixed charges or set aside an allowance for depreciation as was required by law.

Naturally, the action of the trustees caused considerable caustic comment, both on the part of the public and the city officials. After two or three days of desultory discussion, during which an effort was made by the City Council to have the question decided by the people at the city election on Dec. 9, the trustees reiterated that they could not operate at a loss and that they would be obliged to adhere to the terms of their original notice and enforce the discontinuance order of "on and after Nov. 26."

In taking this step, the trustees held that the city officials were duly elected representatives of the people and as such could choose for them, and further, that when the original franchises were granted, they did not have to refer the matter to the individual voters. Why now, it was urged, should the question be submitted to the public, even though the election was only a few days hence?

The City Council on Monday, Nov. 24, approximately twenty-four hours prior to the time that the discontinuance order would become effective, revoked all the jitney licenses. The revocation became effective immediately, but no enforcement regulations were adopted. As a result, the jitney men defied the authorities and operated as usual on the following day, under the so-called "donation plan," notwithstanding the revocation of their licenses.

No apparent molestation was given by the police until about 5 o'clock, when, as a result of flagrant violation of the "donation plan," evidence having been collected that fares were actually solicited in more than a hundred instances, the trustees announced that car service would be suspended indefinitely the following day, *i. e.*, Nov. 26. This action on the part of the trustees caused the Public Safety Commissioner within five minutes to make four arrests of jitney drivers for a test case. The trustees, however, did not consider this as acting in good faith, and in accordance with the notice given all service in the Lawrence district, with the exception of that on two interurban lines, to Lowell and Haverhill respectively, was discontinued.

In the police court the next day each of the four drivers was fined \$10. Their attorney, however, appealed the case on the advice of the judge that there was nothing to prevent them continuing operation until the case again came up for final adjudication.

#### STRINGENT JITNEY LAW PASSED

After an unsuccessful appeal that same day to the Governor by the city officials to compel the trustees to restore service, the Mayor and members of the City Council met with the railway trustees. At this conference it was agreed to resume service immediately if the City Council would that day pass a new jitney ordinance effectually restraining all bus or jitney operation.

The ordinance, which was drafted by the trustees and passed by the city, provides that competitive service shall not be operated over, along or across any street car route, that all buses must be bonded for \$5,000 and \$500 additional for each seat in excess of five, and that they must operate twelve hours per day. Further, that the city shall not issue a jitney license until the railway company has received at least seven days' notice and it has been properly shown that public convenience and necessity require such operation.

At the outset no member of the Lawrence City Council was apparently in the least inclined to regulate or interfere with jitney competition in that city and there is no doubt but for the drastic action which the public trustees found necessary to resort to, that competitive conditions would be exactly the same in Lawrence today as they have been for the past two years.

#### CARS STOPPED IN SALEM, BEVERLY AND PEABODY

Soon after the Lawrence situation had been cleaned up unsuccessful conferences were held with the Mayors of Salem, Beverly and Peabody to eliminate jitneys in the Salem district. Finally, on Dec. 11, notices were posted in all cars on that division to the effect that on and after Dec. 18 service would be withdrawn. As in the other cases the City Councils showed no disposition to act until within forty-eight hours before the discontinuance became effective, and in each instance action was postponed until the night before the withdrawal was to take place, the reason given being that they wanted to "call the bluff of the street railway."

The railway company held to its plan of action, and all service, both local and interurban, in and between the three towns, was discontinued after the cars pulled in on the night of the seventeenth. Limited service, however, was maintained between Salem and Marblehead, for the reason that no jitneys had ever operated between these two points. Full service was likewise operated between Salem and Danvers, due to the fact that several weeks previously the people of Danvers, after also having been informed that one of their lines would be discontinued unless the unfair jitney competition was restrained, voted in town meeting for their elimination and the Selectmen had subsequently enforced the express wishes of the people.

When the City Councils of Salem, Peabody and Beverly met in special session on the night of Dec. 18 they all voted for the revocation of jitney licenses. For several days thereafter the jitneys were not in operation except to non-competitive points that were not intended to come within the scope of the action asked of the city officials by the railway trustees.

Since that time no buses have been operated in Peabody or Beverly and the Mayors have rigidly enforced the action of the Councils. In Peabody and Salem, however the jitney bus operators took advantage of a clause in the city charter and got 12 per cent of the voters to sign a petition for a referendum on the question. In Peabody the City Council passed and the Mayor vetoed the request, but in Salem it was granted on Dec. 26 and Jan. 27 set for voting. However, due to the manner in which the Salem Council revoked the licenses, the railway trustees held that such a referendum would be illegal, due to the licenses being revoked individually and not by any measure passed by the Council.

In the mean time the bus operators claimed they had a right to operate, which they did, inasmuch as under

the law any measure passed by the City Council becomes inoperative once it is questioned by a fully accepted referendum petition.

The trustees believed the city was playing to retain both forms of transportation and warned the officials repeatedly that they could not have the street railway service unless they paid the cost. The city government, instead of showing the slightest desire to co-operate in putting the railway on a paying basis, chose to juggle with a dangerous situation and made no sincere effort to eliminate the jitneys, but wasted time playing politics.

#### SALEM SERVICE AGAIN WITHDRAWN

Prior to the second suspension of service in Salem the Peabody Chamber of Commerce sought the aid of the Governor to secure full service between Peabody and Salem should the cars be withdrawn again in the latter place.

The Governor, in reply, noted that he was most eager to aid the Peabody public in gaining good trolley service, but that he had no jurisdiction over the trustees. The whole question, he said, was a matter of securing enough revenue to furnish service. It might be a convenience to have several kinds, and there would be no difficulty in having all the transportation the public is willing to pay for. Nevertheless, it would have to make a choice, if it could pay for but one of the two kinds. The public must understand that what it has it must pay for.

On Jan. 14 the Salem City Council passed resolutions to ask the Governor to oust the trustees for the good of the road and the public, claiming that they had by their action perpetuated the old methods of former managements that taught the public to despise the road and all connected with it.

No further action being taken by the city to restrain the jitneys the trustees, in accordance with notices posted on Jan. 7, withdrew all local service for the second time on Jan. 15 and only a modified service was maintained during the rush hours to the neighboring cities and towns. Such cars as were run were operated express while within the limits of the city of Salem.

As a result of this action the Mayor of Salem addressed a communication to the Governor in which he held that "the present cessation of service was more than a strike by public officials against the public. It was an attempt to chastise the people of the city because they saw fit to exercise their rights and prerogatives guaranteed them by their charter." He also wrote that the removal of the trustees was imperative and should be accomplished immediately.

The outcome of this was a conference with Governor Coolidge at the State House on Jan. 17, attended not only by the Mayor of Salem, but also by the Mayors of Peabody and Beverly, the chairmen of the boards of selectmen of Marblehead and Danvers, as well as the trustees and others. For two hours each side accused the other of "passing the buck," and several times the conference threatened to break up. When Governor Coolidge first announced his plan to drive the jitneys off the streets, the Salem city solicitor attacked the plan as "childish and foolish," saying in effect: "We have got to have service. If we don't get car service, we will have jitney service. If you drive the jitneys off and don't put the cars on we will be found fighting on the side of the jitneys." The Governor replied that if the trustees did not put the cars on when the jitneys

are taken off he would remove them. Then turning to the trustees he asked, "If I stop illegal jitney service, will you start the cars?" Trustee Wadleigh answered "Yes."

The climax of the hearing was reached, however, when the Governor failed to get the Salem representatives to request the attorney-general's opinion on the question of bus operation in Salem and had to make the request himself. The opinion being rendered that it was "illegal" the Governor said that so long as the municipal authorities refused to ask the higher courts for a finding on the decision of the lower courts, he would take the opinion of the lower courts and of the attorney-general, would shoo the jitneys off the streets and arrest any driver for violation. Arrangements were made to suffer the jitneys to operate until the chief of the state police visited Salem on Sunday, Jan. 18, and agreed with the Salem chief of police that the trolley service was adequate.

The trustees commenced operation of the cars that same afternoon, but it was not until Sunday that the service was judged adequate, and the jitneys driven off the streets.

The referendum scheduled by the City Council for Jan. 27 was protested by taxpayers and the city enjoined on Jan. 26, by Judge Crosby of the Superior Court. The court ruled that the action of the City Council of Salem in revoking the licenses was not a "measure" within the scope of the referendum provisions of the statutes of 1915, and for that reason an election to pass on its action could not legally be held.

The court's decision came on a petition of twelve taxpayers to the Superior Court to restrain the city from paying out money for illegal purposes, after the attorney-general on Jan. 17 at the Governor's conference had ruled that jitney bus operation in Salem under the existing circumstances was illegal. The effect of the injunction is to defeat the effort of the motor bus men to regain their licenses by appeal to the people.

#### RECENT ACTION IN QUINCY

On Monday, Dec. 22, the Quincy City Council, as a result of notification of suspension of service, passed an ordinance which prohibits the operation of jitneys on any street or part of street where the railway renders service. At Quincy, however, the so-called jitney act of the Massachusetts Legislature does not apply, as the jitney men are operating under hackney licenses and are permitted to do a jitney business merely on sufferance.

The Mayor of Quincy believes that between the street railway and the jitney the people must choose the street railway and, further, that unless the railway has the full public support it cannot give satisfactory service. On Jan. 16 he ordered a cessation of operations by all jitney-bus men who had been running their cars under hackney licenses. These men, according to the order, must now obtain a jitney-bus license before they will be allowed to resume business. The chief of police was also notified, beginning Jan. 17, to arrest all persons operating jitney buses without such licenses.

Licenses will, however, be granted to operators who do not operate in competition with the street railway.

#### LYNN NOW ONLY DISTRICT WITH JITNEYS

The only district now having any great number of jitneys is Lynn, and there the police department is following closely any violation of the city regulations. During the past week several licenses have been sus-

pending for periods less than thirty days, and one has been revoked entirely due to the inability of the Council to find the owner of the car.

The net result of the elimination of the jitneys in the competitive territory of Lawrence, Salem and Brockton has been to increase the passenger revenue nearly 30 per cent, notwithstanding the fact that a reduced rate ticket giving sixteen rides to the traffic centers, has been established.

### Springfield Votes Against Jitney

SPRINGFIELD is another city in Massachusetts which is opposed to the jitney. Several days ago 300 members of the Chamber of Commerce voted practically unanimously to give the Springfield Street Railway a monopoly of the urban passenger transportation business, thus recommending that all jitney bus licenses be revoked. This monopoly would not be brought about by conferring any new rights upon the company but would simply enable it to demonstrate at present whether it could provide satisfactory service if allowed to regain the revenue necessary for its fullest development.

If the company should prove unequal to the fulfillment of these obligations then there would be nothing to prevent the restoration of competitive service. The company maintains, however, that it now has sufficient cars, men and power house capacity to give this service.

Recent estimates place the revenue of the 175 jitneys now operating in Springfield at \$300,000 per year, enough to enable the company to build several much needed extensions to new factory districts. Springfield as a manufacturing city is rapidly growing. It now has 400 industries and within the last 10 months new concerns with a capitalization of \$25,000,000 giving employment to 6,000 persons have located there. The Chamber of Commerce does not believe that the railway will be supplanted by the motor vehicle, for the streets are too narrow to accommodate the number of vehicles necessary to carry the riding public.

### Cleaning Deck Sash and Windows

DECK sash and windows of electric cars become very dirty in service and due to their location it is rather difficult to clean them properly when the cars come into the shop for painting. The Connecticut Co. has followed the practice of removing all deck windows on cars to be painted as they come into the company's shops in Hartford, Conn. After the windows are removed they are soaked in a vat constructed of wood 3 ft. 4 in. long, 12 in. wide, and 10 in. high. The solution used in this vat consists of a mixture of water, potash and washing powder. The solution used is 1 lb. of potash and  $\frac{1}{2}$  lb. of washing powder to 14 gal. of water. The sash are allowed to soak for an hour in this solution when they are taken out and scrubbed with a brush. They are then rinsed with clean water. It is found that the solution will take off all dirt, varnish and paint and leave the sash clean and ready to be refinished. This method has proved a great saver of time and labor in preparing these windows for repainting.

The Chicago Elevated Railways are carrying a card calling the public's attention to the fact that the company has not had a fatal accident to a passenger in twelve years. During this time two billion passengers have been carried.

### Comment on the French Commission Report on Heavy Electric Traction

THE presentation of the preliminary report of the commission of French engineers who visited the United States early in the summer of 1919 to study heavy traction conditions here was favorable to high-voltage direct-current electrification. This report is naturally bringing out criticism from those who have reached conclusions in this matter different from those of the French commission.

For example, *le Génie Civil* for Nov. 1 contains an article in which quotations are made from another by W. Kummer, an engineer of Zurich, Switzerland, appearing in the *Schweizerische Bauzeitung*. The principal point made by Mr. Kummer was that according to the nature of the electrification the variety of current to be used must be selected in the light of all conditions. Consequently, he thought, the complete rejection of all systems other than high-tension direct current is too radical a solution of the problem. He takes issue with the statement in the preliminary report by Prof. A. Mauduit (see *ELECTRIC RAILWAY JOURNAL*, Nov. 1, 1919, page 834) that the single-phase system is far from being perfected and still presents a certain number of problems insufficiently solved in actual practice, notably the development of a motor capable of remaining a long time under current without turning, to permit the starting of heavy trains on deep grades, and provision for electric braking with regeneration.

Mr. Kummer asserts that if American motors merit such comment, the extension of these criticisms to single-phase motors actually operating in Switzerland is entirely unjustified. He asserts that comparisons among the various systems will be possible only on the basis of complete calculation and exact data. He points out also the importance of giving serious consideration to the connections between one electrified railway system and others as a factor in the choice of system, as well as the relative merits of the systems themselves.

The writer in *le Génie Civil*, in commenting upon the points made by Mr. Kummer, says that the question of relation between the French railways and neighboring systems is secondary, because each system will be provided with its own power plants and equipment, and even on international lines the locomotives will not be taken across the frontier. The use of a uniform system of electrification certainly facilitates installation and equipment of lines which use the same stations, but this consideration is of minimum importance in comparison which considerations affecting the whole or even part of the railway system.

As for the influence that the adoption in France of any given scheme will have on the electrification of the Swiss federal system, it will be noted that Switzerland is already using single-phase on the Loetschberg line and soon will do so on the St. Gothard line. Any preference that is given in France to the high-voltage direct-current system, therefore, will not modify nor retard the program adopted after long years of study by the Swiss Federal Railways. In the matter of electrification, says this writer, as in other developments, no progress will be made if projects are not undertaken until perfection has been reached and experience has definitely established the value of a given proposition.

## New Loop Station for North Shore Line

**Attractive Station in Heart of Chicago Shopping District Attracts Increased Patronage to Already Popular Service**

As was announced a short time ago in the news columns of the *ELECTRIC RAILWAY JOURNAL*, the Chicago, North Shore & Milwaukee Railroad has extended its service from Evanston to the "loop district" of Chicago. The latest event is the opening of a new station in the heart of Chicago's shopping district.

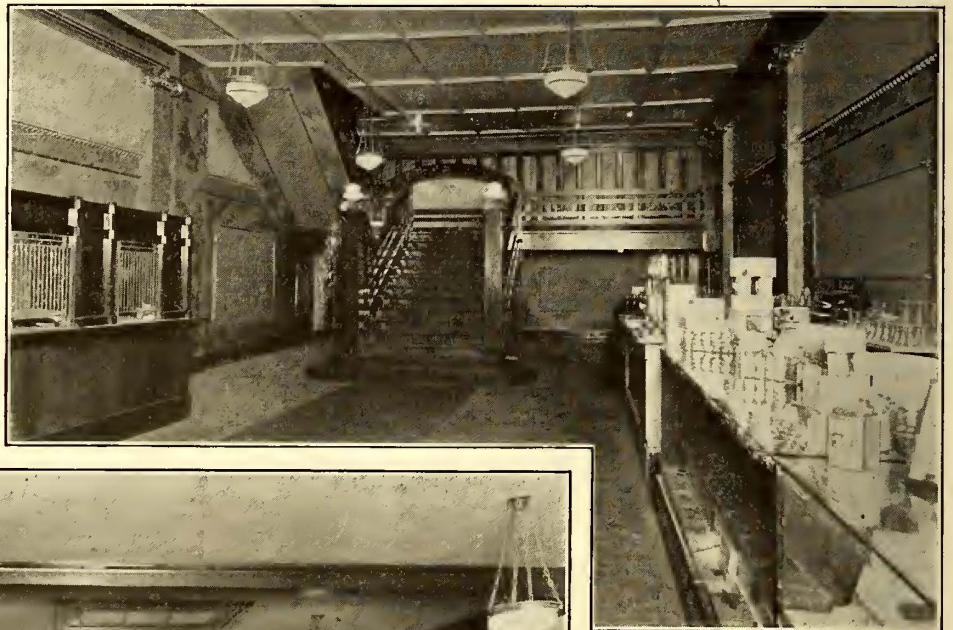
Formerly the southern terminal of the North Shore line was at Davis Street, Evanston. Passengers for Chicago were obliged to change to the Chicago Elevated lines at Central Street. Such arrangements were finally consummated with the Elevated Railroads that on Aug. 6 last the North Shore line began its direct through service between Chicago and Milwaukee. Passengers formerly boarded the North Shore trains at certain of the elevated stations, and a station for handling baggage was opened at the south end of the loop.

It was a rather unusual sight to see finely equipped dining cars running around the elevated loop in the heart of the city but the new service proved very popular. Hourly through limited service is given between the

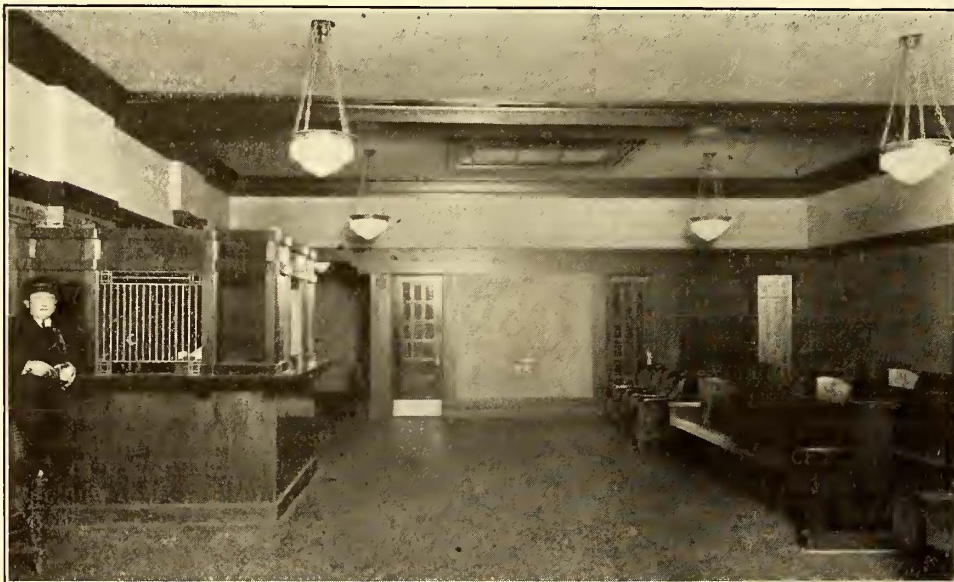
damask silk with gold rococo border. The upper wall is finished in golden yellow. The pilasters are of imitation Tennessee marble with Ionic columns and gilded caps. The three-window ticket booth is constructed of weathered green oak with green cathedral glass at the sides of and above the window openings.

On the lower floor are cigar, candy, fruit and magazine stands, soda fountain and quick-lunch counter. There is also a check room. In connection with this the important feature is that arrangements have been made with the leading department stores whereby patrons may check their purchases at the store and the store will deliver them to the North Shore Station where the identification may later be presented.

At the back of the main floor, with an entrance under the balcony, a restaurant will shortly be opened. One room is furnished in the style of Louis XV de luxe. The walls are finished in gold with old rose imitation



ABOVE, FIRST FLOOR OF NEW NORTH SHORE PASSENGER STATION. AT LEFT, WAITING ROOM OF CHICAGO LOOP STATION OF NORTH SHORE LINE.



damask silk panels and a rococo molding in white ivory. The ceiling is dome-shaped, finished in sky blue with a large skylight from which is suspended a trelliswork of wood finished in white ivory and decorated with green leaves.

heart of Chicago and the heart of Milwaukee from 5.37 a.m. until 10.37 p.m. with one diner in each direction morning, noon and evening.

To accommodate its increased business and give added convenience and comfort to its patrons, the railroad opened a new station at Adams and Wabash Streets. This is a two-story structure, with direct access by bridge from the second floor to the elevated platform, a section of which is reserved for the North Shore line.

The interior decoration on the first floor is of the style of Louis XV. The lower walls are of light green marble finish. The panels are of old rose imitation

The waiting room is on the second floor. The lower wall is finished in glazed olive green with an ornament in yellow and brown. The upper wall is golden yellow and the ceiling is a cream white. The wood work is cypress finished mission style with a weathered oak stain. There is a ticket booth in this room smaller but of similar construction to that on the first floor. Adjoining this room by doors with panels of green cathedral glass are a gentleman's smoking room and a ladies' rest room. Large French windows at the front of the waiting room open onto the street, and at this side the elevated structure is reached by a bridge.



# Freight and Parcel Service in the United Kingdom

**Restrictions That Hamper Big Developments Explained by J. B. Hamilton, General Manager Leeds City Tramways, Who Has Developed Private Right-of-Way Connections and Is Planning to Remove Much Heavy Drayage to Save Paying Expenses at a Profit to Both Customer and Tramway—Carriage of Parcels on Cars Either With or Without Door Delivery a Big Item on Some Tramways**

**A**LTHOUGH British tramways carry more passengers per car-mile and operate on closer headways than is customary on American street railways, they are not unmindful of the possibilities of carrying other than "two-legged parcels," to use the humorous expression of J. B. Hamilton, general manager Leeds City Tramways. The practice of carrying small parcels on cars in charge of the conductor or motorman is quite common, and to a lesser degree arrangements are made for the delivery of the parcels by means of carters and boys, as at Dublin and Aberdeen respectively. There has been little development, however, of the larger service characteristic of American interurbans with steam railroad connections. For this backwardness, there are sound reasons, as explained by Mr. Hamilton in a recent interview concerning the advanced work done at Leeds.

## TRACK GAGE AND WHEEL DIFFERENCES HINDER INTERCHANGE

Mr. Hamilton said that although Leeds has a track gage of 4 ft. 8½ in., its rolling stock is by no means interchangeable with that of steam railways of the same apparent gage, due to differences in the width of treads and thicknesses of flanges. The corresponding street railway gage suitable for inter-operation is really 4 ft. 7¼ in., and this is found only at Huddersfield and Glasgow. At the latter city, therefore, it is possible for a car or train to make use of tramway tracks in running between a steam railroad yard and a shipyard in the Govan district. At Leeds the only steam connection is one that serves the tramway storage headquarters.

Besides the physical difficulties, there are prejudices and red tape to overcome. The steam railways have usually been silently if not vocally opposed to any effort by electric railways to enter the field of goods haul—even though most of the developments, being of a short-haul character, would be beneficial to them. Regardless of this hindrance, every extension of a main line calls for a Parliamentary act and a permit from the Board of Trade, so that the cost would often not be worth while.

## LEEDS FREIGHT SERVICE BEING DEVELOPED TO SAVE PAVING

But, continued Mr. Hamilton, he was in an exceptionally happy position to try what could be accomplished by the tramway as a goods carrier right on his own system. As commercial manager of the city of Leeds he was just as interested in maintaining well-paved streets at minimum cost as he was in operating the tramway system as an efficient common carrier. It followed that if he could save the city money in the long run by inducing people to send their goods over rails instead of over paving, it was his duty to do so. No community could afford to maintain paving for the benefit of heavy

lorries or the steam wagons and trailers that are so common in Great Britain. If these were replaced by electric tramcars, the city would surely save a lot of money and be spared a lot of noise. On the other hand, the tramways department of the city would be able to make a little money and actually carry goods for less than was now the case. Leeds had full parliamentary powers for all forms of freight and parcels handling so that the way was open. Mr. Hamilton estimated that even with the present small pioneer development, the city was saving £3,500 a year in paving upkeep.

The topography of Leeds, he said, might be likened to a tipped-up saucer. At the lower rim or river valley were most of the railway connections and the principal industries. At the upper or northern rim was a plateau about 500 ft. high. To haul materials from the lower to the upper part of the city was slow and costly business if done with horse or self-propelled vehicles. With cars run at passenger speeds to avoid interference with regular day-time traffic, the results were far more satisfactory. For example, the freight motor car had a capacity of 8 tons compared with 4 tons of the lower motor lorry. A plan now in hand calls for the loading of coal cars from chutes filled by hopper-bottomed steam trailers, and the routing of these cars to coal distributing depots in the upper parts of the city. The only question is whether the city of Leeds will also cart the coal from these depots to the consumers or whether that part of the haul will be handled by the present coal dealers. In any event, an enormous amount of slow-moving tonnage will be taken off the streets. Instead of increasing the rate of wear of the rail, this change will decrease it for in more than one instance Leeds has found that drayage is responsible for a greater share of rail wear than the car wheels themselves.

In the building of the model community of Middletown on the southern side of Leeds, all the construction material for some 4000 to 5000 houses, as well as the roadway material, etc., will be delivered by cars over the very same track that will carry the residents of the new town.

Of big jobs already accomplished, one may mention the delivery of more than 50,000 tons of sand and gravel for the Leeds reservoir and filter beds at an enormous saving to the city and some profit to the Leeds City Tramways as such. Also, for the past three years, the tramways have been carrying 500 to 600 tons of coal every week over a run of 5 miles for a colliery. About £2,000 a year gross business is done with the Leeds Fire Clay Company in hauling fire shale from the quarries at Harehills on one side of the city to the kilns at Wortley in the Armley district on the other side of Leeds. This is largely a private right-of-way connection. That portion which is on the customer's land is its property, the rails, wire and other appurtenances hav-

ing been purchased as erected. The cost was modest inasmuch as it was possible to use a large amount of second-hand material. The distance between mine and kiln is 6½ miles, with a 1-mile connection to the colliery mentioned. Each car for the carriage of the fire shale is equipped with two tipping buckets, with one man as crew. There is no law compelling the employment of two men on cars in service of this character.

From the foregoing, one may expect some interesting developments in freight haulage via motor cars. Certainly, the placing of all tramway and roadway facilities under one head offers a unique opportunity to determine the relative merits and demerits of cars versus lorries.

#### PARCELS SERVICE GROWING AT LEEDS

The practice of charging extra for large parcels brought on the car and accompanied by the passenger is an old one at Leeds. Unlike other cities, no special parcels ticket is issued. Instead, the passenger must



LUGGAGE TICKET, PARCELS STAMP FOR LOCAL AND THROUGH SERVICE RESPECTIVELY

buy an extra fare receipt punched to destination as in the case of a passenger ride. The rates are: For less than 14 lb., free; 14 to 42 lb., 1d. for two stages or 2d. for any distance; 42 to 60 lb., 2d. for two stages, 3d. for three stages and so on. Bicycles and perambulators may be taken along at the rate of 3d. for a 1d. or 2d. passenger ride, 4d. for a 3d. passenger ride and 6d. for greater distances. Folding go-carts travel for 1d.

A special parcel car was placed in operation, in April, 1918. The public was asked to "Be patriotic and insist upon your parcels being sent by your own Electric Service—Quickest and Most Reliable." They were further advised that parcels would be handled through some thirty shopkeepers who would act as agents for collection, but not necessarily for delivery. As a matter of fact, about one-half of the agents did undertake to deliver parcels left by the car at a charge of 1d. per parcel. This extra fee went entirely to the agent. The latter arrangement was confessedly temporary as it was not considered wise to go to the expense of building up a complete delivery service when the popularity of the move was problematical and when buildings were dear and labor scarce. It was not until Jan. 13, 1919, that arrangements were perfected for the collection and delivery of all parcels within half-a-mile radius from the center of the city. On the same date also, the service was extended to include Bradford, Halifax and the heavy woollen district. The original service was purely local and was handled by a remodeled passenger car which left the headquarters of the parcels department at 10 a.m. and 4 p.m. daily to serve the Roundhay,

Chapelton and Headingley districts. Up to Dec. 31, 1918, 22,679 parcels or an average of 102 a day had been carried, and the estimated total up to Feb. 20 was 30,000. As the business continues to expand, specially-rented stores and car depots will be used for gathering and distributing centers and every step from collection and delivery will be directly under the tramways management so that no reliance will have to be placed upon outside agents. The gross annual receipts from this service last year were about £1,200.

Under the present arrangement each agent is guaranteed at least £10 per annum or 1 farthing (½ cent) per parcel handled by him. If he does not have errand boys to deliver the parcels to the consignees, he sends out a printed postcard advising that in addition to the penny post charge it will be necessary to make a storage charge of 1d. a day if the goods are not called for within two clear days from date of postcard. Ordinarily, the consignee calls before notification as he knows where to expect the parcel.

The agents are supplied with all stationery, forms and a spring balance without charge, the balance and other fixtures remaining the property of the tramways. Among the forms are the agent's requisition for the parcels stamps sold to shippers, one copy of this form staying in the agent's requisition book and two copies going to headquarters. One of the latter copies goes back to the agent with the stamps requisitioned. Accountings with agents for stamps so purchased are made quarterly. With each batch of parcels, the agent gets a duplicate and triplicate of the waybills in the waybill book at the office. He signs and returns the duplicate to the office at once, returning the triplicate when he has obtained the signatures for delivery of all the consignees shown on the individual waybill which is made to include up to ten parcels. Every agent is, of course, provided with display posters to advertise the parcels business, aside from those which the tramways post in the cars.

The charge for parcels carriage between any depots within Leeds is as follows: Up to 7 lb., 2½d., to 14 lb., 3½d., to 28 lb., 4½d., to 56 lb., 6d. An extra penny is charged if carriage is to or from a depot outside the city boundaries. At discretion, an extra penny is also charged for parcels which are bulky in proportion to weight. Double rates are charged for fragile articles (designated by a red sticker marked "fragile"). Parcels of value may also be insured at the rate of 4d. for £15, 5d. for £20 and 6d. for the maximum of £25. Insured parcels are so marked. All parcels must be prepaid by stamps purchased from the agent and duly affixed to the package. As a matter of record keeping, the stamps of each denomination are serially numbered. Buyers of £5 of stamps get either 5 per cent discount or thirty days credit.

A similar line of stamps, but somewhat smaller to denote the different use, is employed for the through service with the Bradford Corporation Tramways. The rates in this joint service are: To 3 lb., 4d.; to 7 lb., 5d.; to 14 lb., 6d.; to 28 lb., 7d., to 42 lb., 8d. and to 56 lb., 9d. The Bradford service includes actual collection or delivery in that city, delivery being understood to mean within ½-mile from any tramway line or terminus. Receipts of the Bradford business proper are divided on a 50/50 basis. The service to Bradford is handled by a combination storage battery and trackless trolley vehicle built by the Bradford Corporation Tram-

ways. The trackless trolley is used for main-line running at speeds up to 16 m.p.h. while the storage battery permits the truck to make little side trips at 8 m.p.h. away from the trolley wires which are provided for the regular passenger service between Leeds and Bradford. The run to Bradford, 9½ miles, is made in one hour, including an intermediate stop.

In addition to the services described, newspaper parcels are carried on any car with or without a messenger at the rate of 1d. for parcels weighing not more than 21 lb. Labels showing that the charges on such packages have been prepaid are sold to the newspaper publishers in books of fifty. Mail is also carried on ordinary cars by special contract, an employee of the Post Office being on hand at each end to take care of the bags.

**\$3,500 ANNUAL PACKAGE REVENUE AT ABERDEEN**

The Aberdeen Corporation Tramways carry packages on regular passenger cars under two conditions: First, if the owner accompanies some bulky article, in which event a flat charge of 1d. is made; second, if the package is to be handled by Corporation employees, in which case the following scale applies: packages weighing 14 lb. or less, 2d., over 14 lb. and up to 28 lb. inclusive,

Instead of making a flat charge for the carriage of heavy luggage accompanied by the passenger, the Reading Corporation Tramways charges exactly the same prices, namely, 1d, 1½d. or 2d., as the passenger pays for fare.

Special attention has been given to the development of a parcels delivery service and with such success that despite a slight drop due to the war economy "Carry your parcel home" movement, the Reading Corporation Tramways carried 133,123 parcels during the fiscal year ending March 31, 1918, for a gross revenue of nearly \$5,500. Parcels are delivered within ½ mile of the lines at the following rates: For 5 lb., 2d.; for 10 lb., 3d.; for 20 lb., 4d.; for 30 lb., 5d.; for 40 lb., 6d.; for 50 lb., 7d. The rates are double for every additional ½ mile.

A patron may deliver a parcel—even a hot dinner—to a conductor of some passing car. The conductor is provided with pads of fifty stickers of the style illustrated. For each penny collected he gives the sender of the package a stub receipt and pastes the remainder of the ticket on the package. The latter is then delivered to the parcels office which is served by two clerks and twelve to twenty delivery boys. A ticket of different

<p><i>Aberdeen Corporation Tramways.</i></p> <p><b>Delivery Duplicate</b> No. T 3526</p> <p>ISSUED</p> <p>Date, .....</p> <p>Time, .....</p> <p>Consignee, .....</p>	<p><i>Aberdeen Corporation Tramways.</i></p> <p><b>Parcels Delivery Ticket.</b> No. T 3526</p> <p>Net exceeding 14 lbs. in weight. <b>2d.</b></p> <p><small>Fragile Parcels should not be sent for delivery. All Parcels are carried at Owner's Risk</small></p>	<p><i>Aberdeen Corporation Tramways</i></p> <p><b>Parcels Delivery Receipt</b> No. T 3526</p> <p>Not exceeding 14 lbs. in weight. <b>2d.</b></p> <p><small>All Complaints to be addressed to the General Manager, Town-House Telephone No. 826.</small></p> <p><small>Fragile Parcels should not be sent for Delivery. All Parcels are carried at Owner's Risk.</small></p>	<p><b>J 4986</b> READING CORPORATION <b>TRAMWAYS</b> <b>PARCELS EXPRESS</b> <b>CARRIAGE PAID 1d</b></p> <p><small>This parcel is carried subject to the regulations</small></p> <p><b>J 4986</b> <b>R. C. T. PARCELS EXPRESS</b> RECEIPT FOR <b>PAID</b> <b>CASH ONE PENNY.</b> <small>Williams, Ticket Printer, Ardara</small></p>	<p><b>N 7803</b> READING CORPORATION <b>TRAMWAYS</b> <b>PARCELS EXPRESS</b> <b>PREPAID 1d</b></p> <p><b>PARCEL 1d STAMP</b></p> <p><small>Issued subject to the Regulations.</small> <small>Williams, Printer, Ardara</small></p> <p>0160</p>	<p><b>Bc 2218</b> DUBLIN UNITED TRAMWAYS CO. (INCORPORATED) <b>PARCEL TICKET</b> <b>2d.</b></p> <p><small>For Parcel at Owner's risk only, and accompanied by a Paying Passenger.</small> <small>Issued subject to Co.'s Booklets</small></p>	<p><small>D. U. T. CO. 3d. Bic.</small> <b>Tc 06356</b></p> <p><small>DUBLIN UNITED TRAMWAYS CO. (INCORPORATED) AND B. S. D. TRAMWAYS CO.</small> <b>Tc 06356</b></p> <p><b>Bicycle Ticket</b> <b>3d</b></p> <p><small>For Bicycle at Owner's risk only, and when accompanied by a Paying Passenger.</small> <small>Issued subject to Co. &amp; Co.'s Booklets</small></p>
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SAMPLES OF PARCEL TICKETS USED BY BRITISH TRAMWAYS

4d., over 28 lb. and up to 42 lb. inclusive, 6d., over 42 lb. and up to the maximum of 56 lb., 8d. Before the war, the maximum charge was 4d.

The passenger who is encumbered with a chair, a bag-pipe or other large article receives a fare receipt or luggage ticket for his penny exactly as in the case of ordinary human transportation. This ticket, like the passenger fare receipt which it resembles in appearance, carries identification letters and serial numbers which make deceit dangerous. The revenue from this source for the last fiscal year was approximately \$500.

Another form of ticket, sold in 80d. books containing twenty tickets is illustrated and is used for the general package goods handling. The patron of this service simply deposits the package with the conductor of the first passing car. The conductor in turn delivers the package to the parcels department downtown. There, all packages are assorted according to districts and then delivered by boys according to their routing. These boys come on at 9 a.m. and work in shifts until 11 to 11.30 p.m. One of their auxiliary duties is to turn trolley poles for the late conductors and conductresses while the latter are turning in their reports.

The receipts from the parcels delivery service for the fiscal year ending May 31, 1918, were approximately \$3,000. The service is much appreciated and may be extended in future.

color is used when the packages are delivered directly to the parcels office. Tradesmen may purchase parcels express tickets in lots of thirty for 2s. 6d. (60 cents) which is no reduction from the regular price. In order to save postage for the several departments of the municipality, penny letter stamps are sold in rolls of 240 (£1) for the carriage of letters.

The carriage of parcels as developed in Reading has met with but one objection. This came from a department store which, while admitting a saving of 25 per cent, asserted that it lost contact with its customers although the reliability of the tramways service was very high. While this loss of the personal touch may be a valid argument in the case of a large establishment which can afford to maintain its own delivery service at a high load factor, the benefit to the small merchant who cannot keep a wagon busy more than a few hours a day is beyond dispute.

**CARTAGE A FEATURE OF DUBLIN'S SERVICE**

The Dublin United Tramway makes a flat charge of 2d. for heavy luggage accompanying the passenger, except travelers with bags and suitcases. The charge for a bicycle is 3d. If the passenger deposits his bundle on the front platform, the motorman gives a special signal indicating that fact to the conductor. Whether or not a charge is to be made is left largely to the dis-

cretion of the conductor, but he is of course obliged to issue a fare receipt for the parcel exactly as in the case of a receipt for a passenger ride. A sample ticket is illustrated. The gross income from this source for the year 1918 was £543 (\$2,715).

For more than a decade, also, the company has conducted a parcels express service for points along its own lines, within a mile or two thereof, and in conjunction with the Dublin South Eastern Railway (steam). Up to Nov. 3, 1918, the minimum charge for packages up to 4 lb. weight was only 2d. On Nov. 4, 1918, it was necessary to inaugurate the following increased scale for points on the local lines:

Local Rates per Package	
Up to 4 lb. .... 4d. each	Up to 42 lb. .... 9d. each
Up to 14 lb. .... 5d. each	Up to 56 lb. .... 1s. each
Up to 28 lb. .... 7d. each	Up to 84 lb. .... 1s. 3d. each
Up to 112 lb.—1s. 6d. each	
Special Rates for Tradesmen's Light Goods	
From 28 lb. to 56 lb., 6d. each	From 56 lb. to 84 lb., 8d. each
	From 84 lb. to 112 lb., 10d. each

Special rates are charged according to whether or not the article is accepted at the owner's risk, as in the case of bicycles 9d. or 1s. 3d. or a sewing machine on stand for 1s. 6d. or 2s. if at the railway's risk. For packages, in general 50 per cent extra is charged for frail or breakable articles.

The foregoing rates apply to collection and delivery in Dublin or within 1 mile of any of the eleven tramways parcel offices. For delivery beyond 1-mile, 2d.

per parcel per 1/2 mile up to 28 lb. and 4d. per half mile up to 56 lb. is charged, but no parcel is delivered beyond 2 miles nor is punctual delivery beyond the 1-mile limit guaranteed.

Special prepaid rates are made for empties not exceeding 30 lb. weight as follows: Up to 30 miles, 7d.; up to 50 miles, 8d., and up to 100 miles, 9d. These rates therefore include railway as well as tramway charges.

Similar schedules at higher rates are applied to the Clontarf-Howth suburban service and to the joint service with the Dublin South Eastern Railway. The latter is paid a fixed sum for clerical work and transportation, and after the Tramway Company has deducted its own expenses, the surplus of the joint business is divided evenly. This is the longest service of all, extending to Greystones 18 miles away with delivery within 1 mile of that city as in the case of the Dublin and intermediate stations.

The personnel especially required for this service comprises station clerks, messenger boys and drivers for the wagons. When an order is received by telephone, a messenger is sent out to get the parcel. If it is going to some one in his territory, he delivers it at once: Otherwise, he puts it on the front platform of a passing car to go to the general parcels office where it will be assigned to the proper district messenger. One reason for raising the rates was the increase in wages for the boys as under the government unemployment benefit scheme a boy between 14 and 16 years of age receives 12s. a week! Packages which require cartage must be delivered direct to the central office. The gross business of the parcels express in 1918 was £14,000 and the net earnings, £1,360 (\$6,830).

From a tabulation prepared by R. Stuart Pilcher, general manager Edinburgh Corporation Tramways, it appears that the following charges are in vogue on certain other tramways as follows:

System	Charge for Personal Luggage	Charge for Parcels Delivery
Blackburn.....	1d.	14 lb., 3d.; 28 lb., 4d.; 56 lb., 6d.
Bradford.....	Over 28 lb., 1 1/2 d.	7 lb., 3d.; 14 lb., 4d.; 28 lb., 5d.
Burnley.....	None	7 lb., 2d.; 14 lb., 3d.; 28 lb., 4d.
Bury.....	None	7 lb., 2d.; 14 lb., 3d.; 28 lb., 4d.
Cardiff.....	Over 28 lb., 2d.	7 lb., 2d.
Dundee.....	None	7 lb., 2d.; 14 lb., 3d.; 21 lb., 4d.
Glasgow.....	None	7 lb., 3d.; 14 lb., 5d.; 28 lb., 7d.
		56 lb., 9d.; (8-mile haul)
Halifax.....	Over 28 lb., 1d.	5 lb., 2d.; 10 lb., 3d.; 18 lb., 3d.
		28 lb., 5d.
Huddersfield....	Over 28 lb., 1 1/2 d.	None
Leith.....	Under 28 lb., 1d.; over 28 lb., 2d.	7 lb., 2d.; 14 lb., 3d.; 28 lb., 4d.
London County Council	Over—28 lb., 2d.	None
Manchester.....	Over 28 lb., 2d.	14 lb. to 24 lb., 6d.
Newcastle.....	1d.	None
Northampton....	Over 28 lb., 1d.	2 lb., 1d.; 5 lb., 2d.; 10 lb., 3d.
		28 lb., 4d.
Oldham.....	Over 28 lb., 1d.	None
Salford.....	Over 28 lb., 1d.	None
Southampton....	Over 28 lb., 1d.	None
South Shields...	Over 28 lb., 1d.	None
Walsall.....	Over 28 lb., 1d.	None
Wigan.....	Over 14 lb., 1d., over 28 lb., 2d.	7 lb., 2d.; 14 lb., 4d.; 28 lb., 6d.

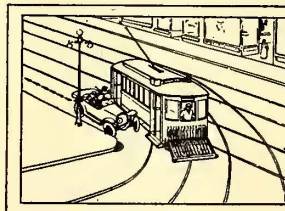
**To Economise Transport**  
HAVE YOUR  
**Parcels Sent by Tram.**

---

**Two Deliveries Daily to your Depot.**

SOLICITATION CARD

### Cutting Down Collisions



**Street cars may turn to the right at any intersection.**

**TAKE CARE**

POST THIS IN A PUBLIC OR PRIVATE GARAGE

THE United Railroads of San Francisco are responsible for the design for a poster shown in the accompanying illustration. It was reprinted by the Ontario Safety League as a special traffic bulletin. The tremendous increase in accidents of this character renders welcome any suggestions as to ways in which their number can be reduced.

### What Makes the Cleveland Franchise Popular

THE following editorial from the *Ohio State Journal* which appeared under the caption, "Cleveland's Fare Plan," and was reprinted in the *Chicago Tribune*, gives evidence that the service-at-cost franchise will prove increasingly popular. The reason is obvious.

Apparently the city of Cleveland is in position to offer real help to other cities suffering from traction troubles. Years ago Cleveland adopted the Tayler plan of settlement of its street-car problems. No one would claim it as a perfect plan, and developments have made necessary a few changes in the grant. Under the plan the rate of fare must produce a revenue that will pay 6 per cent dividend on the stock. It may be advanced when cost of operation goes up and reduced as economies are developed.

During the war the fare was advanced to 5 cents, although it is known as a 3-cent fare franchise. The people made no special protest over the advance in fare, the peaceful and uneventful introduction of the boost being quite unlike the rows developed in other cities when fare increases were proposed. Last July the fare was reduced, dropping from 5 cents to eleven tickets for 50 cents. Last week another decrease was made, the fare now being six tickets for a quarter. While Cleveland is now giving its car riders good service at six for a quarter, Kansas City has a 7-cent fare where tickets are bought, or an 8-cent cash fare. In Cleveland the cash fare is 5 cents. Cleveland has no street car fare rows, the stock of the traction company sells close to par and has sold as high as \$112, and the car riders have good service.

The Tayler plan has stood the brunt of war experience and fare has been quickly reduced. It would seem to have merit and might be studied by other cities with much profit.

# The Depreciation Reserve Fund\*

A Thorough Study of the Subject of Depreciation, With Numerous Citations From Commission and Court Rulings—Arguments for the Establishment of a Depreciation Reserve Fund

By WILLISTON FISH

Vice-President, West Penn Railways, Pittsburgh, Pa.

IT REQUIRES no proof that almost all elements of the physical property of a street railway have limited lives. Eventually the time of their retirement and replacement or abandonment is bound to be reached. And as to each piece of property that must be retired, it needs no proof to show that at some time and from some source the money must be found to replace it. Land held under "right-of-way" title may have to be replaced with other land, and fee-simple lands may have to be relinquished at a loss and new land purchased in their stead.

The question before the commissions and courts in making and passing on valuations and on rates, and the question before city councils and other like bodies in making rates and conditions in ordinances, and the question before us in presenting our cases, is: When and whence is this money to be obtained?

All acts of repairs are in their essential nature replacements, although accounting classifications promulgated by the various utility associations and regulating commissions have attempted to distinguish between current repairs and other kinds of replacements. The distinction is not complete, there being a twilight zone between replacements which are evidently repairs and replacements which cannot be classed as current or cyclic repairs. If the reference is made to our engineers and accountants, they will make and lay down plain, accurate definitions and distinctions.

I will now read some definitions of depreciation laid down by the commissions and courts so that we will have in mind what they understand by depreciation and the various terms used in connection with it (see decisions below).

## OFFICIAL DEFINITIONS OF DEPRECIATION

*Depreciation may be defined as the lessened money value caused by physical deterioration or lack of adaptation to function, and is occasioned by wear and tear due to the use in the service and the age of the instrumentality; to obsolescence due to a change or development in the art \* \* \* to inadequacy or supersession caused by the growth of the business so that the old instrumentality is no longer adequate \* \* \* and deferred maintenance.* Webster Teleph. Co. (S. D.) P. U. R. 1915-E, 516.

See also, Estelline Teleph. Co. (S. D.) P. U. R. 1917-F, 160.

Depreciation may be divided into two classes,—physical, due to wear and tear; and functional, due to inadequacy and obsolescence which require replacement of equipment before it actually is worn out. Depreciation of both classes is divided further into complete and incomplete depreciation. The former represents that part of the original equipment, which, through destruction or obsolescence, has perished as useful property; whereas the latter represents impairment in value of the portion of an aggregate plant which remains in existence and in continued use. Springfield vs. Springfield G. & E. Co. (Ill.) P. U. R. 1916-C-231.

Depreciation of a gas plant means a sufficient amount set aside each year to replace the main parts of the property when the same shall have deteriorated from causes other than operation. El Reno vs. El Reno Gas Co. (Okla.) P. U. R. 1915-A, 226.

Depreciation may be broadly defined as the lessening in worth of any article by wear and tear, by the action of the elements,

by supersession through improved devices (obsolescence), by insufficient capacity (inadequacy), or by other similar and divers causes. Lincoln vs. Lincoln W. & L. Co. (Ill.) P. U. R. 1917-B-1.

See also Re. Chicago N. S. etc. (Ill.) P. U. R. 1918-A, 432.

Depreciation has been the subject of much unnecessary confusion. The fact that property wastes away under use and finally becomes valueless is readily grasped. The relation of this fact to public utility regulation is not so easily understood.

The principle of depreciation accounting may be most easily understood by a simple illustration: The owner of a steam plant finds it economical to buy a five years' supply of fuel. The expenditure is charged to a capital account under the head of stores and supplies. If, now, he uses up this fuel and continues to carry the cost as capital, his assets will be made to appear larger and his expenses smaller than they really are, so that he may be made to believe that his business is making a profit while it is actually running at a loss. His proper course is to make a charge to monthly expenses for the fuel consumed and reduce his capital account accordingly. Substitute a machine for a coal pile and the principle is still the same. \* \* \* Failure to recognize this annual wastage of capital results in a fictitious showing of net earnings which may deceive the owner or be used by him to deceive the public in the sale of securities. The using up, or depreciation of plant, differs from the using up of stores and supplies only in the fact that its extent cannot be exactly determined as it progresses. Re. Pacific T. & T. Co. (Ore.) P. U. R. 1919-D, 345.

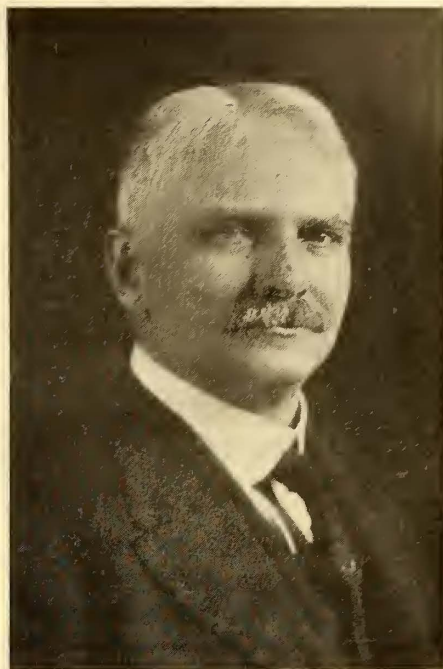
\* \* \* While it might be difficult for the ordinary man to give the precise definition of the word "depreciation," its meaning as it is ordinarily used is very well understood, and agrees with the technical definitions which are given in the dictionary. It means a lessening in value, which may be due to one of a great many causes, a few of which are use, wear and tear, storms, and obsolescence.

\* \* \* In connection with the depreciation reserve, it is proper for this commission to bear in mind that no possible benefit can accrue to the public through the establishment of an inadequate percentage for a depreciation reserve. The ability of a public utility to promptly substitute efficient and approved apparatus for that which is worn out and inadequate, and, therefore, its ability to give good service, and ultimately even its solvency, are dependent upon an adequate depreciation reserve. Birmingham vs. Southern Bell Teleph. & Teleg. Co. P. U. R. 1919-B, 792.

Much of the confusion which exists on the whole valuation subject is, we believe, caused by lack of a clear comprehension of just what is meant by this term, "depreciation." There are two kinds of depreciation as ordinarily considered: One is caused by the action of the elements and the wear to which the facility is subjected; the other is caused by the inadequacy or obsolescence of the facility due to developments which have made it incompetent to perform its functions properly or economically. The first of these kinds of depreciation is generally called physical depreciation and the second functional depreciation. \* \* \*

Considering now physical depreciation: There are three viewpoints from which it can be examined and applied, but it is not possible to view this subject consistently in any single appraisal from more than one of these viewpoints. There can be no commingling of the three, and any attempt to do so will inevitably lead to confusion of thought and unsatisfactory and indeterminate results. The first of these viewpoints, for want of a better name, we shall call the market viewpoint. The measure of depreciation from a market viewpoint is the difference between cost and present value, present value being what the facility would bring in an open market when passing from a willing seller to a willing buyer. The second of these viewpoints can be called the investment viewpoint, and represents the investor's side of the question, which is concerned chiefly with keeping the invested capital secure and intact. From this point of view we shall have to deal with proper depreciation reserves and with proper book-keeping methods. The third point of view we shall call a present ownership and service viewpoint. From this viewpoint depreciation is strictly a function of the life of a facility in its present service, and under its ownership and life, and condition, of course, is directly dependent upon weather stress and wear. \* \* \* Re. Central P. R. Co. (Cal.) P. U. R. 1916-B, 845.

The fact must be kept in mind that in all street railway properties there is a constant deterioration of the plant from the



WILLISTON FISH

\*Abstract of paper presented at the mid-year meeting of the American Electric Railway Association, Cleveland, Ohio, Jan. 3, 1920. (In publishing this address, quotation in full of all decisions referred to by Mr. Fish appears impracticable but typical cases are quoted, excerpts from others given and all are so identified that they may be easily located. Italics in the citations are by Mr. Fish.—Eds.)

moment of its use until there comes a time when the physical units, as the result of wear and tear or obsolescence, can no longer be made useful by ordinary repairs and must be discarded and replaced by new property.

If deterioration has not progressed sufficiently to require a replacement \* \* \* the depreciation is usually described as incomplete or accrued depreciation.

On the other hand, where the useful life of the property is exhausted, although the property is still in place, the depreciation is termed complete or matured depreciation. Bay State Case, P. U. R. 1916-F, 276.

So far as depreciation is concerned, there are nearly as many theories as there are authors on the subject; nearly as many applications of each theory as there are Public Service Commissions in the country; and in each commission nearly as many variations of a particular theory as there are cases before the commission. This is necessarily so. A depreciation reserve is set up to create a fund with which a whole plant, or any of the several units thereof, may be replaced when worn out or discarded for any reason. Churchill C. Winthrop & W. Light & P. Co. (Me.) 1916-F-764.

\* \* \* Depreciation is usually referred to under two general classifications, viz., *unit* and *composite*. *Unit* depreciation is the decay of the individual machines or other units of the plant; *composite* depreciation is the resultant effect upon the whole plant of unit depreciation.

Expense incident to damage by storm (kind not stated) chargeable against depreciation and to be eliminated from operating expense. \* \* \* Re. Jefferson & C. B. Teleph. Co. (S. D.) P. U. R. 1919-A, 650.

Sleet storm damages should be charged to depreciation. Re. Home Teleph. (Ind.) P. U. R. 1919-C, 209.

#### DISTINCTION BETWEEN DEPRECIATION AND MAINTENANCE

Much is said in the cases as to the distinction that is to be made between depreciation and maintenance, and you will see that some of the cases are firm in the opinion that the distinction must be made and made carefully.

#### DISTINCTION BETWEEN DEPRECIATION AND MAINTENANCE

There is no precise and accurate differentiation of maintenance from depreciation. But between these two extremes there is a twilight zone in which it is very difficult and not very important to determine whether the expenses should be charged to maintenance or depreciation. One fact, however, ought not to escape observation. The larger the maintenance fund that is maintained, the smaller the depreciation fund should be maintained. Each is in a measure maintenance, and each is in a way replacement. Peck & Indianapolis L. & H. Co. (Ind.) P. U. R. 1916-B, 484.

\* \* \* Demarcation between depreciation and maintenance is not clear and the decision \* \* \* is more or less arbitrary. A high order of maintenance results in a lower depreciation, and, conversely, a low order of maintenance results in a higher depreciation. Estelline Teleph. Co. (S. D.) P. U. R. 1917-F, 160.

The words "maintenance" and "depreciation" are oftentimes confused. Maintenance should be understood to mean "upkeep," and should cover all expenditures for current or ordinary repairs, renewals, or replacements of property resulting through wear and tear, or through casualties which are incidental to the nature of the operation, and which expenditures are necessary in order to keep up the productive capacity of the plant to its original or equivalent state of efficiency. When, however, a complete replacement of any building or structure, facility or unit of equipment is made necessary regardless of such expenditure, the extraordinary repairs, renewals, or replacements made necessary should be charged to the depreciation reserve accumulated for that purpose. Home Teleph. Co. (Ind.) P. U. R. 1918-A, 27.

As the amount set aside for annual reserves—for depreciation, as well as the amount which shall be paid as a return on the value of the property used in performing the service, must be deducted from revenues and paid by the public receiving the service, the question of the proper determination of the rate of depreciation should receive the most careful consideration. *A too high rate of depreciation, especially in those cases where the depreciation reserve may be invested in additions, betterments, and extensions, will conceal secret reserves or secret profits; and conversely, a too low rate of depreciation may result in a partial destruction of the property.* \* \* \* Webster Teleph. Co. (S. D.) P. U. R. 1915-E, 516.

The depreciation incident to furniture, and boats and teams is carried on the books of the company as a direct charge to various clearing accounts. Consequently no further advance is made for depreciation of these classes of equipment. Bogart vs. Wisconsin Teleph. Co. (Wis.) P. U. R. 1916-C, 1020.

Expenditures for labor and materials incident to keeping the physical property in operating condition and providing for repairs and renewals are broadly classified as maintenance and depreciation charges. *The distinction between the two is largely, although not wholly, arbitrary. A certain amount of labor which is not connected with any replacement of materials is required to keep the property in good operating condition, and the cost of this is always classified as maintenance. Work on the roadbed, certain repairs to equipment and the clearing of snow and ice from the track, are illustrations. Where replacements are involved, the distinction usually made is largely one of size. The recognizable units of street railway property for the most part are composite—that is, made up of fairly distinct parts. Sooner or later the unit must be renewed as a whole, but before that time arrives, parts must often be replaced. The renewing of the unit as a whole is usually classed as a depreciation charge, while the renewing of the parts is called maintenance. To illustrate, a car body must eventually be renewed as a whole, and this is clearly depreciation. In the meantime, its paint requires frequent renewing, panes of glass break, seat covers must be replaced. Minor replacements of this character are maintenance.* Bay State Case 1916-F, 276.

#### APPROXIMATE DEFINITIONS

Necessarily considerable work by good hands will be required in framing definitions in their final accurate form. Our accountants and engineers, our lawyers and our specialists generally, will unite in drawing true definitions, and then the commissions and afterwards the courts will put their seal upon them.

The following definitions derived mostly from the cases cited above are rough approximations that may serve us for the purposes of this paper.

Depreciation, in general, is any lessening in value or reduction in worth. In special use in relation to the reduction in value or worth of public utility property, the definitions may run as follows:

Depreciation is any reduction in worth in an element of a property, from its worth when installed, exclusive of such reduction in worth as under the rules properly applicable to the particular property, is to be restored by maintenance.

This reduction in worth may be due to physical deterioration caused by wear and tear, by any action of the elements, as by heat, storm, flood, fire and the like or by any other physical cause; or this reduction in worth of an element may be due to the reduction in its comparative economic fitness to the purpose for which it was installed; due to progress in the art or arts concerned in the production of such element of property; or as I should think, such reduction in worth may be due to a partial or complete, present or approaching, certain or contingent failure of the purpose for which the element was installed; or depreciation may be due to any combination of these causes.

The various classes of depreciation seem to be defined thus:

"Physical Depreciation"—That resulting from operation of physical forces upon physical elements of property.

"Functional Depreciation"—That resulting from progress in the art or industry which makes or tends to make the element obsolete, or that resulting from changes in the utility or in the demands made upon it, which make the element wholly or partially inadequate.

"Complete or Matured Depreciation"—Depreciation carried to the last degree at which the usefulness of the element for the purpose for which installed is terminated.

"Incomplete Depreciation"—Depreciation less than complete.

"Unit Depreciation"—The depreciation of a single or unit element.

"Composite Depreciation"—The depreciation of the entire property, or of any particular section or class.

"Accrued Depreciation"—The depreciation existing at any given time.

It seems that the same rules for classifying maintenance repairs and replacement repairs are not necessary on all properties.

If a property has such a diversity among the ages and conditions of the various units of any element of its property that an equal burden for replacement in such element must be borne this year and next year and forever, then no fund for work beyond the present year would be needed—that is, no reserve fund would be needed for that element.

Or if there is such diversity among ages and conditions of units among any number of the elements of the property that an equal burden for replacement upon all such elements will have to be borne every year indefinitely into the future—then there would be no call for a reserve fund for years beyond the present—as to those elements.

Thus a company may consider that its replacement of ties, or even of rails will be the same year after year.

Possibly the replacement of cars might be the same year after year. And many items may be thought of. It is hardly conceivable, however, that in any case the replacement of car stations and power houses would come in equal amounts each year.

And then there are disasters, such as floods and storms, which recur at uncertain intervals and there is the vast unforeseen in the work of obsolescence of equipment and even obsolescence of purpose.

Moreover, I think we should consider this: That though it may be that now we have great confidence in figures we make showing that part or all of our replacement work will fall in equal amounts each year, far into the future. What of it? Suppose that we establish a reserve fund just the same and make it fairly liberal—something more, perhaps, than the figures we have made would call for.

If our prognostication is right, then the withdrawals each year from the fund will leave none too much in it and we shall be as well off as if we had established no fund. On the other hand, if we fall behind in our replacement work in any year, as we are likely to do, the fund will not fall behind. Again, the fund will be highly useful as a barometer, and on this point note particularly what is said in the Holyoke case (Mass.) P. U. R. 1918B, 212, an extract from which I will come to a little later on.

#### DEPRECIATION AND MAINTENANCE ACCOUNTS TO BE KEPT SEPARATE

Joint account for maintenance and depreciation was disapproved and separate depreciation account ordered, as said to be required by commission's regulations. Northern Ind. Gas Co., (Ind.) P. U. R. 1919-B, 507.

The rate payers should not be taxed with a large operating expense, including expenditures properly chargeable to depreciation and also with a return on investment, and in addition be required to pay a full rate of depreciation which may be utilized by the company or the stockholders, as they may see fit.

Commission finds it necessary that a strict line be drawn between maintenance and depreciation; that the depreciation fund be jealously guarded. Citizens' Teleph. Co. (Ind.) P. U. R. 1919-B, 359.

Under the rules of accounting approved by this commission, current repairs and replacements in kind may be charged to operating expenses; hence, a considerable portion of the depreciation annually accruing in a composite railroad property is reflected in its normal operating expenses, and for this part the company should receive no separate allowances to care for such depreciation. However, there is depreciation in such properties that is not overcome by ordinary maintenance, and to care for which it is proper to permit the utility to earn additional sums. Of the first kind of depreciation, ties form an excellent example, as their cost is charged to operating expenses, and suitable renewals as required from time to time will keep the roadbed in proper condition. Manifestly, to permit the road to charge the cost of ties to operating expenses, and to earn sufficient to set aside similar amounts in depreciation allowances, would place an unjust burden upon the patrons of the company. As an example of the second type of depreciation may be taken the office building of petitioner. E. St. Louis R. Co. (Ill.) P. U. R. 1919-D, 42.

#### DEPRECIATION IN FIXING VALUES AND RATES

Naturally, depreciation is a factor in determining the value of a utility property for sale. It is also a factor, or many consider it a factor, in determining the investment value on which proper return is to be figured and in determining what the reasonable operating expenses to be included in the gross revenues provided by the rates are to cover.

If, for the last five years, a street railway man had attended all the hearings of all our state commissions engaged in considering these aspects of depreciation and had followed the appeals into the courts, he would consider that he had gained more or less information.

Usually, I think, he would have admitted that the decisions and rulings made were based on good law, good business and fair dealing, and, therefore, he would have judged that the principles announced would continue in force to govern future cases; and, in any case, he would have learned the present condition and tendency of the commissions and of the times; and he would have been aided in guiding his own company in accordance with that position and tendency.

I have been pretty well through all the reported commission cases of the past five years in valuing mat-

ters considered in this paper, and I will give you very briefly what they said.

#### DEPRECIATION IN VALUATIONS

A water plant, with all its additions, begins to depreciate in value from the moment of its use. Before coming to the question of profit at all, the company is entitled to earn a sufficient sum annually to provide not only for current repairs, but for making good the depreciation and replacing the parts of the property when they come to the end of this life. The company is not bound to see its property gradually waste, without making provision out of earnings for its replacement. It is entitled to see that from earnings the value of the property invested is kept unimpaired, so that at the end of any given term of years the original investment remains as it was at the beginning. It is not only the right of the company to make such a provision, but it is its duty to its bond and stockholders, and, in the case of a public service corporation, at least, its plain duty to the public. If a different course were pursued, the only method of providing for replacement of property which has ceased to be useful, would be the investment of new capital and the issue of new bonds or stocks. This course would lead to a constantly increasing variance between present value and bond and stock capitalization,—a tendency which would inevitably lead to disaster either to the stockholders or to the public or both. If, however, a company fails to perform this plain duty and to exact sufficient returns to keep the investment unimpaired, whether this is the result of unwarranted dividends upon overissues of securities, or of omission to exact proper prices for the output, the fault is its own. When, therefore, a public regulation of its prices comes under question, the true value of the property then employed for the purpose of earning a return cannot be enhanced by a consideration of the errors in management which have been committed in the past. Knoxville vs. Knoxville Water Co. 1916-D, 607, 608.

This language would seem at first blush to justify a public service commission or other regulatory body in holding that the proprietors of a public utility which had operated under the conditions above pictured should be obliged for all time to bear the loss in the value of their investment which they had failed to guard against in the past by setting up and maintaining adequate depreciation reserves.

But a close study of this decision and of the numerous other decisions of the same court upon the subject of state regulations of public utilities leads us to believe that such language should not be so construed.

In the first place, it is seldom wholly just to penalize any one for failing to do a thing which he had no reason to believe it was his duty to do. Thirty years ago, or even twenty years ago, the theory of the depreciation reserve was hardly known much less generally understood. As we know it today, it is an evolution in accounting so far as applied to public utilities. It has, of course, always been understood that a business man must make provision in advance against the time when the property used in his business will wear out and be no longer fit for use. But the idea that the proprietor or a public utility had an absolute right to charge the public a sum sufficient to create and maintain such a reserve was born of the necessity which arose when the states first began to engage actively in the regulation of rates, and to say that the man engaged in a public business of this character should be limited in his profits to a fair return upon his investment.

And in the second place, a literal interpretation of this language of the Supreme Court would in many cases defeat the very object which the State has in view in regulating such enterprises,—the furnishing of adequate service at reasonable rates. Comment by Maryland Commission on Knoxville water case.

In an estimate of value, if made on the basis of reproduction new, the extent of existing depreciation should be shown and deducted. \* \* \* We are concerned with a charge of confiscation of property by the denial of a fair return for its use and to determine the truth of the charge there is sought \* \* \* the present value of the property. \* \* \* When particular physical items are estimated as worth so much new, if in fact they be depreciated, this amount should be found and allowed for. If \* \* \* not \* \* \* the physical valuation is manifestly incomplete. Minnesota Rate Case 230 U. S., 352 (1912).

Depreciation represents loss in use value either present or future, and in valuing a public utility the commission must consider all of the elements affecting that value, not only the physical condition of various units of the plant as they depend upon age, decay, adequate maintenance, etc., also their utility value as measured by adequacy or inadequacy and obsolescence. Racine Water Co. (Wis.) P. U. R. 1917-D, 227.

\* \* \* The general tendency of utilities involved in a rate-making procedure is to argue that either nothing, or some merely nominal amount, should be deducted from cost-new figures to cover the depreciation that will take place in the future. In general this commission cannot hold that there can be one rate for depreciation in a property for the time that has passed, and another for the time that is to come, with the date of the rate proceeding as the dividing line. \* \* \* The law in Illinois authorizes this commission to require a public utility to set aside certain predetermined amounts to meet the losses due to depreciation. Acting in conformity with the statute, supplemented by the weight of authority briefly touched upon in preceding paragraphs, this commission has heretofore taken the position that it is just, proper and reasonable to require the establishment and maintenance of a depreciation fund. Such a course appears to be both wise and prudent, and the commission reaffirms its position of permitting and requiring proper annual allowances to be made for protection against the ultimate loss that is bound to occur in utility property due to the depreciation. *Bowe vs. Jacksonville R. & L. Co. (Ill.) July 11, 1916. Cited Page 544, 1917-E, P. U. R.*

In some of the elements making up respondent's property the original cost may be a proper basis on which to fix present fair value. The reproduction new less depreciation cost of other elements may reflect their fair value. \* \* \* In determining the fair value of respondent's property, we made due allowance for a proper depreciation thereof on account of its age and present condition. \* \* \*

In speaking of fair value in this case we speak of that value as found for determining the reasonableness of the rates. What we are discussing is not value in a strict sense of that term, but rather an amount or figure which, under all the circumstances, is a fair basis for determining the reasonableness of the rates.

*It may differ from its reproduction cost less depreciation.* Ben Avon Borough vs. Ohio Valley Co. P. U. R. 1917-C, 390.

Having determined the fair cost new of each item of the respondent's property used and useful in the service of the public, it becomes necessary, in order to obtain the fair present value, to make a deduction of an amount representing the inevitable depreciation that has taken place because of age, wear and tear, obsolescence, and other causes. \* \* \* [In addition to this finding an annual allowance for depreciation is determined.] Thayer vs. Beaver Valley Water Co. P. U. R. 1916-E, 962. See also Greensburg vs. Westmoreland Water Co. (Pa.) P. U. R. 1917-D, 478.

*Idaho:* Murray vs. P. U. C. P. U. R. 1915-F, 436.  
*Missouri:* Commercial Club vs. Mo. P. U. C. P. U. R. 1915-C, 1017.

*Missouri:* Simms vs. Columbia Teleg. Co. P. U. R. 1915-C, 366.  
*California:* Re. Center, P. R. Co., P. U. R. 1916-B, 845.

*Illinois:* Champaign & Urbana Water Co., P. U. R. 1919-E, 798.

#### DEPRECIATION IN FIXING VALUES AND RATES

##### Function Given by Commissions to Depreciation in Fixing Rates

A reasonable rate is a rate which yields a fair return on the value of the property necessarily employed over and above expenses and depreciation. \* \* \* Milwaukee E. R. & L. Co. vs. R.R. Commission (Wis.) P. U. R. 1919-E, 223.

Another item of importance is that of depreciation or the deterioration in value which property undergoes with the lapse of time. It is necessary for the protection of the stockholders of a utility that they receive on their investment, in addition to the reasonable return to which they are entitled, a sufficient income to enable the utility to set aside annually during the life of the utility, a sum which properly invested will amount to the present value of the plant; otherwise, the stockholders would lose their investment, and be obliged to content themselves with the interest they had received on their investment. Clarksburg L. & H. Co. (W. Va.) P. U. R. 1917-A.

In order to offset depreciation, and to maintain the integrity of its investment by enabling it to make renewals as they become necessary, defendant is entitled to set aside from income reasonable amounts in a depreciation reserve, or, as it is sometimes called, a "renewal fund." Kansas City E. L. Co. (Mo.) 1917-C, 774.

It is quite clearly established by the late authorities that in the making of a schedule or tariff of rates to be charged by a public utility there must be an annual allowance for depreciation. Webster Teleph. Co. (S. D.) P. U. R. 1915-E, 516.

If by reason of insufficiency of the rates or reserves or otherwise the public has not repaid the utility the depreciation which its property has in fact undergone, the utility might well have an equitable claim against the public on account of such depreciation. N. Y. & N. S. Trac. Co. P. U. R. 1918-A, 910.

*Arizona:* Harris vs. S. S. Gas & E. P. U. R. 1915.  
*California:* Corona Home T. & T. P. U. R. 1915-F, 1014.  
*San Diego:* 118 Cal. 556; 38 L. R. A. 460; 50 Pac. 633.  
*Colorado:* Mountain States T. & T. P. U. R. 1917-B, 198.  
*District of Columbia:* Wash. & M. R. P. U. R. 1915-B, 558.  
*Indiana:* Oakland City E. L. & P. Co. P. U. R. 1915-B, 846.  
*Illinois:* Belleville vs. St. Clair Co. G. & E. P. U. R. 1915-F, 235.  
*Iowa:* Cedar R. Water vs. Cl. R. 118 Iowa 234; 91 N. W. 1081.  
*Kansas:* Ft. Scott G. & E. P. U. R. 1915-B, 481.  
*Kentucky:* Cumberland T. & T. vs. Louisville 187 Fed. 637.  
*Maine:* Murchie vs. St. C. G. L. P. U. R. 1917-B, 384. Church-ill vs. W. & W. L. & P. Co. P. U. R. 1916-F, 752.  
*Maryland:* Havre de Grace & P. Bridge Co. in Md. Court of Appeals, 103 Atl. Rep. 319.  
*Massachusetts:* Mass. N. E. St. Ry. P. U. R. 1917-A, 331.  
*Missouri:* Simms vs. Columbia Teleg. P. U. R. 1915-C, 366.  
*Nebraska:* Omaha & Lincoln R. & L. Co. P. U. R. 1915-B, 416.  
*New Jersey:* Re. N. J. Gas Co. P. U. R. 1918-B, 438. Re. Bridgeton & M. T. P. U. R. 1918-B, 357.  
*New York:* Jamaica Water S. vs. State Tax Commsrs. 196 N. Y. 39.  
*Oklahoma:* El Reno G. & E. P. U. R. 1915-A, 226.  
*Pioneer T. & T. Co. vs. Westenhaver* 29 Okl. 429; 38 L. R. A. (N. S.) 1209; 118 Pac. 354.  
*Oregon:* Bend vs. Bend W. L. & P. Co. P. U. R. 1915-F, 913; Pacific T. & T. Co.—P. U. R. 1919-D, 345.  
*South Dakota:* Hamlin & D. County Teleph. Woonsocket vs. Schuler, etc. P. U. R. 1915-B, 223.  
*Washington:* P. S. C. ex rel. P. U. R. 1915-B, 135.  
*Wisconsin:* Charlesworth vs. Omro E. & L. Co. P. U. R. 1915-B 1.  
*Re. Kenosha P. U. R. 1918-D, 751.*

#### CASES WHERE COMPANIES LACKED PROPER DEPRECIATION RESERVE

Counsel for certain remonstrants have suggested, not with great apparent confidence, that the payment of even the moderate dividends paid by this company, without taking care of depreciation, is mismanagement seriously affecting the right to a fair rate. But there is a great practical difference between the payment of dividends averaging 4.35 per cent, no more, perhaps even less, than an investment rate on money (which tends to keep the corporation in some sort of credit), and the payment of dividends in excess of an investment rate which would tend to put the stock of the company on a speculative basis. \* \* \* But we make it very plain that the payment of dividends in excess of an investment rate, without caring for depreciation and all other proper operating charge, would be mismanagement requiring the commission's effective condemnation. Middlesex & Boston Case (1914) 1916-F, 265.

A good deal was said at the hearings with respect to the question of depreciation. Under the former local management a dividend of 8 per cent was maintained for many years and a substantial surplus, invested in fixed property, was built up out of earnings. Doubtless, this surplus is more than sufficient to take care of the inevitable loss resulting from the abandonment of the generating works and also the excess paid for the Waltham property over any reasonable valuation of the plant acquired. *The present owners, however, have made no charges to depreciation other than for mains, services, and meters abandoned, taken up, or retired from service. Practically all extensions have been built with borrowed money, and, between the price paid for the gas purchased of the Boston Company and the dividends paid to the stockholders, substantially all of the earnings have been ex-*

*hausted. The effect of this policy upon the company's property in relation to its authorized capital is obvious, and it is a factor affecting materially the reasonableness of the return and any future allowance for depreciation.* Newton & Watertown Petition (Mass.) P. U. R. 1915-D, 787.

The ruling of the commission in the Middlesex & Boston Case was accompanied by the express stipulation "that, if there is mismanagement causing such loss, such loss must be charged against the stockholders legally responsible for the mismanagement." In other words, the company is held to the same standard of honesty and prudence in the management and maintenance as in the original acquisition of its properties. *It must, so far at least as it reasonably can, keep its investment good.* If through some fault of its own it has failed to make due provision for depreciation, it cannot reasonably expect the public to pay a return upon that portion of the investment which it has neglected to preserve. But under a consistent application of the investment theory, it would seem in general that deduction should be made for the depreciation which comes from age and use in so far only as the failure to make provision for it is due to the payment of unwarranted dividends, or is otherwise attributable to mismanagement. \* \* \*

To sum the matter up, the property has depreciated in value in the public service, and the stockholders have had no dividends. On the other hand, the public served has been receiving transportation at less than real cost, and has, in effect, used up a portion of the property without giving an equivalent in return. \* \* \*

Under the circumstances of the case, then, we rule that, in determining the revenues to which this company is fairly entitled, allowance should be made for an amount equal to a fair return upon all the "capital honestly and prudently invested," without deducting accrued depreciation. In ruling to this effect, however, we must not be understood as deciding that the company can, if it earns the amount to which it is entitled, properly pay dividends to its stockholders before the depreciation and other deficits from past operation have been made good. In Re. Blue Hill St. R. Co. (Mass.) P. U. R. 1915-E, 370.

It is doubtless true that it would not now be regarded as sound business practice for a public utility company to pay any dividend whatever at the expense of adequate provision for depreciation. \* \* \*

In 1898, just before the advent of the Massachusetts Electric Companies, the following statement was made: "The greed for dividends on the part of the stockholders of many of the companies, who have generally invested with the mistaken expectation of not only sure, but lucrative, returns, is often too importunate for the managers to resist; but the practice of paying dividends where no divisible income has been earned, or in excess or anticipation of such income, or even to the full amount of such income, with no reserve for depreciation, is vicious and fatal in the end to the strength and success of the company. \* \* \*

\* \* \* The fact must be kept in mind that in all street railway properties there is a constant deterioration of the plant from the moment of its use until there comes a time when the physical units as the results of wear and tear or obsolescence can no longer be made useful by ordinary repairs and must be discarded and replaced by new property. If this deterioration has not progressed sufficiently to require a replacement, the property in which it exists still being in place in a state of usefulness with a part of its service life remaining, the depreciation is usually described as *incomplete or accrued depreciation*. On the other hand, where the useful life of the property is exhausted, although the property is still in place, the depreciation is termed *complete or matured depreciation*. Under the policy adopted by the Bay State Company it was assumed that no account need be taken of incomplete depreciation if *current repairs were attended to and if the necessary renewals were made when the depreciation became complete*. This theory, as we have already pointed out, would not now be regarded as sound business policy. The necessity has been recognized of establishing a depreciation reserve in the nature of an insurance fund to provide for the heavier demands for renewals in the later years of the service life of the property. It was, however, the theory of the management of the Bay State Company that the creation of a reserve fund was not necessary to provide for depreciation, but that renewals could be made from time to time as the need for them arose as part of the maintenance expense.

In determining whether such a view might have reasonably been entertained, it is proper to point out that the Bay State system was made up of a large number of city, suburban, and interurban lines, some of which were nearly forty years old, while others had not been completely built. It was a highly composite and heterogeneous property of varying condition of upkeep and service life. *There may have seemed at the time some justification of the view that the property had reached a condition where the renewal requirements of successive years would not vary greatly in amount, or, at any rate, would not increase more rapidly than the growth of travel which might be anticipated from the improved transportation facilities made possible through electrification.* \* \* \*

In view of all the circumstances, the Bay State Company should not be too severely criticised for adopting a policy which was in conformity with the prevailing standards of the time and to a certain extent with existing practice, even if experience has since shown that it was erroneous. It is proper to observe, however, that there would probably have been less reason to criticise this theory if it had been consistently applied. \* \* \*

If neglect had been confined merely to incomplete depreciation, and if existing property had been maintained in suitable condition for efficient, safe, and economic operation, we should be disinclined, notwithstanding the payment of dividends, to hold that the loss was caused by mismanagement, which must be charged against the stockholders. But where, as in this case, a company has neglected not only incomplete, but complete, depreciation, and has failed to replace property which is obsolete, inadequate, or worn out; and where the payment of dividends has been continual—a different state of affairs exists. It will hardly be denied that failure to replace such property not only increases operating expense, but decreases revenue. How marked this effect may be cannot be determined with accuracy, but certainly it is substantial.

Upon consideration, the commission is of the opinion, under all the circumstances of the case, that the failure to make due provision for the complete depreciation of a portion of the property was mismanagement, which ought to be charged against the



stockholders legally responsible therefor. Bay State Case (Mass.) P. U. R. 1916-F, 264.

As we have seen in our illustration of the new company starting under state regulation, an ample reserve is necessary to enable the utility at all times to render adequate service. \* \* \*

Therefore it would seem that all we have said as to the necessity for ample depreciation reserves in the case of a new company applies with equal if not greater force to the case of an old company. In other words, an ample reserve for depreciation is an absolute necessity in the case of every public utility, whether new or old.

And it further seems to us that if mistakes have been made in the past by such utility, through a failure to set up proper depreciation reserves, the sooner such mistakes are corrected and the utility placed on a sound basis with respect to such reserves, the better it will be for all concerned. Re. Chesapeake & P. T. Co. P. U. R. 1916-C, 925.

In the above case there is an interesting discussion of this question: With an old company having insufficient depreciation reserves or none, to what extent should the public be called on by rates it pays to bear the depreciation of both past and future? Note by Author.]

It appears that none of the companies in this proceeding have been in the practice of setting aside anything to take care of depreciation. This is a matter that does not require any extended discussion, as it is admitted by all practical telephone men that it is necessary and good business policy for a company to set aside out of its earnings a reasonable percentage of the value of its plant to take care of the item of depreciation. While this item does not show up to its full extent until a late period in its life, it is nevertheless, a fact that it is taking place all of the time and should be provided for during each and every year in the life of the plant. Re. Telephone Co.'s (S. D.) P. U. R. 1915-A.

On account of age and use certain of the operating physical properties of the utility included in the foregoing estimate of reproduction cost new have depreciated, so that \* \* \* the value of the operating plant of the utility as above described is lessened. \* \* \* The company has not carried a depreciation account prior to the inception of these proceedings, and whether any replacement fund was carried by any of its predecessors is not apparent. For the reason previously stated in the case of Hydro Electric Company, such depreciation is equivalent to a voluntary withdrawal of capital. Campbell vs. Hood River G. & E. Co. (Ore.) P. U. R. 1915-D, 835.

One of the first duties of a public utility whose earning power is limited to a fair return upon its investment is to set aside from year to year out of the gross earnings a sum sufficient to enable it to maintain its plant and equipment at all times up to the standard of efficiency represented by the construction of the plant new. Re. North Dakota Ind. Teleph. Co. (N. D.) Dec. 30, 1916, P. U. R. 1917-E, 544.

We believe it proper to call attention to the fact that the company has not been setting aside a sufficient amount for "accrued amortization of capital," and that it is essential that this be given thoughtful consideration. \* \* \* Good management, both from the standpoint of the public and the corporation, requires the creation of a reserve of this character, and we would be failing in the performance of our duty if we did not call this matter to the attention of the corporation. Re. Lockport Gas & E. L. Co. (N. Y.) P. U. R. 1917-F, 871.

Dividends may be declared only after all operating and re-maintenance expenses have been met, and an adequate depreciation reserve provided. Re. Tamarack Teleph. Co. (Wis.) P. U. R. 1917-E 540.

The return of a natural gas plant should be high enough to amortize the property, less salvage, during its life, but where rates have been voluntary and no provision has been made in the past for amortization the company cannot place the whole burden of amortization on the future. Re. Ashtabula Gas Co. (Ohio) P. U. R. 1917-D, 790.

The owners of a public utility are entitled to compensation for the natural depreciation of their plant which has been devoted to public use without adequate return. Re. Lincoln Water Co. (Me.) P. U. T. 1919-B, 752.

The rate payers should not be taxed with a large operating expense, including expenditures properly chargeable to depreciation and also with a return on investment, and in addition be required to pay a full rate of depreciation which may be utilized by the company or the stockholders, as they may see fit. Re. Citizens Teleph. Co. (Ind.) P. U. R. 1919-B, 359.

A telephone company paid large dividends for seven years and neglected maintenance and renewals; ordered to suspend dividends for four years. Re. Eagle Teleph. Co. (Neb.) P. U. R. 1919-A, 842.

By proper maintenance the machine will furnish good service for a given number of years. At the end of that time its working value has disappeared and it is good only for junk. \* \* \* Failure to recognize this annual wastage results in a fictitious showing of net earnings which may deceive the owner or be used by him to deceive the public. The using up or depreciation of plant differs from the using up of stores and supplies only in the fact that its extent cannot be exactly determined as it progresses. When a machine goes out of service its depreciation is complete but the annual charge to be made to operating expenses in the anticipation of that event can only be estimated and may be found subject to change from year to year. Pacific T. & T. Co. (Ore.) P. U. R. 1919-D, 345.

Railroad property abandoned in order to effect an improvement by a better route may properly be amortized over a period of years. Kansas City Southern vs. U. S. 231 U. S., 423.

A utility which demands that rates shall be sufficient to amortize over a series of years property which has become nonoperative has the burden of showing that depreciation reserves which the utility and its predecessors have set up, or could reasonably have set up, are insufficient to care for the abandoned property. San Francisco vs. Pacific G. & E. Co. (Cal.) P. U. R. 1918-A, 506.

For a considerable period of years the present management has been in control, and the company has consistently pursued a policy of including in its plant accounts every item of expenditure attendant upon the extensions of its distribution system and enlargement of its generating plants, whether incurred for labor and materials purchased, or for the engineering and supervision of its regular officers, and of representing the full amount of such expenditures in capital stock. While liberal provision

for repairs and renewals has been made as a part of the operating expenses, the actual charges to depreciation have been slight, and the distributions of the net earnings in dividends have been so large as to leave but little available to make good the original cost of machinery and appliances which, owing to changes in conditions or the progress of the art, have had to be practically abandoned or supplanted, even though still in place.

Under the prices which have prevailed in the period mentioned, for both gas and electricity, it seems fair to assume that the consumers have met all their just and natural obligations toward depreciation of the plant. If the payments for that purpose have not been put back into the plant, but divided as dividends, the consumers should not be called upon indirectly to discharge that obligation again by the maintenance of a price in order to provide a certain return on new money, a substantial part of which a more prudent policy might have made unnecessary. Such a course persistently pursued may also result in a serious injury to the stockholders; for the safety and growing worth of their investment lies chiefly in the potential value of a relatively low capitalization, taken in conjunction with the increased earning power of a reasonable surplus. In Re. Lawrence Gas Co. (Mass.) P. U. R. 1915-A, 814.

Other cases cited:

- Massachusetts: Lawrence Gas. Co. P. U. R. 1915-A.P., 814.  
New Bedford & Onset Rate Case P. U. R. 1915-F, 264.  
Oregon: La Grande Commercial Club vs. East Oregon L. & P. Co. P. U. R. 1915-D, 909.  
Maine: Knowlton vs. Farmington Village Corporation P. U. R. 1918-E, 884.  
California: Meade vs. Pacific G. & E. Co. P. U. R. 1915-D, 630.  
Illinois: Quincy R. Co. P. U. R. 1919-E, 391.  
Colorado: Colorado Springs L. H. & P. Co. P. U. R., 1917-F, 385.  
Michigan: Ann Arbor R. Co. vs. Fellows P. U. R. 1917-B, 523.  
Missouri: Commercial Club vs. Missouri Pub. Ut. Co. P. U. R. 1915-C, 1017.

#### REQUIREMENTS AS TO MAINTAINING DEPRECIATION RESERVE

The Interstate Commerce Commission makes it optional with railroad companies whether or not to carry any depreciation accounts as to any of the items under maintenance of way and structures. As to maintenance of equipment, the Interstate Commerce Commission requires the carrying of a proper and adequate depreciation account, but leaves the rate to be based upon such percentage of the original cost, ledger value, or purchase price of such equipment as may be determined to be equitable from the carrier's experience and best sources of information. \* \* \*

The public utility act applicable to the Philippine Islands gives the Board power to require every public utility to carry, if reasonably necessary for protection of stockholders or creditors, an adequate depreciation account.

The board shall from time to time ascertain and fix proper and adequate rates of depreciation of the property of each public utility \* \* \* which rates shall be sufficient to provide the amounts required over and above the expense of maintenance to keep such property in a state of efficiency corresponding to the progress of the industry.

Identical or substantially identical provisions in the public utility acts of Arizona, California, New Jersey, Ohio, Oregon and Wisconsin. Manila Co. P. U. R. 1915-C, 711.

On authorizing an electric railway and light company to issue securities for improvements, Commission directed company to set aside annually 7 per cent of entire amount of outstanding liabilities for maintenance and depreciation funds. Omaha & L. R. & L. Co. (Neb.) P. U. R. 1915-B.

A natural gas company should provide annual allowance for depreciation. Oblong Gas. Co. (Ill.) P. U. R. 1915-A, 598.

The public service commission's law very wisely provides that in determining reasonable rates, due regard shall be given to the necessity of making reservations out of income for surplus and contingencies; and I am of the opinion that a reserve for renewals and contingencies should be sufficient to cover the average annual cost of the renewals of plant and property, with a margin for contingencies in addition thereto. Stadlander vs. N. Y. Edison Co. (N. Y.) P. U. R. 1915-B, 690.

Approves annually setting aside  $4\frac{1}{2}$  per cent of property of an electric and street railway company for depreciation. Fort Scott G. & E. (Kan.) P. U. R. 1915-B.

A gas and electric company was denied permission to defer setting aside a depreciation reserve for one year, although it had spent on extensions and improvements more than a proper sum for depreciation, it appearing that the revenues were sufficient to establish proper depreciation reserve and pay reasonable return on investment. Tucson Gas E. L. & P. Co. (Ariz.) P. U. R. 1916-D, 640.

Consequently it would seem to be clear that the ideal condition for a public utility subject to state regulation would be for such a utility to have a depreciation reserve created and kept up by the public, at all times ample to cover not only the existing, visible deterioration of its property, but also all latent depreciation, in order that it might be in a position to make replacements when and as required. Such a reserve would stand as a perpetual guaranty to the utility against any loss the property might sustain in the public service, and at the same time as a perpetual guaranty to the public that the utility would always be in a position to render adequate service. Chesapeake & P. Teleph. Co. (Md.) 1916-C, 961.

The safe and imperative policy \* \* \* is, it is necessary to keep capitalization and charges upon income within the narrowest possible limits and to set apart year by year some substantial portion of the earnings as a fund for future contingencies, and for the increasing burdens of expense which are sure to come and whose weight is now only partially felt or known. Bay State Case P. U. R. 1916-F, 266-7.

All outside construction of an electric lighting plant, such as pole lines, transmission lines, transformers, etc., should be maintained from year to year out of earnings; but there should be a depreciation fund for boilers, engines, generators, switchboards, etc., which may have to be replaced at one time. Mangum vs. Mangum Electric Co. (Okla.) P. U. R. 1916-E, 764.

A natural gas rate fixed by a State Commission is confiscatory in violation of the Federal Constitution, where the rate will not produce sufficient revenue to provide for extensions to secure

gas to replace a failing supply, for a sufficient sum to purchase gas, for depreciation due to the expiring life of the company, and for a return of 8 per cent rather than 6 per cent. *London vs. Public Utilities Commission of Kansas in U. S. Dist. Court D., Kansas First Division 234 Fed. 152; Reported in P. U. R. 1917-A.*

The Massachusetts Commission disapproves the policy of paying dividends with money that should go to depreciation. *Middlesex & B. St. R. P. S. C. 2096, June 29, 1918.*

Neither Sec. 52 nor any other section of the New York Public Service Commissions Law authorizes the commission to require a utility to create a reserve fund, to renew the plant when it shall become worn out, or obsolete. *New York Railways Co. vs. P. S. C. First District. P. U. R. 1918-F, 125. N. Y. Court of Appeals, May 14, 1918.*

It is an established principle in rate-making proceedings that the owners of the property are entitled to sufficient sums to care for the inevitable deterioration from action of the elements, wear and tear, inadequacy, or obsolescence. *Peoples Power Co. (Ill.) P. U. R. 1918-E, 676.*

That an allowance should be made including operating expenses for the current depreciation in the property has come to be so well established as hardly to need argument or explanation. An accurate cost of rendering service cannot be ascertained without taking it into consideration. *Springfield Consol. Water Co. (Pa.) P. U. R. 1918-E, 676.*

Other cases cited:

*Oregon:* Portland R. L. and P. U. R. 1916-D, 976.

*Wisconsin:* Franksville Telephone Co. P. U. R. 1917-A, 275.

*North Dakota:* North Dakota Ind. Tel. Co. P. U. R. 1917-E, 544.

*Alabama:* Birmingham vs. Southern Bell Tel. & Tel. Co. P. U. R. 1919-B, 792.

#### RELATIVE ADVANTAGES OF PLAN OF DEPRECIATION RESERVE OR PAYING FOR DEPRECIATION AS IT ACCRUES AND PLAN OF PAYING ONLY AS DEPRECIATION MATURES

There is a vast amount to be said on this matter, and it would be singular, considering all the aspects that the matter presents and the importance of them, the differences in the properties to which the plan is to be applied, the long periods of time during which it may be contemplated the plan chosen will be in effect, the different changes that may be expected to come to traffic in different cases, the various laws and ordinances under which the various companies are operating, and the great number of minds which have studied this matter—with all this it would be singular indeed if all the minds had agreed that the depreciation reserve plan is the best for all concerned all the time.

With the plan of paying and bearing depreciation as it matures is often associated the theory that the accrued depreciation, if it has not matured, is to be ignored in any valuation whether for sale of a property or for fixing the investment on which return is to be figured. And this latter theory is sometimes, or perhaps always, supported by the "100 per cent operating efficiency theory."

Experts of the very highest class have supported all or some of these anti-depreciation reserve theories, and I certainly hesitate to dispute with them. However, they will take no exception if I ramble around a little, citing authorities. And, in the first place, I will read some of the anti-depreciation reserve authorities.

#### ANTI-DEPRECIATION RESERVE DECISIONS

The company insists that there should be added to operating expenses \* \* \* depreciation on track and overhead, 3 per cent, \* \* \* power station, 6 per cent, \* \* \* car houses and shops, 2½ per cent. \* \* \* In connection with this claim of further allowance for annual depreciation it is interesting to note that the company in its report to this commission does not carry any such depreciation account. The only depreciation reserve which the company carries is that prescribed by the Interstate Commerce Commission, to which this company reports. Under the Interstate Commerce Commission Rules, this railroad is obliged to carry depreciation only on equipment.

Passing over this claim of the company for a moment, let us see if there is any necessity for or justice in decreasing the original cost value, \$199,781.50, by any amount whatever for actual or theoretical depreciation. \* \* \* As a matter of fact, the respondent company maintains such a depreciation reserve \* \* \* as satisfies the requirements of the Interstate Commerce Commission. In the absence of evidence that this is not sufficient, \* \* \* we do not in this particular case feel that there should be any deduction from the above amount of \$199,781.50, and we therefore find that this amount is the fair value of respondent's property. \* \* \* And inasmuch as we make no deductions from the above named figure representing the original cost and present value, we do not allow any additions to operating expenses for the items of depreciation claimed by the company. \* \* \* *Butler vs. Lewiston A. & W. St. R. (Maine) P. U. R. 1916-D, 44.*

[Here the company asks for a robust depreciation on track, power stations and carhouses, but it weakened its claim by not carrying any depreciation reserve for them, and then the commission made the plain mistake (unless there was an immense diversity in the property) of assuming that excellent maintenance will forever make unnecessary the replacement of power plants, carhouses and shops.—Note by Author.]

The prevailing practice in making valuations for rate making or upon which to apply rate of return, adopted by public service commissions and other public utility supervising bodies in the past has been "cost to reproduce new, less depreciation." \* \* \*

Depreciation has been classed by all students of the subject to be an operating charge and not a capital account item. The only provision is by making proper repairs and proper renewals when necessary and these expenditures should be charged as an operating expense. \* \* \* The integrity of the capital investment is thereby maintained against depreciation to the extent practicable or economically possible. \* \* \*

Every public utility property should be maintained at 100 per cent operating condition, but it is both impractical and uneconomical to maintain any property approximately 100 per cent physically good. \* \* \*

There is a certain amount of total accrued depreciation that never can be taken care of in any operating, growing property.

The full original investment remains in the property and the investor is entitled to a return upon every dollar until the investment is repaid to him. Where a property has not been kept in good physical condition and there is unmistakable evidence of "deferred maintenance" found in any property, the subject should receive special consideration and if the property being valued has been a prosperous one in the past and the fact is in evidence that the money that should have been expended for renewals and repairs has been diverted to other uses of benefit to the company, the company should be required to make good this deferred maintenance, the cost to be charged to its individual account and not to operating expense.

If, on the other hand, it can be shown that any company carrying "deferred" maintenance has been well managed but that the income has not been sufficient to pay the increased costs of operation, franchise obligations and interest, and, in addition, to properly maintain the property, then provision should be made in any rate adjustment to permit the company to earn the amount necessary to put the property in good operating condition.

Your committee wishes to emphasize its conclusions with respect to the subject of accrued depreciation in the strongest manner possible, as follows: Where a property has been maintained in good operating condition and an appraisal is being made to determine investment value for "rate-making" or for sale to municipality, state or government, no deduction should be made for accrued depreciation. From Report of Committee of A. E. R. A. on Valuation.

[If a utility under good management had never earned, or through any and all proper efforts had never had the opportunity to earn a cent which under right and reasonable rates could and should have been devoted to depreciation, then if the original investment was prudently made, it would surely be just and right that in rate making no deduction should be made for depreciation. But how about other utilities in which some, or all these conditions are wanting. Moreover, this report states at the beginning of this extract that the "prevailing practice in making valuations for rate-making" \* \* \* adopted by public service commissions and other public utility supervising bodies in the past, has been 'cost to reproduce new less depreciation.'" So far as the ruling fixed by these bodies are not reversed by the courts, we must be guided by them and guide our companies by them.—Note by Author.]

This court is of the opinion that the rule of cost of reproduction less depreciation, adopted by the commission, is the correct general rule or principle to be applied in this class of cases. However, we believe that in ascertaining values in this way, the worth of a new plant of equal capacity, efficiency and durability, with proper discount for defects in the old, and the actual depreciation for use, should be the measure of value, rather than the cost of exact duplication.

So far as the question of depreciation is concerned, we think deduction should be made only for actual tangible depreciation, and not for theoretical depreciation, sometimes called "accrued depreciation." In other words, if it be demonstrated that the plant is in good operating condition, and giving as good service as a new plant, then the question of depreciation may be entirely disregarded. *Murray vs. Public Utilities Commission, Pocatello Water Case (Idaho) P. U. R. 1915-F, 436. (Idaho Supreme Court.)*

Applying the rule laid down in the Pocatello Water Company case (*James A. Murray vs. Public Utilities Commission of Idaho*) by the Supreme Court of Idaho, we must find that no deduction may be made for depreciation in this case as the testimony shows conclusively that defendant's plant is in first-class operating condition without any actual or tangible signs of depreciation. \* \* \* *City of Sandpoint vs. Sandpoint Water & Light Co., Ltd. (Idaho) P. U. R. 1919-F, 445.*

[This case seems to decide only that when no dividends have been paid, past depreciation is to be ignored, but for the future provision must be made.—Note by Author.]

Other cases cited:

*Idaho:* Taylor, Mayor of Wallace vs. Northwest L. & W. Co. P. U. R. 1916-A, 372.

*Mullan Water Works P. U. R. 1916-D, 894.*

*City of Cœur d'Alene vs. Interstate Utilities Co. P. U. R. 1916-C, 438.*

*J. T. Wiseman, et al vs. Rupert Elec. Co. P. U. R. 1917-C, 111.*

*Oklahoma:* Osage and Oklahoma Co. P. U. R. 1917-C, 428.

[The Pioneer Telephone & Telegraph case came to the Oklahoma Supreme Court through an appeal by a telephone company of proceedings brought by a city to obtain a reduction of rates. The company claimed it was not allowed in the order a sufficient return to give adequate reserve for depreciation. The court found that plant was kept up to a high degree of efficiency by replacements paid for out of current revenue; that any deterioration covered by obsolescence would not affect the result in the case, and therefore an allowance for reserve fund not necessary. The company contended that even with best maintenance "the time inevitably comes with every building and unit of equipment when it can no longer be kept serviceable by repairs, and when it must be replaced substantially in its entirety. It contends

that without a depreciation fund provided for from year to year out of earnings, sufficient to replace the plant at the end of each life expectancy period, the dividends paid will before long represent the better part of the investment. The court says that a great many authorities and opinions of experts are cited by counsel which they say conclusively show the economic necessity of the principle contended for.]

After examining such of these authorities as are available to us and others on the same subject not cited, we find ourselves unable to agree with counsel in their assumption that the doctrine of depreciation, as contended for by them, meets with the approval of the courts and the economists. From our investigation of the problem of depreciation we are convinced that precedent on this question is varying and that there is also great contrariety of opinion among the heads of the public service corporations themselves, some companies believing that their best interests lie in adopting the largest possible depreciation charge and in the consequent accumulation of a permanent fund in the future, whilst others contend that the application of the doctrine amounts to a virtual confiscation of their property. Without attempting to set out herein our analysis of these discordant views, it is sufficient to say that we have reached the conclusion that in plants of considerable size that have attained their gait, to which class the plant herein is conceded to belong, there is both theoretically and actually a normal condition in which the replacements come along with comparative evenness, and where there can be no possible use for a so-called depreciation fund of any considerable amount.

In the case at bar, \* \* \* the commission made no deduction from the value of the plant on account of depreciation, but allowed returns upon its value as a going concern, kept up to a high degree of efficiency by replacements paid for out of current revenue. There is no principle of public regulation more firmly established than the right of the company to charge in its rate an amount which will enable it to make these replacements, and as investors put their money into public utilities for the sake of the returns they will be able to obtain, if the allowance for replacements is sufficient to keep up a high degree of efficiency and prevent a lowering of the ability of the plant to earn returns, we are unable to perceive the necessity for building up a fund to be used for the purpose of counteracting a purely theoretical depreciation. The theory of the commission seems to be that charges should be made in rates sufficient to counteract or prevent depreciation by replacements, and that when replacements are thus fully provided for, depreciation is counteracted. We see no error in this; at least, none of which the appellants company has any just cause to complain. *Pioneer Teleph. & Teleg. Co. vs. State of Oklahoma* Supreme Court L. R. A. 1918-C, 138; P. U. R. 1918-A, 465.

I analyze the Pioneer Telephone & Telegraph case about like this:

The court says that a great many authorities and expert opinions were cited by counsel for company; that it had examined the available ones and others not cited; that it was unable to agree that counsel's doctrine of depreciation meets with universal approval.

But the court does not cite an authority against the doctrine. It does not even state that the preponderance of authority is against the doctrine, but only that it is not approved. Of course the court did not intend to say that if you go into court on a principle that is almost universally approved but not quite, you simply have to lose. All that the court said about authority was of no value, for it obtained no doctrine or principle from them. It just says in effect what it says in fact: "It is sufficient to say that we have reached the conclusion, etc."

After all, all that the court decided was that "in plants of considerable size, there is theoretically and actually a normal condition in which the replacements come along with comparative evenness, and where there can be no possible use for a so-called depreciation fund—for any considerable amount."

Well, the question of the amount my resolution proposes to leave to experts. It will be a question to what, if any, extent this Pioneer Case reverses the earlier *Magnum vs. Magnum Electric Company's* case in Oklahoma, already quoted.

I also give authorities on the other side. You must note and see what an assemblage of commissioners, judges and experts have come in here with me to appear on behalf of the plan for depreciation reserve.

#### OPINIONS FAVORABLE TO DEPRECIATION RESERVE PLAN

Under the policy adopted by the Bay State Company, it was assumed that no account need be taken of incomplete depreciation, if current repairs were made when the depreciation became complete. This theory as we have already pointed out would not now be regarded as sound business policy. The necessity has been recognized of establishing a depreciation reserve in the nature of an insurance fund to provide for the heavier demands for renewals in the later years of the service life of the property. *Bay State Case P. U. R. 1916-F, 269.*

In the District of Columbia the commission is required to ascertain proper, adequate rates of depreciation to which each public utility must then conform its account.

The rate payers having to provide for this consumption of property are vitally interested in the amounts included in their rates for the purpose, if such amounts may logically vary under different equitable methods. Now, in the first place, there are, broadly, two ways in which moneys may be considered to be collected in rates for the purpose of such property renewals:

1. The renewals as made each year may be paid for out of the moneys collected for the purpose in the rates of that year.
2. The moneys as collected in the rates of each year for the purpose of property renewals may not be predicted on the renewals of the respective year, as in method 1, but such that, together with similar amounts from other years (and with or without interest accretions), the renewals of succeeding years may be made as required.

Method 1 is the so-called replacement method. While it may be logically applied to a large steam railroad-track system, for instance, where, after the property has aged somewhat, renewals year by year become quite uniform, this method does not apply *in toto* to public utilities such as the one here under consideration. It does not apply *in toto*, because of the great lack of uniformity from year to year in the amounts represented by expiring property items. Required renewals may be very heavy one year and very light the next, so that method 2, in part at least, becomes an absolute necessity in order that a reserve for future heavy renewals may be created. *Potomac Elec. Pr. Co. (D. C.) P. U. R. 1917-D.* [The commission then considers straightline (a) and sinking fund (b) depreciation.]

The commission holds that the respondent company not only may justly set aside out of its earnings an amount sufficient to provide a reserve for depreciation which will adequately protect its capital against impairment but further than such a reserve must be provided before there is any revenue which may properly be called new earnings. This proposition is not controverted.

\* \* \* In connection with the depreciation reserve it is proper for this commission to bear in mind that no possible benefit can accrue to the public through the establishment of an inadequate percentage for a depreciation reserve. The ability of a public utility to promptly substitute efficient and approved apparatus for that which is worn out and inadequate, and therefore, its ability to give good service, and ultimately even its solvency, are dependent upon an adequate depreciation reserve. *Birmingham vs. Southern Bell Teleph. & Teleg. Co. (Ala.) P. U. R. 1919-B, 792.*

\* \* \* In order that it may not be thought that we have confused depreciation and efficiency let it be here said that we fully realize that a given machine may be apparently performing its work in an entirely efficient manner, and still, during the passage of years, have worn to a point where its value has practically disappeared for the reason that the old machine will have to be replaced by a new one. \* \* \* The money to make this replacement must come from somewhere, and to meet this need modern business men have evolved the plan of setting up a depreciation reserve fund. *Churchill vs. Winthrop & W. Light & P. Co. (Maine) 1916-F, 764-5-6-7.*

The fact that plant of a public service company is operated at 100 per cent efficiency does not entitle company to a plant value of 100 per cent of value new. *Salinas City vs. Coast Valleys Gas & E. Co. (Cal.) P. U. R. 1915-B, 460.*

Companies make a serious mistake if they do not segregate depreciation renewals from ordinary maintenance repairs and lay down some definite rule for caring for depreciation, failure to follow which will at once be apparent. Under ordinary methods of management and accounting, decreased earnings are often compensated for by deferring or neglecting renewals; and little indication of the fact appears upon the face of public records, so that stockholders and investors are misled as to the real financial condition. *Holyoke St. R. Co. (Mass.) P. U. R. 1918-B, 212.*

#### EMPLOYMENT OF RESERVE FUND

This fund is kept invested, ordinarily in additions to and extensions of the plant itself, should be earmarked in such a way as to be always easily identified, must be credited with all its accumulations such as interest (if it be in a bank or invested in interest-bearing securities) or profits (if it be invested in additions or extensions to plant). *Churchill vs. Winthrop & W. Light & P. Co. (Me.) 1916-F, 768.*

The accrued depreciation fund so accumulated should be drawn upon only for renewals and replacements of existing unamortized property, and should remain intact in an individual and separate account (except for such withdrawals as are made necessary to reimburse the investors for future depreciation only.) The fund should be subject to an annual audit by this commission's accountants, and should receive full credit for all interest which it may earn. With the consent and approval of the regulatory body, coupled with proper and judicious utility management, a large portion of the accumulated depreciation reserve either could be invested safely in readily marketable bonds, or could be reinvested to great advantage in extensions and betterments of existing property. *Springfield vs. Springfield G. & E. Co. (Ill.) P. U. R. 1916-C, 281.*

"Each public utility shall conform its depreciation accounts to the rates so ascertained, determined, and fixed, and shall set aside the moneys so provided for out of earnings, and carry the same in a depreciation fund. The income from investments of moneys in such fund shall likewise be carried in such fund. This fund shall not be expended otherwise than for depreciation, improvements, new constructions, extensions, or additions to the property of such public utility." Public Utilities Act for the Philippine Islands.

Identical or substantially similar provisions are to be found in the public utilities acts of Arizona, California, New Jersey, Ohio, Oregon and Wisconsin. *Manila Co. P. U. R. 1915-C, 711.*

#### CONCLUSION

In the opinions of courts, commissions and experts it is sometimes said by way of introduction, that there is a great deal of confusion, misconception and contradiction among the authorities; that is, in the introduc-

tion. But fortunately every judge, commissioner and expert—right out of this depressing situation—immediately rallies, and clears everything up and makes matters coherent, consistent and logical, before he gets half way through. If I am allowed a few moments more, I will clear matters all up and make them coherent, consistent and logical. And of course each man that rises on the question must have the same privilege.

Now, for the moment, instead of talking in particular cases, I wish to talk generally on this question of the relative advantages of, (1) paying depreciation as it accrues, and (2) paying it as it matures.

I do not understand that either plan, when adopted, is intended to have any effect upon the time of making replacements. If any of those who advance the 100 per cent-operating-efficiency theory mean that theoretically all equipment may be maintained by successive repairs or minor replacements, they are hardly right, for equipment must not fall too far behind the progress in the industry and the needs of the service. And, moreover, the time comes with almost everything when repairs exceed replacements in cost.

Following is an extract from an authority:

Electric railway motors purchased fifteen or twenty years ago can still be kept in service. Measured by ordinary standards of service, they can be made to propel the car at a satisfactory speed with minimum delay arising from motor defects. On the other hand, they weigh more per unit than a modern motor, operate at a lower efficiency in the conversion of electrical into mechanical energy and require greater expense for current maintenance. Such old type motors can be kept in service indefinitely by the process of successive repairs. We assume, however, that it is the duty of a public utility to maintain its apparatus in an efficient condition; it is not required to abandon such apparatus before it has served its economical useful life. But after such life has expired there may be a serious question about the right of the utility to continue to earn a reasonable return upon its original investment in portions of plant which are expensive to maintain or keep in service. In any event, the question will be raised. Some means must obviously be provided for retiring from active service and removing from property and plant account, items of physical property which are no longer useful in public service. For this purpose a replacement reserve is essential.

#### THE THEORY OF THE REPLACEMENT RESERVE

From one of the best of authorities I take the following, bodily:

The theory of the replacement reserve contemplates that the original cost of property no longer useful will be taken out of the property and plant account by crediting such account and simultaneously debiting replacement reserve with the net loss resulting from such removal. Most of the street railway property was constructed prior to 1915. Since that date there have been very large increases in materials and construction costs and no depreciation reserve could have been created in the past in a sufficiently adequate amount or with any degree of probable accuracy that would provide for the increases in construction or replacement costs. The theory of replacement reserve requires that any excess cost of the replacing item of property over and above the original cost of the property abandoned, shall be debited to property and plant account; this excess cost affords the basis for the issue of securities and basis of increased values for rate-making and public sale purposes. In times past when the cost of replacements was about the same as it was ten or fifteen years previously, it was not so important in accounting practice to distinguish between the replacements that were in the nature of repairs and those that were in the nature of replacements; today the problem has become more complicated and the subject is deserving of the attention of our engineers and accountants.

The problem of providing for replacement of physical property is akin to that of life insurance. A reserve should be created from month to month and from year to year so that it will provide an amount sufficient to take care of replacements of items of physical property at the end of their probable life times. The lowest rates of accrual will

be obtained on the assumption of setting up a sinking fund; that is interest is to be allowed on reserve balances. This is the proper conception of the subject from the actuarial point of view and should be followed.

No company that does not provide out of current earnings for the proportions of charges required to meet the maturing obligations of replacements, can be said to be keeping its books in the proper manner. Failure to recognize this obligation to effect future replacements presents an improper or misleading balance sheet of assets and liabilities.

Some years ago it was the theory that a reserve of some specified sum in an amount sufficient to take care of abnormal fluctuations in repairs or replacements from year to year was all that was necessary; in other words, depreciation or replacement reserve was used in the nature of a maintenance reserve for the purpose of equalizing the influence of repair expenditures on the net earnings. This view is not supported by any sound theory or principle; it was developed and followed as a matter of expediency. I have in mind a situation supposed to be conservatively capitalized and operated under the jurisdiction of \* \* \* a commission; \* \* \* for some years it was believed that (a certain) depreciation reserve was sufficient. An inspection of its track and roadway and its equipment will convince even the most optimistic \* \* \* that some means should have been provided for financing the replacement of much of its physical property. \* \* \*

If the electric railway industry had more generally recognized the necessity of currently providing for future replacements there would have been fewer 5-cent fare franchises in indeterminate areas accepted by the electric railways. \* \* \*

No company that is not to-day setting up adequate replacement reserve out of current earnings and that is paying only a reasonable return upon the fair value of its property can be said to be making money.

The same authority points out that if an assumed "Cost-of-Service" franchise fails to make provision for adequate depreciation reserve it is, in fact, a "less-than-cost-of-service" franchise.

It is accordingly important that public utility companies (a) insist in all rate-making cases upon an adequate allowance for future replacements, (b) in all negotiations for cost-of-service franchises some adequate provisions be made to create such a replacement reserve to the end that the integrity of the physical property and accordingly its investment may not be impaired, (c) that companies recognize on their books of account the necessity of currently providing for future replacements by setting up such credits to replacement reserve monthly as the circumstances justify.

#### CONCLUSION AS TO WHAT THE AUTHORITIES SAY

Depreciation is a fact. All the authorities agree on this. If there had been one that disagreed, the people in Oklahoma would have had to say that as the doctrine of perpetual dissolution and decay is not universally held, there is nothing in it.

Yet, in fact, I suppose the people in Oklahoma, including the judges who are really all right and certainly as wise as the rest of us, are aiming and striving and hoping and hurrying to get together—now and right along—the money they will need for new clothes and new roofs and new mowers and reapers and probably new autos. And they are paying their fire insurance right along, and their life insurance, which is one outstanding depreciation reserve.

And now for the conclusions:

1. Depreciation is a fact—in law and in nature.
2. In fixing value of a property to determine the amount on which due return rate shall be figured, it is the prevailing practice of public service commissions and courts to take "cost to reproduce new" less depreciation, but this rule has been modified by many of the best authorities and perhaps by all that have passed directly on the question, so that the rule in fact, is as favorable to investors as this: In fixing the value of a property, prudently planned and properly managed, to determine the amount on which due return is to be figured the rule is to take "cost to reproduce new" less that part of the accrued depreciation which the revenues, after paying operating expenses, taxes and a fair return, have been sufficient to provide.

In some cases, too, as we have seen, the authorities have

gone farther and refused to allow depreciation on a property excellently maintained.

3. All authorities agree on the principle that in fixing a tariff of rates, it is proper to include in annual requirements any depreciation, as a separate item, not already included in maintenance. But if a company adopts the 100 per cent-efficiency-theory, with the plan of meeting depreciation as it matures, then it can scarcely ask for a depreciation allowance in excess of its maintenance figure.

4. Statutes give directly to the I. C. C. and a number of the State Commissions power to require the utilities under their charge to carry adequate depreciation reserves. The I. C. C. has required a reserve to cover rolling stock. It seems to be the strong opinion of about all the commissions that have considered the matter that depreciation reserve should be carried.

5. The depreciation reserve has perhaps three functions: (a) To provide the money for replacements when made; (b) to equalize annual replacement demand upon revenues; (c) to maintain the integrity of the investment.

If the annual demands for replacement money were to be equal each year, then two of the purposes of a fund—providing the replacement money and equalizing yearly demand on revenues—would be met by either plan.

How many utilities can safely count on equal replacement demand year after year? Let each company figure it out for itself. Of course, figure it carefully, for it is an important matter. But suppose, with the most thorough study, a company concludes that its normal replacement demands will be equal year after year, or that they will vary only with change in revenue—then that company's manager will know that with all the vicissitudes of things he will not make the replacements just according to the survey. Things will not wear as expected; changes in demands will not be as expected; changes in industry and art will not be as expected; financial situations will not be as expected. What will be as expected? I can think of nothing.

But suppose that the demands for replacement money will be quite unequal. Then a depreciation fund certainly does serve the three important purposes above stated: provides money for replacements; equalizes the yearly demand; maintains integrity of investment. To have this fund ready for use is to follow one of the ancient and wise rules—to put something aside for the rainy day. Any company may have rainy days, and they may come on unexpectedly. Many replacements may come on together, and the current year may be utterly unable to meet the requirements. It is another highly desirable thing from every viewpoint to equalize the yearly revenue replacement demand.

All demands on revenues should be equalized so far as these demands accrue equally—for only by equalizing them is the true situation shown. This is why, though we pay three or five years' insurance at one time, yet as the insurance cost accrues constantly, the charge is divided way down to the last division—by months. And so with all sorts of costs.

This distribution shows, to the very highest degree of accuracy possible, the normal expense and this normal expense is what deeply concerns everyone—manager, board of directors, stockholders, bankers, possible investors, public service commissioners, the people—everybody.

Then, finally, should all adopt the theory of the reserve fund? There is nothing in the way, so far as I see. It will do no harm even with those companies which are to have uniform demands far into the future. And if they have made some error in their calculations, a reserve fund will be desirable.

The commissions all allow a yearly depreciation charge in fixing rates. They naturally will figure a charge or rate fairly uniform over a period of years. Then if a company does not spend all this allowance in a given year, what is it going to do with the balance? If it finds it has to spend more, where is it going to get the money?

By all means, the theory of the depreciation reserve should be adopted, and the practice also, as soon as means permit. And companies should go after rates and economies that will provide the means for the fund.

And the fund should be liberal. Experienced railway men and their friends, the manufacturers, can foresee a great deal, but not everything. In this active age, it is the tendency to accelerate in all things, even in change. An immense number of factors will determine future replacements, and some, and even a liberal, allowance should be made for the unforeseen. I recall to you the striking words in the Birmingham case which were written only this last year:

\* \* \* In connection with the depreciation reserve, it is proper for this commission to bear in mind that no possible benefit can accrue to the public through the establishment of an inadequate percentage for a depreciation reserve. The ability of a public utility to promptly substitute efficient and approved apparatus for that which is worn out and inadequate, and, therefore, its ability to give good service, and ultimately even its solvency, are dependent upon an adequate depreciation reserve.

## Public Utilities of Indiana Organize

INDIANA public service companies have organized the Indiana Public Utility Association, the purposes of which are to consider common problems of the members and to enlist public co-operation in a movement to improve standards of service, despite the high cost of living. The officers of the new organization are: President, Charles L. Henry, Indianapolis & Cincinnati Traction Company; vice-president, Harry Reid, president Interstate Public Service Company; treasurer, Charles C. Perry, Indianapolis Light & Power Company; secretary, Thomas Donohue, manager Lafayette Electric, Gas & Heating Company and secretary of the Indiana Electric Light Association. The membership includes gas, traction, light, heat and power, water and telephone service.

The organization issued the following statement outlining its purposes subsequent to its organization:

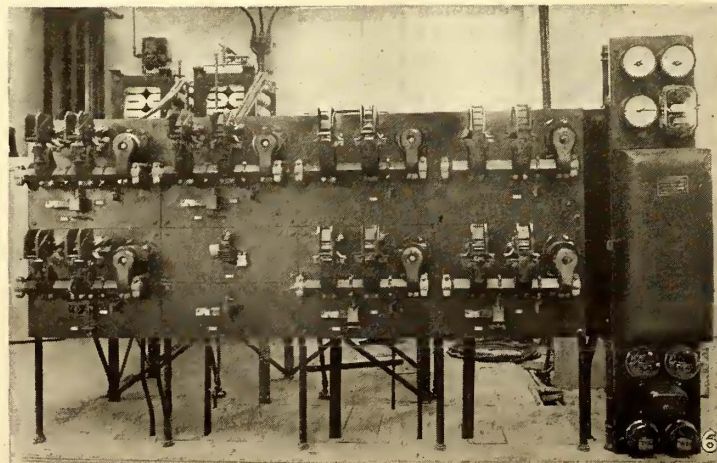
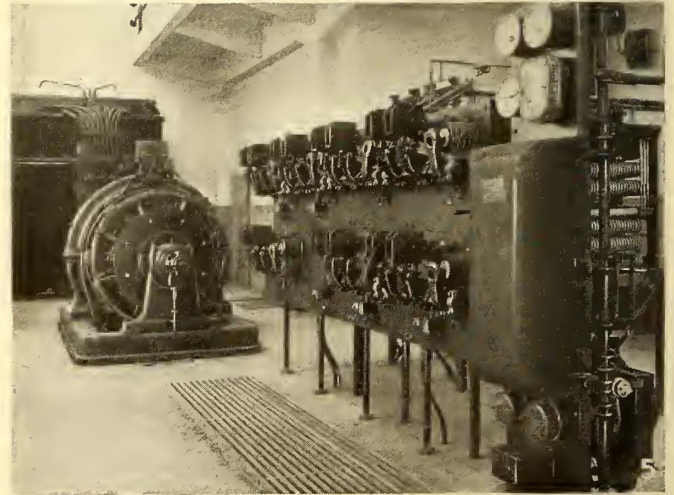
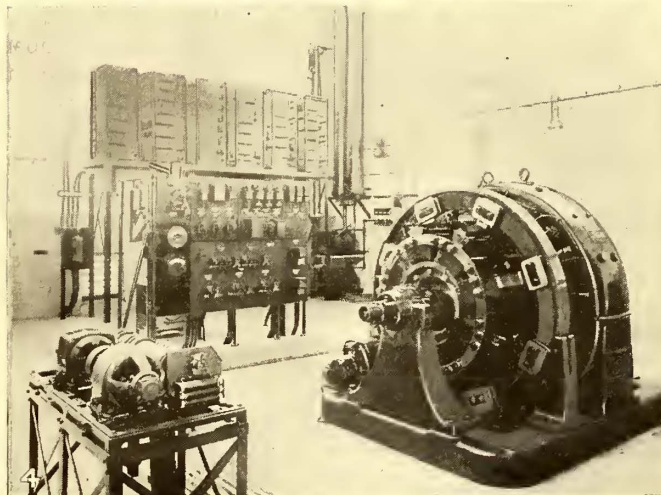
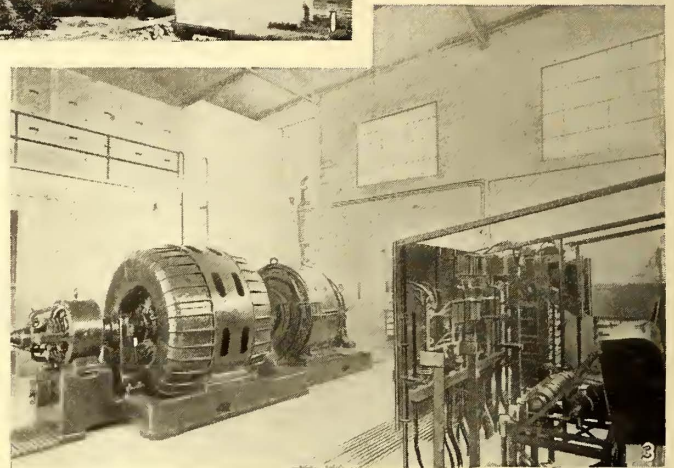
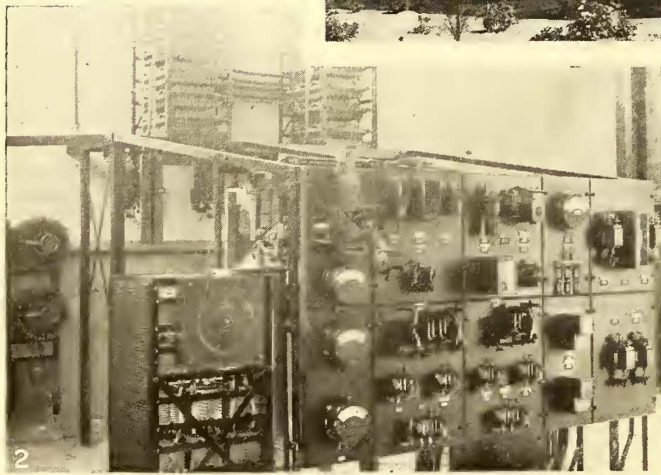
Public service companies throughout the United States are facing a critical situation because of the continually advancing costs of material and labor. The situation in Indiana, where it is almost impossible to advance rates in step with increasing costs, is typical of the national situation. Rates for public service are more or less static. They are fixed and they stay fixed until such time as, after much legal procedure and necessarily slow financial investigation, they can be shown to be insufficient. Service is frequently impaired, and the companies suffer losses while the public suffers inconvenience until rates can be readjusted.

The public is usually in no mood to put up with poor service or with facilities outgrown since war days, and because all other service and commodities have been and are increasing in price, the public is resentful of new increases. On the other hand, public service companies provide common service and rightfully expect some measure of co-operation from the public.

They must, therefore, find sufficient income to meet increasing labor and material costs to maintain and improve pre-war standards of service. At this period their problem is especially difficult because maintenance and replacement materials, as well as operating materials, such as coal for example, have increased in price.

Automatic Substations on the Pacific Electric

Operation of these substations has resulted in uniformity of load and power economies.



No. 1—Plastered brick building for automatic substation at Wilmington.  
 No. 2—Interior of the Wilmington automatic substation.  
 No. 3—Switchboard and control apparatus in Wilmington substation.

No. 4—1000-kw. rotary converter and automatic control equipment in Slauson Junction automatic substation.  
 No. 5—Rotary converter, transformer and automatic control equipment in Torrance substation.  
 No. 6—Front view of the switchboard in the Torrance substation.

# Automatic Substations on the Pacific Electric

Three of 1000-Kw. Capacity Are Now in Service with Two Others Under Construction—Load Uniformity and Increased Power. Economies Are Secured

THE Pacific Electric Ry. has recently put in service three automatic substations, and has two more under construction. The three already completed are of 1000-kw. capacity and are located at Wilmington, Slauson and Torrance. Of the other two, that at Hermosa will be 1000 kw. and that in Los Angeles will be 1500 kw. This construction programme was given in the *ELECTRIC RAILWAY JOURNAL* for Sept. 6, 1919.

These stations are all arranged to start up automatically whenever cars in their vicinity cause the trolley voltage to drop below 450. They automatically shut down when the load has decreased to less than 500 amp. for ten minutes. These control limits can be varied as desired from 250 to 750 amp. and from two to twenty minutes. In case the load at any time during operation exceeds that which it is safe for the equipment to carry, resistance is automatically inserted in the circuit to reduce the load, or if a bad flashover occurs on the commutator the station automatically shuts down.

The station at Slauson transforms 15,000-volt, 50-cycle, three-phase alternating current to 600-volt direct current, using a 1050-kva., 15,000 to 430-volt transformer and a 1000-kw., six-phase, 430-volt synchronous converter. The building is of brick with plaster exterior and is fireproof throughout. On account of the automatic operation of the equipment, high windows only were installed and ventilation is provided through the roof and at the base of the walls.

At Wilmington the substation is similar to the one at Slauson except that a 1000-kw., 15,000-volt, three-phase, 50-cycle alternating current to 600-volt direct current motor-generator set is used instead of a synchronous converter and transformer. At Hermosa and Maple Avenue the same equipment will be used as at Slauson except that at Maple Avenue the capacity will be 1500 kw.

## HOW THE APPARATUS OPERATES

The accompanying illustrations show in detail all the automatic equipment at the Torrance station except the oil circuit breaker which is on the high-tension side of the three-phase transformer located on the balcony above the switchboard. In this station the control circuits are set so that if the voltage drops below 450 and remains there for two seconds the station starts up automatically, provided the alternating current voltage is not below a predetermined amount. The order of operations is as follows: The oil circuit breaker on the high-tension side of the transformer closes, then the starting switch closes. The polarized relay starts to operate and if the voltage of the rotary builds up on the proper polarity, connections are made which drop out the starting switch and allow the running switch to close. The brush lifting device then lowers the brushes onto the commutator, the direct current contactors close and the machine is connected to the trolley and feeder circuits.

The starting panel, located just in front of the trans-

former, carries the starting and running switches and the field-reversing switches. The brush-lifting device for alternating current starting is mounted on top of the converter frame. When the station shuts down this device immediately lifts the brushes and is in starting position.

The small box-like arrangement on the commutator end of the converter and armature shaft is an overspeed relay. On the pedestal on the opposite end of the rotary is the small cylinder containing the bearing thermostat with which each bearing is provided. Overspeed relay and thermostats are connected in the control circuit so that either an overspeed or a hot bearing will close down the station. When shut down in this way the station does not start automatically until an attendant comes and closes the control circuit.

At the left of the switchboard there are three contactors in the generator circuit. The four on the two panels to the right are in the feeder circuit. Still further to the right is the control panel. This carries at the top direct current voltmeter, ammeter, reactive-factor meter and watt-hour meter. The major portion of the control relays are under the cover. Below this are the low-voltage relay, reverse-current relay and overload relay. The resistors to be inserted in the direct-current circuit of the rotary and the feeders in case of excessive overload are behind the switchboard.

## ACTION WITH WRONG POLARITY

When the rotary starts, in case the direct current voltage comes up at the wrong polarity a relay reverses the field. If the voltage comes up wrong three times in succession the alternating-current starting switch trips out momentarily to allow the rotary to slip a pole. It continues to reverse the field and open the starting switch until the voltage does come up at the right polarity, and until this occurs the running switch cannot close.

The contactors for connecting the rotary to the control and feeder circuit cannot close until the brush-lifting device has allowed the brushes to come down solidly on the commutator. In addition to the thermostats in the bearings, others are located over the resistors in the feeder and rotary converter circuits. In case a load comes on to the rotary over a certain predetermined amount, contactors on the panels open and insert resistance in the circuit for holding down the load on the rotary. If this overload continues a sufficient length of time to warm up the resistance sufficiently to make these thermostats operate, they will cut the machine off the line entirely. After the resistance has cooled down sufficiently to allow thermostats to cool off, the machine will come back on the line automatically.

In case a sustained overload on the rotary causes the temperature of the machine to rise above a certain point, a thermostat opens the control circuit and shuts down the station. When the thermostat has had sufficient time to cool off, the station will automatically start again. In case the alternating-current voltage is

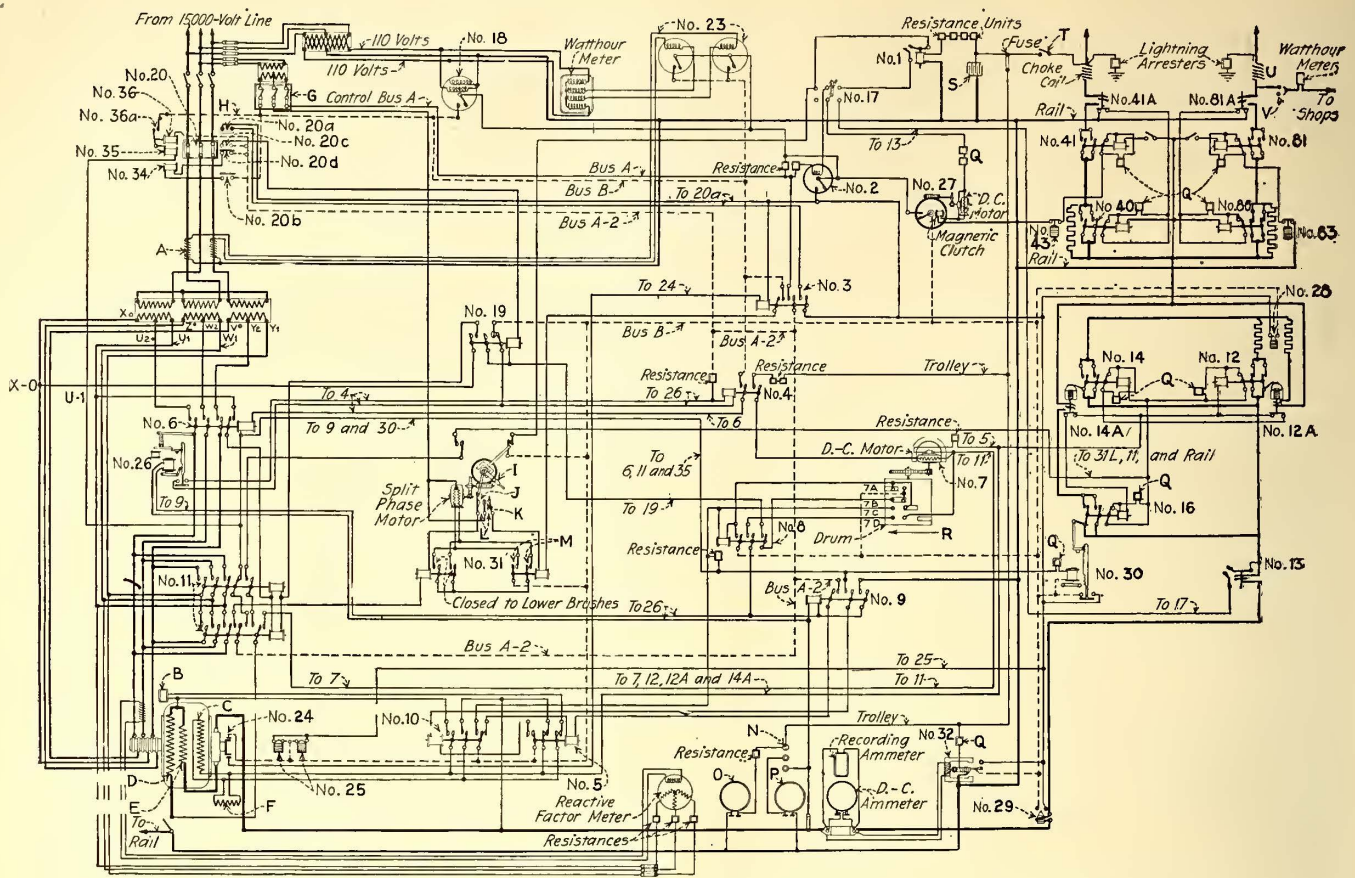


DIAGRAM OF ELECTRIC CONNECTIONS FOR THE TORRANCE AUTOMATIC SUBSTATION OF THE PACIFIC ELECTRIC RAILWAY

Key to Numbers and Letters on Diagram

- No. 1. Direct-current contact-making voltmeter, contact closed on low voltage.
- No. 2. Alternating-current relay.
- No. 3. Alternating-current relay.
- No. 4. Alternating-current relay.
- No. 5. Main shunt-field switch.
- No. 6. Main alternating-current starting contactors.
- No. 7. Polarized-motor relay.
- No. 8. Alternating-current relay.
- No. 9. Direct-current relay.
- No. 10. Reversing field switch.
- No. 11. Main alternating-current running contactors.
- No. 12. Direct-current resistance-shunting contactor.
- No. 12A. Direct-current load-limiting relay. Controls No. 14.
- No. 13. Low direct-current output relay. Controls No. 27.
- No. 14. Direct-current resistance-shunting contactor.
- No. 14A. Direct-current load-limiting relay. Controls No. 16.
- No. 16. Direct-current resistance-shunting contactor.
- No. 17. Double-pole, double-throw knife switch. Automatic or hand control.
- No. 18. Reverse-phase and low-voltage relays. Stops or prevents starting of converter by shunting coil of No. 3.
- No. 19. Alternating-current relay.
- No. 20. Main alternating-current oil switch.
- No. 20A. Interlock in holding circuit of No. 3 relay. Closed when No. 20 is closed.
- No. 20B. Interlock in coil circuit of re-

- setting magnet valve. Closed when oil-switch mechanism is not reset.
- No. 20C. Interlock in coil circuit of No. 19. Closed when oil switch is closed.
- No. 20D. Interlock in coil circuit of re-setting magnet valve. Closed when oil switch is open.
- No. 23. Alternating-current overload relays. Stops converter by shunting coil of No. 3.
- No. 24. Overspeed cut-out and reset. Stops converter by opening coil circuit of No. 3.
- No. 25. Bearing thermostats, hand reset. They stop converter by shunting holding coil of No. 3.
- No. 26. Field-reversal, polarity-correction relay, reset by opening of No. 6.
- No. 27. Low-direct-current-load motor relay controlled by No. 13.
- No. 28. Thermostat automatic reset.
- No. 29. Direct-current overload thermal relay. Stops converter by shunting coil of No. 3.
- No. 30. Lockout relay. Reset by closing No. 16. If No. 16 does not close, No. 30 must be reset by hand after A-2 has been energized three times.
- No. 31. Brush operating device.
- No. 31L. Closed when brushes are down.
- No. 31R. Closed when brushes are up.
- No. 32. Reverse direct-current relay. Stops converter by shunting holding coil of No. 3.
- No. 34. Resetting magnet-valve coil for oil-switch mechanism.
- No. 35. Closing magnet-valve coil for oil switch.
- No. 36. Low alternating-current-voltage

- trip on main alternating-current oil switch.
- No. 36A. Interlock in series with closing magnet coil No. 35.
- No. 40. Direct-current feeder-resistance-shunting contactor.
- No. 41. Direct-current feeder contactor.
- No. 41A. Direct-current feeder-load-limiting relay.
- No. 80. Direct-current feeder-resistance-shunting contactor.
- No. 81. Direct-current feeder contactor.
- No. 81A. Direct-current feeder-load-limiting relay.
- No. 83. Thermostat automatic reset. Controls No. 81.
- A. Series transformers.
- B. Shunt-field rheostat.
- C. Shunt field.
- D. Series field.
- E. Interpole field.
- F. Series-field discharge resistance.
- G. Triple-pole, single-throw fused switch (fuses inclosed).
- H. Control bus D.
- I. Bus-lifting arm.
- J. Contacts closed when brushes are up.
- K. Contacts closed when brushes are down.
- L. Limit switch.
- M. Contacts closed to raise brushes.
- N. Voltmeter switch (plug receptacles).
- O. Recording voltmeter.
- P. Direct-current voltmeter.
- Q. Resistance.
- R. Drum. Direction of rotation when polarity is correct is as indicated by arrow.
- S. Condenser.
- T. Snap switch.
- U. Choke coil.
- V. 800-amp. circuit breaker.

too low, a relay prevents the station from starting. A lockout relay is set to lock out the station in case the machine tries to start up three times in succession and is prevented from getting on to the line due to any trouble arising before all three direct-current contactors close. If the station should be locked out due to this cause, it cannot start automatically until an attendant

comes and resets the relay. A reverse current relay opens the control circuit and cuts the rotary off of the line in case of reversal of current.

All of the equipment in the automatic substation at Torrance was supplied by the Westinghouse Electric & Manufacturing Co. That in the other stations mentioned was furnished by the General Electric Co.



## Recognize the Accounting Department

The Accounting Officials Are In Possession of Information Which They Would Be Pleased to Place Before Their Associates

BY I. A. MAY

President American Electric Railway Accountants' Association and Comptroller the Connecticut Company, New Haven, Conn.

FROM inquiries and observation it has become increasingly evident to me that executives and operating heads of electric railway companies throughout the United States do not secure the maximum possible assistance from their accounting departments and accounting officials.

Too long have the accounting officials been more or less overlooked in the councils and in the affairs of the companies. The operating men, not all of them but some, will perhaps say in answer to this, that the accounting official and his staff are of secondary consideration. Let me call the attention of those men to the fact that certain features of accounting and financing were considered before their road could even be built.

Accounting is the very foundation of successful business. If not, why is it common to read in a report concerning the failure of a business that certified public accountants are now working on the books and not until they have completed their work can anyone learn the exact status of the business venture?

The very art of intelligent economy, which every executive and operating street railway man is endeavoring to apply each day, is, in my opinion, dependent upon scientific accounting. In this advanced day of the art of excellent street railway accounting there is no other official of the corporation who has a clearer mental picture of the road and its affairs in general than the accounting officer, with the exception of the president or general manager. On many roads there are from two to a dozen officials other than the two mentioned above who would probably be consulted before the accounting officer in conferences, meetings, inspection trips, etc. With proper recognition at all times of the accounting official I believe the tasks of other officers of the company would be easier and the corporation would profit thereby.

To illustrate, in a very simple way, some of the thoughts expressed above let us take the case of a contract. Contracts and agreements are invariably submitted to the legal department, or to a lawyer retained by the company, who very properly passes upon the form of the contract and its legal aspects. Then, as a usual thing, the contract is signed by the parties concerned. Seldom is it submitted to the accounting official. He, perhaps, might not have any suggestions to make from his standpoint, but the chances are that he would have helpful comment to make.

For instance, an article in a certain contract reads: ". . . to pay the railway company the sum of \$1,712 per annum, this representing the interest and depreciation on the transmission line at 6 per cent based on its first cost of \$28,525." There is no other reference in the contract to this payment, and the first question that naturally comes to the accountant's mind is as to the date on which this payment is to be made. That is, was a prepayment contemplated, or was the

payment to be made at the end of the year, or in quarterly or semi-annual installments?

If this contract or a copy of it had been submitted to the accounting officer, there would no doubt have been a provision inserted to cover this very point. This would have saved considerable correspondence and possibly have saved the company further expense from lawsuits or otherwise.

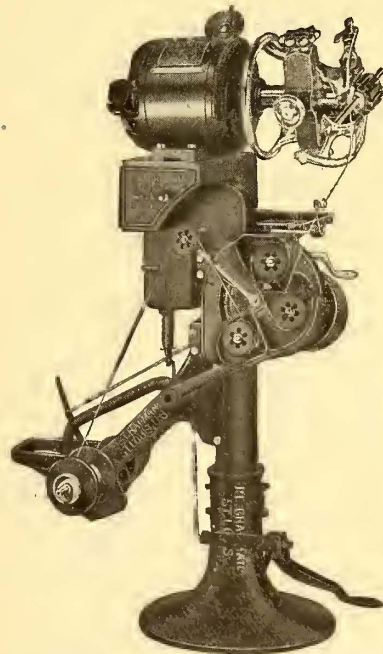
Many similar questions arise in the every-day routine of electric railway companies, and if executive and operating officials will utilize the knowledge of their accountants, they will not only find their own work very much lighter, but will have performed a service to their corporation in saving it money. Moreover, they will have assisted in bringing about the proper recognition of the accounting profession.

Each executive, of course, will have to work out his way of bringing about the desired results. The chief executive of the company with which I am connected holds what are known as staff meetings and all officers and heads of departments are notified to sit in at these meetings where questions of all kinds are discussed helpful to all concerned.

If there are executives in the country who do not agree with my views of the importance of scientific accounting or the proper recognition of the accounting official, it would be a pleasure to read their replies in later issues of this paper.

### Machine for Winding Small Armatures

A SMALL winding machine suitable for winding the armatures of small motors such as are used by electric railways for ventilating fan equipment or electrically driven heating systems has been placed on the market by P. E. Chapman, St. Louis, Mo. The model



BI-POLAR DRUM ARMATURE WINDING MACHINE

is adjustable to accommodate different sizes of bi-polar drum armatures and it can use any size of wire from No. 20 up to No. 36. The machine is a self-contained unit with a driving motor, controller, turn counter, and other necessary integral parts. The machine may also be used for winding small field coils and relay coils.

## Impressions of the English Melting Pot

The One Penny Coin, Like the American Nickel, Is  
an Obstacle to Higher Fares—Possibilities  
in the Way of Improved Equipment

By W. TUKE ROBSON

Recently General Manager and Engineer, Southampton Corporation Tramways, England

THE tramway fare problem in England presents a very interesting, if disquieting, problem at the present time.

When the war came upon us in 1914, English managers anticipated a bad slump in traffic receipts, but like so many other things which happen in times of war, precisely the opposite occurred, and the opening of 1915 found practically every British tramway undertaking facing an altogether different problem, that of providing an adequate service for a vastly increasing traveling public with a sadly depleted staff and labor market. The introduction of female labor helped to solve this, and one of the outstanding successes of British tramway war measures was the woman motorman, who proved herself to be equally as careful and handy as the average motorman and a good deal more so than the casual male employee available during the war period.

In this way practically every British tramway undertaking found things fairly booming and enjoyed higher receipts per car-mile than ever before. The gradual but ever-increasing growth in wages and material, however, made itself felt by the end of 1918, and further wage advances, together with the natural falling off in receipts after Armistice Day, made increased fares on most systems inevitable.

While it is true that the larger undertakings which were giving a ride of several miles for one penny could easily afford to increase the fares, the same cannot be said of the smaller systems whose limited mileage meant the existence of a clearly-defined dividing line beyond which the careful passenger would not go but would take pedestrian exercise instead.

A standard coin of somewhat higher value than one penny would ease matters, but until decimal coinage in England is adopted, the smaller tramway undertakings particularly are faced with a very serious condition indeed.

Just as the American passenger has been carefully trained up to the 5-cent fare, the English passengers have been systematically educated to pay one penny for the average English tram ride, and it became a matter for careful consideration as to how he is to be induced to pay more and how his ride can be made to cost less than the present inflated amount. The answer to both problems would appear to resolve itself into a rolling stock matter; the vehicles he uses should be made more attractive to him and should also cost less to operate.

In paying a first visit to America, one must admit that cushioned seats and easy access offer more attraction to the elusive passenger than the narrow staircases and hard unyielding boards on which we expect our clients to hurt themselves over crossings and switches. On the other hand, we cater for the short-distance rider in a way entirely unknown in America, and we leave an ever-open door instead of greeting a belated would-be passenger with a sudden and disquieting air-closed en-

trance and a bewilderingly vanishing step. Also, in England, we cater to the smokers, and the almost universal practice of providing a lightly constructed saloon on the top of the car has invariably led to an increase in revenue, particularly in the winter.

The pipe-smoking English passenger strongly objects to knocking out his pipe when boarding a car, and on a damp or windy day it is undoubtedly a great source of revenue to provide a commodious smoking compartment for him to finish his matutinal pipe on his rides to business.

The methods of both countries have their points and I hope in a future article to give an Englishman's impressions of the American melting pot, which, judging by the unholy glee shown by press articles on the possibilities of restoring 5-cent fares on those fortunate systems which have secured higher rates, is not entirely non-existent.

To return to English practice, in the writer's opinion, it is quite evident that the situation may be saved by bringing about a reduction in working costs and at the same time induce a greater popularity by improving the cars themselves. It is obvious that people are becoming more and more used to luxury in traveling, owing to automobiles, taxis and comfortable motor *chars-a-banc*, and the time has come when our English tramcars should be made much more comfortable, both in seating, ease in boarding and alighting, and even in an esthetic sense. The old practice of passengers sitting on hard wood and staring across at each other should give place to transverse spring rattan seats, and nice photographs, which can be well used to advertise the routes traversed by the cars, could adequately be substituted for the usual "Please do not spit" and other objectionable signs and tokens of our street car interiors. The writer has introduced such photographs with success on two English systems, and an experiment in spring seating resulted in passengers asking what time the car so fitted would be coming along, as they preferred to wait for it.

In a word, popularity is what we should seek to install on every street car system.

English fare collection methods leave much to be desired, and although zone fares and a very awkward coinage make any radical change difficult, a visitor to America cannot but be impressed by the great avoidance in lost fares, fraud, and platform accidents brought about by the pay-as-you-enter and pay-as-you-leave methods. As a time-saver, the latter appeals to the writer most, as passengers are obviously in a better position to disinter the shekels in the car than when making a wild, automobile-dodging rush across a busy roadway.

Pre-purchase of tickets by issue of books at flat or discount rates have been and are being used on some English systems, but the slogan of the "direct cash transaction" has rather tended to discountenance these. Moreover, tickets formed such a small proportion of the whole that they naturally fell into some disuse, but they will probably reappear with increased publicity methods, now that the gold mine era has disappeared. The writer has personally more faith in the street kiosk sale of tickets as used in some Continental towns, and the establishment of compulsory kiosks at all busy boarding points would relieve the conductor of much of his work and would enable him to be at his proper place, the boarding platform. The avoidance of acci-

dents and missed fares by this means would probably adequately meet the additional expense involved. For small systems and on the quieter routes of large undertakings, light-weight one-man cars are the obvious remedy, and it is not surprising that many of these smaller towns are considering their adoption.

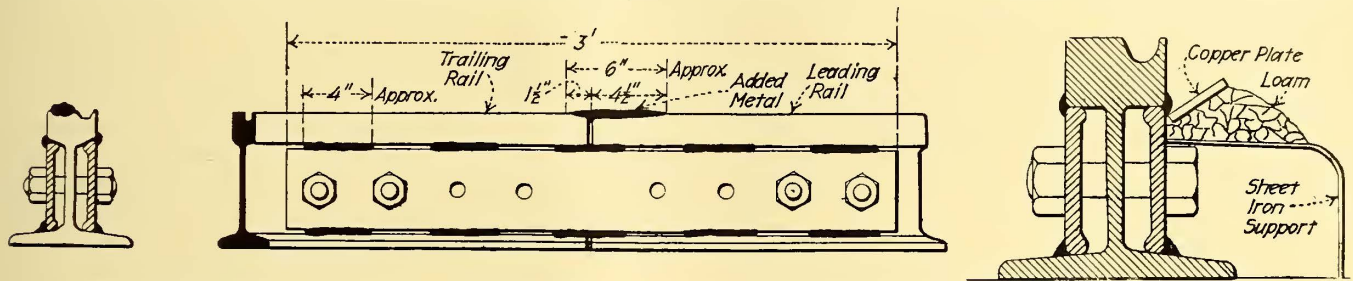
## Using the Metallic Arc for Track Welding

**Rail Ends Are Welded Together, Low Joints Are Built Up and Fish Plates Are Welded to the Rail**

IN THE London *Electrical Review* for Sept. 5, 1919, Cyril J. Hopkins, A. M. I. E. E., described the practice used for several years past by the Sheffield Corporation Tramways of welding its track rails by means of a carbon arc by fusing a metal rod into the spaces around the joints. Since the publication of this article Mr. Hopkins has furnished the ELECTRIC RAIL-

the fusing metal in position. The bar of copper is placed on a sheet-iron support covered with loam and supported on the fish-plate bolts. Two layers from the fused electrodes are added to the upper and lower edges of the fish-plates. As the flux from the electrodes is less viscous than the fused metal, the former runs to the low point at the plate under the influence of the arc, so that no chipping off of the slag from the upper surface of the welds is done before adding the second layer.

Previous to the use of electric welding, the rails were connected by two copper bonds. One of these copper bonds is still retained after welding, more as an assurance against possible defects than as a necessity. The effect of welding the fish-plates to the rail end is to produce smooth operation over the joints and prevent the usual hammer blows occurring. Two operators work with one motor generator, and each operator can weld four joints per day allowing for traffic interruption with a 10-min. service. In a week of 5½



AT LEFT, END SECTION OF WELDED JOINT. IN CENTER, SIDE VIEW SHOWING ARRANGEMENT OF WELDS. AT RIGHT, METHOD OF SUPPORTING COPPER PLATE FOR WELDING UPPER EDGE OF FISH PLATE

WAY JOURNAL with some additional information which has been incorporated herein. The company has recently changed to the metallic arc for this work and uses covered metal electrodes. A portable motor-generator installed on a covered wagon is used for supplying the welding current at a potential of 70 to 75 volts.

The accompanying illustrations show end and side views of a repaired rail joint before grinding. Fish-plates are welded to the rail in five places along their upper edges and five places along their lower edges. These fish-plates have a length of 3 ft. and the length of each of the five welds is about 4 in. Two fish-plates are used per joint, so there is a total of twenty 4-in. welds to be made at each joint. Each weld requires about 1½ ft. of electrode, which is No. 4 S. W. G. Where wear has taken place at the joints, metal is added so as to bring the surface somewhat above the standard height, and it is then ground down to an approximately level surface by motor grinders.

Before the surface is built up, the joint in the rail head is cut out to form a V-shaped groove. For this cutting a current of 200-250 amp. is used. The groove is carried to a depth of not more than ½ in. Before the arc is struck, the rail surface is peppered with a chemical preparation of manganese dioxide to compensate for the material in the rail which the arc would otherwise burn out, so that the hardness of the rail is maintained. This chemical preparation is made to adhere to the surface of the rail by first smearing the latter with oil, so that the approaching arc does not blow it away.

To facilitate the work of making the side welds on the fish-plates, a copper plate is supported just below the seam to be welded in order more readily to hold

days, 22 welded joints can be made. Allowing for bad weather an average of about 15 such joints will be completed in that time. Assuming an average wage of \$14.60 per week, this would give 97 cents per joint as the labor cost, excluding grinding. The following is a summary of the cost per welded joint: Electrodes (bare), \$1.57; labor, 97 cents; electrical energy, 61 cents; motor-generator and supplies, 50 cents; total, \$3.65.

## Endowment for the National Research Council

THE Carnegie Corporation has announced its purpose to give \$5,000,000 for the use of the National Academy of Sciences and the National Research Council. It is understood that a portion of the money will be used to erect a home in Washington for the two organizations. The remainder will be placed in the hands of the Academy, which enjoys a federal charter, to be used as a permanent endowment for the National Research Council. The members of the latter body are chosen by some forty of the scientific and engineering societies of the country, and it was organized in 1916. Its efforts during the war were mostly confined to assisting the government in the solution of pressing war-time problems involving scientific investigation.

The Street Railway Bureau of the City of Tokyo, Japan, has designed a new type of car, in which the exit is at the center and entrances are at the two ends. The police authorities have given the bureau permission to omit the safety fender formerly prescribed, and this has permitted an increase in the length of the body.

## Association News

### Manufacturers Association Adjourns Sine Die

AT A MEETING of the executive committee of the American Electric Railway Manufacturers' Association, held at the Hollenden Hotel, Cleveland, Ohio, Thursday, Jan. 8, 1920, a resolution was passed instructing the turn over to the American Electric Railway Association for the use of the Committee of One Hundred and the funds remaining in the treasury of the Manufacturers Association amounting to \$717.33. It was further resolved that the Manufacturers Association adjourn *sine die* and that the secretary notify all members of the association of this action.

In compliance with a resolution adopted at the Atlantic City meeting of the association on Oct. 7, the by-laws of the American Association previously had been amended so as to provide for the election of five representatives of manufacturer member companies of the American Electric Railway Association to serve as members of its executive committee with equal power with railway members, and these five representatives have been duly elected.

### Personnel of Transportation Association Committees Announced

SECRETARY BURRITT of the Transportation & Traffic Association announces the personnel of the committees formed to date for the investigation and report on the subjects to be presented to the 1920 convention. The subjects as approved by the executive committee were outlined in our issue of Oct. 11, 1919.

*Committee on Code of Traffic Principles*—H. B. Flowers, United Railways & Electric Company of Baltimore, chairman; W. H. Maltbie, United Railways & Electric Company of Baltimore; Judge Fielder Sanders, City Street Railroad Commissioner, Cleveland, Ohio; Paul E. Wilson, Cleveland (Ohio) Railway. Sponsor, A. Gaboury.

*Committee on Collection and Registration of Fares*—W. J. Harvie, Auburn & Syracuse Electric Railroad, Auburn, N. Y., chairman; R. D. Beatty, Cleveland & Eastern Traction Company, Cleveland, Ohio; N. W. Bolen, Public Service Railway, Newark, N. J.; L. D. Pellissier, Holyoke (Mass.) Street Railway; E. C. Spring, Lehigh Valley Transit Company, Allentown, Pa.; C. W. Stocks, ELECTRIC RAILWAY JOURNAL, New York; A. Swartz, Toledo & Western Railroad, Toledo, Ohio. Sponsors, T. C. Cherry and J. K. Punderford. The Accountants' Association has appointed the following members to work jointly with those of the T. & T. Association: W. A. Doty, Denver (Col.) Tramway; John J. Duck, Chicago (Ill.) City Railway; M. W. Glover, West Penn Railways, Pittsburgh, Pa.; G. W. Kalweit, The Milwaukee Electric Railway & Light Company; I. A. May, The Connecticut Company, New Haven, Conn.; F. E. Webster, Massachusetts Northeastern Street Railway, Haverhill, Mass.

*Committee on Express and Freight Traffic Facilities and Costs*—A. B. Cole, Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., chairman;

P. P. Crafts, Eastern Massachusetts Street Railway, Boston, Mass.; J. H. Crall, Terre Haute, Indianapolis & Eastern Traction Company, Indianapolis, Ind.; E. W. Fowler, Illinois Traction system, Peoria, Ill.; R. B. Hull, Conestoga Traction Company, Lancaster, Pa.; F. D. Norviel, Union Traction Company of Indiana, Anderson, Ind.; W. D. Rodger, Detroit (Mich.) United Railways; C. E. Thompson, Chicago, North Shore & Milwaukee Railroad, Highwood, Ill. Sponsors, G. T. Seely and G. H. Clifford.

*Committee on Schedules*—Edward Dana, Boston (Mass.) Elevated Railway, chairman; James P. Barnes, Schenectady (N. Y.) Railway; H. F. Fritch, Eastern Massachusetts Street Railway, Boston, Mass.; Herman E. Hicks, New York State Railways, Rochester, N. Y.; Alexander Jackson, Public Service Railway, Newark, N. J.; J. A. Stoll, United Railways & Electric Company of Baltimore, Md. Sponsors, L. H. Palmer and W. H. Collins. This committee is the first to get down to actual work. Its first meeting is to be held at the office of the chairman on Saturday, Jan. 31.

### One-Man Cars Discussed at Providence

J. C. THIRLWALL, General Electric Co., was the speaker at the meeting of the Rhode Island company section held on Dec. 11. He traced the history of the development of the safety car and explained the economic features of its operation. He also gave illustrations of the application of the car, stating that in one city in Texas the revenue had increased 70 per cent since the installation of one-man cars, which are operated at a cost slightly greater than that of the former heavier cars. The speaker was bombarded with questions after his address. The entertainment features of the meeting comprised violin, piano and orchestra music, and a collation served by a local caterer.

### Problems of Our Business the Subject at Newark

PRESIDENT T. N. McCARTER, Public Service Corporation, on Jan. 15, spoke before the Public Service company section at its regular meeting. Mr. McCarter took as his subject, "Some Problems of Our Business" and emphasized the importance of each employee doing "just a little more" toward toning up the business in an endeavor to secure the good will and co-operation of its railway patrons. At the conclusion of his remarks he was given a rising vote of thanks and pledge of heartiest support by the 300 present.

Following Mr. McCarter's remarks the motion picture "Comrades of Success," one of the safety educational films of the company, was shown by A. J. Van Brunt.

W. H. Shepard presented his report on membership, which showed that during the past year 116 new members had been secured and that the total membership, as of the date of the meeting, was 369.

### Water Front Plans Discussed at Chicago

MR. TAYLOR, Chicago Plan Commission, was the speaker at the Jan. 27 meeting of the Chicago Elevated Company section. In his talk, which was illustrated with stereoptican slides, he outlined the plans the commission had in view for the greater utilization and beautification of the water front. The illustrations shown also covered accomplishments in this same direction by foreign municipalities.

# Bulletin News Page

Summary of the Principal Happenings of the Industry of Current Interest Since the Last Issue of this Paper Was Published

PRINTED JANUARY 30, 1920

The receivers of the Memphis (Tenn.) Street Railway ask an 8 per cent return on the value of the property of that company.

The surface railways in Chicago are doing better. The earnings, however, are still materially behind those of 1916.

John A. Beeler has presented his second report with reference to traffic conditions in Kansas City, Mo.

The spirit of Francis Scott Key is reflected again in the courageous stand of the Public Service Commission of Maryland in defense of the rights of the public utilities of the State. The opinion of the commission in the Baltimore fare case is one of the most salutary of commission statements ever made. It is a declaration of independence by a public body issued in an age of political pandering.

The increase in the fare of the International Railway, Buffalo, N. Y., from 5 cents to 7 cents, has been indefinitely postponed.

The Boston (Mass.) Elevated Railway earned \$343,333 net in December. The operating cost per passenger averaged 8.897 cents, of which labor costs were 4.377 cents.

Only one road in the twelve paid a dividend in New York in 1919. In three years the operating ratio has increased from 66.49 per cent to 81.27 per cent.

A decision of Supreme Court Justice Finch restraining Lewis Nixon, Public Service Commissioner for the First District of New York, and the receivers of the Manhattan & Queens Traction Corporation from taking steps to increase the company's fare, has been sustained by the Appellate Division of the Supreme Court.

A general rearrangement of the railway lines in San Diego, Cal., followed the introduction of the zone system on Jan. 1. Service was suspended on a number of pieces of track no longer considered essential under the new arrangements.

The Public Service Commission for the Second District has authorized the United Traction Company, Albany, N. Y., to raise its fare to 7 cents.

The inquiry which the New York City Board of Estimate is conducting into the affairs of the traction companies of that city, was resumed on Jan. 28.

The service-at-cost arrangement in Cleveland, Ohio, has proved so satisfactory that there is no desire in that city for municipal ownership. This is the opinion of none other than Mayor Davis.

A report on the cost of maintenance and upkeep of track and equipment of the Charleston Interurban Railway has been submitted to the Public Service Commission of West Virginia by George E. Taylor, chief engineer of the commission.

The city of St. Louis, Mo., wants the entire mill tax of \$2,400,000 against the United Railways made payable at once, the company having defaulted in the regular quarterly installment.

The Illinois Public Utilities Commission has issued an order directing the Chicago Elevated Lines to sell two tickets for 15 cents. The cash rate will remain at 8 cents.

Following the hearings before the State Public Utilities Commission into the zone system in effect on the lines of the Connecticut Company, the commission has ordered the various parties interested to submit briefs to it by Feb. 24.

The Ministry of Transport in England has, according to cable advices, been asked to take over all the transportation systems in London and administer them along the same lines as those under which the government is now controlling the main line railroads.

The City Council of Seattle, Wash., has passed a resolution favoring the continuance of the present 5-cent fare charged by the Seattle Municipal Street Railway.

The ways are being soaped for launching Detroit's municipal ownership.

A report on the present financial condition and the prospects of the Interborough Rapid Transit Company, submitted by Stone & Webster, indicates that a higher fare is imperative.

Judge McGoorty has denied the application of the city of Chicago, Ill., for a temporary injunction restraining the Chicago Surface Lines from collecting fares in excess of 5 cents.

General Manager Menden of the Brooklyn Rapid Transit Company has been acquitted in connection with the Malbone Street disaster in which more than ninety persons were killed.

Owing to the large number of cases of influenza and pneumonia in New York City, Health Commissioner Cope-land has ordered the opening and closing of offices, manufacturing plants and other industries at such hours as will most relieve congestion on the subway, elevated and surface lines.

The superintendent of Seattle's municipal railway wants to spend \$1,500,000 in improving the property.

The national associations representing the operators of the electric railways, the electric light plants and the gas works are all protesting against increased prices for coal. It was not their understanding that the strike settlement contemplated a price advance.

There will be no hearing at present before the Rhode Island Supreme Court on the complaints of nine towns concerning the present 6-cent fare in effect on the company's lines.

An interesting contribution toward securing better public relations has been made by the United Light & Railways in publishing a handsome illustrated booklet describing the work of the company and presenting the case of the utilities. The publication will be widely distributed.

The *Railwayman*, official publication of the Kansas City (Mo.) Railways, has compared conditions existing in Kansas City and Philadelphia, Pa., which are responsible for the difference in the rate of fare in the two cities.

The Public Service Commission of the Second District of New York has approved the one-man car only after assurance that the company proposing to use it will install latest improvements for this type of equipment.

Under a recent court decision the Milwaukee Electric Railway & Light Company will be required to obtain interurban franchises from the city of Milwaukee or to cease operating interurban cars within the city limits.

The Federal Court at Toledo has formally extended indefinitely the time for the presentation of plans for the settlement of the Toledo controversy. The company there must give fourteen days' notice of intention to withdraw service.

James R. Pratt, vice-president of the United Railways & Electric Company, Baltimore, Md., has resigned to accept the presidency of the Federal Finance & Credit Company.

# News of the Electric Railways

FINANCIAL AND CORPORATE • TRAFFIC AND TRANSPORTATION

PERSONAL MENTION

## Extension at Toledo

### More Time Allowed to Draw Up the Toledo Railways & Light Company Settlement Ordinances

Federal Judge Killits at Toledo, Ohio, has made an order extending the time for the inquiry into the proposed franchise settlement plans in the interest of the Toledo Railways & Light Company. It had been announced previously that he would do this. The date set originally for the presentation of plans expired on Jan. 15.

### MUST NOTIFY OF DISCONTINUANCE

The present arrangement is practically an open-end one, the order of the court providing that the company cannot at any time discontinue railway service without first giving fourteen days' notice in writing to the Mayor and the federal court.

Another important development in connection with the Toledo case was the defeat in the House of Representatives of the Brach bill, which was intended to confer specifically the authority upon cities to issue general credit bonds to buy or build transportation systems.

Meanwhile arrangements have been made by which the State Supreme Court will grant a hearing probably not later than Feb. 10, and render a decision by March 1 in the city's test case to determine the rights of municipalities to issue general credit bonds under existing laws to acquire street railway systems. This is in the interest of the section of the commission charged with presenting an ordinance providing for municipal ownership.

The service-at-cost division of the street railway commission charged with developing plans for the settlement of the railway matter has resumed the work of going over the tentative ordinance section by section. It was expected that Chairman Ashley of the municipal ownership division of the commission would call a meeting of that body for Jan. 26.

### THE COURT'S STATEMENT

The new order of Judge Killits and the memorandum explaining it follow:

This cause having been heard on Jan. 15, 1920, upon the application of the defendant, the city of Toledo, to modify and extend the dates in the order in this cause entered on Dec. 4, 1919, and it having been agreed in open court by the parties hereto that whatever order in that behalf the court might direct should be entered as of the date of Jan. 15, 1920, now comes the defendant, the Toledo Railways & Light Company, proposing that there be added to the said order of Dec. 4, 1919, a provision effective as of the date of Jan. 15, 1920, being the provision hereinafter recited. It is ordered by the court that said order of Dec. 4, 1919, be and the same is hereby modified and amended by adding thereto as of the date of Jan. 15, 1920, the following:

Provided, however, that the Toledo Railways & Light Company shall not in any event cease operation of its car service in the city of Toledo, except by discretion of the court, until it shall have delivered a written notice of its intention so to do to the Mayor of the city of Toledo and shall have filed a copy of such notice with the clerk of this court at least fourteen days prior to such proposed cessation of service.

### The memorandum:

The defendant, the Toledo Railways & Light Company, has tendered the court a consent which effects a practical extension of time within which may be considered more deliberately and satisfactorily a possible franchise settlement. Reading the provisions in the order of Dec. 4, 1919, the construction must be that with this court rests the responsibility of continuing car service until hope of a reasonable and fair adjustment of the question must be abandoned, if ever, as unrealizable, for should a notice of intent to remove be given by the company to the city, the latter is competent to bring the situation to the court for its consideration.

### COURT AGAINST DURESS

With this understanding, the court is accepting the proposition and is making it a part of the original order. It is obvious that the dates of the original order are now rendered of no consequence whatever. The court is not friendly to a plan which makes it something of a dictator relative to the continuance of car service, and the burden is assumed only because so to do seems to conduct to an earnest effort on all hands to bring the controversy to an end as soon as possible, while affording opportunity to give better consideration to the difficulties of the municipal ownership division than the old limits afforded.

It was reported by telegraph from Toledo on Jan. 30 that the valuation figures covering the railway property of the company had been presented for use in the present negotiations.

## Mutual Savings Plan at Atlanta

The 3,500 employees of the Georgia Railway & Power Company, Atlanta, Ga., have organized a mutual savings, investment and building association, naming J. F. Trazzare, superintendent of the employment department, as temporary chairman of the organization committee.

Development of thrift among the employees and the encouragement of home building are the primary objects of the new association. Each employee will be allowed to deposit any portion of his earnings, \$1 or more, each week or month as desired, receiving interest thereon. The aggregate deposits will be used to make loans on homes to be built by members of the association, operating along the same lines as ordinary building and loan associations but with the objectionable features eliminated.

Any employee of the company is eligible to membership in the association. The funds will be handled entirely under the supervision of company officials. The permanent organization will be effected at another meeting to be held in the near future, at which time an election of officers will be held.

## Palatable Publicity

### Case of the Utilities Aably Presented by United Light & Railways Company in Booklet

Frank T. Hulswit, president of the United Light & Railways Company, Grand Rapids, Mich., has had a brochure prepared describing the growth of the company. In it Mr. Hulswit sets forth the policies of the company and tells of a long list of rate increases he has obtained without the least friction. Mr. Hulswit invited the public into his confidence and with its assistance secured fair treatment for his corporations.

### FORTY-PAGE BOOKLET

The booklet is entitled "A Progressive Utility." It is 8 in. wide by 11 in. high and contains forty pages and cover. The presentation is extremely artistic from the standpoint of typography and the subject matter is so well presented that the brochure deserves wide distribution among public utilities in general as an excellent piece of public relations work.

Mr. Hulswit is convinced that the public utilities henceforth must be allowed to earn at least 10 per cent, and they should be permitted to earn 12 per cent on the present value of their property in order that the standard of good service may be continued and additional capital be attracted in order to obtain funds for the expansion of property in the many growing communities of this country. Unless this is done it is his opinion that capital will refuse to flow in the direction of public utility investments and the companies will be obliged to get along the best they know how with the equipment in hand, and will not have the funds for expansion of property, no matter how much the community may desire it or be entitled to it.

### WIDE DISTRIBUTION PLANNED

In regard to his plans for the distribution of the brochure Mr. Hulswit says:

We intend to place this brochure in the hands of every commercial banker and investment house in New York, Chicago, Philadelphia and Boston and encourage and foster the gospel of not only a fair but liberal deal for public utilities so that they may prosper and help the growth of the community, for if the public utilities are stunted in their growth we will have the same evil effects that resulted in the trammeling of the railroads of this country to a point where funds were no longer obtainable and railroad managers were compelled to get along as best they could with the equipment in hand, which is rapidly deteriorating so that to-day there is an enormous shortage of freight equipment which cannot be replaced for years to come. The booklet is profusely illustrated with halftone engravings of the territory in which the company operates and of the company's property.

## Seattle Improvement Plans

Mr. Murphine, Municipal Railway Head, Recommends \$1,500,000 Be Spent in Improving System

Recommending an appropriation to enable the board of public works to make a careful study of plans for a terminal station in the vicinity of the Denny Hill regrade district and to prepare plans and estimates for a subway extending from this station to the vicinity of Washington Street, Thomas F. Murphine, superintendent of the public utilities department of Seattle, Wash., has submitted to the City Council a program of extensions and betterments to the street railway system aggregating in estimated cost almost \$1,500,000.

The improvements suggested by Mr. Murphine constitute the 1920 construction program of the railway department. They were reported to the Council in conformity with a resolution passed by that body calling on all utility departments of the city government to submit estimates of the amount needed for capital expenditures, betterments and improvements in their respective departments during the year 1920.

### \$1,472,234 IN IMPROVEMENTS

Track extensions and betterments recommended by Mr. Murphine aggregate in cost \$662,234 and outlays for equipment \$710,000, bringing the total aggregate expenditure proposed to \$1,472,234. In addition to these estimates, Mr. Murphine states that in event the Council decides to repave First Ave. and First Ave. South from Pine St. to Atlantic St., an additional outlay of \$365,000 will be necessary. It is suggested that all the expenditures be financed by an issue of utility bonds.

Chief among the items proposed in the new equipment is an appropriation of \$500,000 for the purchase of new cars made necessary by the additional trackage that will result from the installation of the extensions recommended in the report by the increase in the city's traffic. An appropriation of \$150,000 for remodeling the present type of cars into one-man cars and adding the necessary safety appliances and \$60,000 to acquire a location and to construct and equip a carhouse in the vicinity of West Spokane St. complete the list.

## National Bodies Protest Coal Price Change

G. W. Elliott, secretary of the National Committee on Gas and Electric Service, addressed a letter under date of Jan. 13 to Mitchell A. Palmer, attorney General of the United States, and to H. M. Robinson, chairman of the National Coal Commission, protesting against proposed increases in the price of coal. Similar action has been taken by the representatives of the public utilities in Indiana in a letter to the President. This protest was referred to in the *ELECTRIC RAILWAY JOURNAL* for Jan. 24, page 212. The committee

of which Mr. Elliott is secretary represented the American Electric Railway Association, the National Electric Light Association and the American Gas Association throughout the fuel emergency.

In concluding his letter of protest Mr. Elliott says:

The public utilities of the country annually consume approximately 50,000,000 tons of coal, and their serious financial difficulties at the present time, particularly in the case of the electric railways, are quite generally understood and appreciated. They are unable to pass along increased costs of operation owing to the fact that their charges for service are fixed by statutory enactment, franchise provisions or by public service commissions and other regulatory bodies.

If the price of coal under contracts made previous to the settlement are to be subject to increase because of the 14 per cent increase in miners' wages, a very large part of the increase in miners' wages will thereby be passed along to the public, contrary to the general understanding which prevailed at the time that the settlement was made. Had the utilities been advised that such a serious additional burden was to be placed upon them, they would certainly have registered a formal protest at that time to both the Washington authorities and to the local commissions under whose jurisdiction they are conducted.

We would be glad to receive from you a definite statement, which can be forwarded to the utility companies which we represent, as to the policy which the Washington authorities are proposing to pursue pending the final report of the National Coal Commission appointed by the President in the matter of prices for coal under contracts antedating the strike settlement.

## General Manager Menden Acquitted

William S. Menden, general manager of the Brooklyn (N. Y.) Rapid Transit Company, and formerly chief engineer of the New York Municipal Railway, operating the rapid transit lines in the Brooklyn Rapid Transit System, was found not guilty by a jury at Mineola on Jan. 27 of a charge of manslaughter brought against him as a result of the Malbone Street wreck on Nov. 1, 1918, in which ninety-one persons lost their lives. The verdict was brought in by the jury acting under instructions from Supreme Court Justice Callaghan.

The prosecution attempted to prove that a time element signal control should have been installed at the Malbone Street curve to give a proper amount of safety to the passengers. Justice Callaghan ruled that the evidence failed to show that Mr. Menden was criminally negligent in failing to install such apparatus and that an ordinary degree of foresight would not have prevented the accident.

The acquittal of Mr. Menden ends the fourth trial of the six indictments found after the wreck. Edward Luciano, motorman of the train, was the first arraigned. After a long trial he was acquitted. John J. Dempsey, superintendent of transportation, was the second brought to trial. The jury in his case disagreed. Thomas F. Blewitt, superintendent of the Brighton line on which the wreck occurred, was tried and acquitted.

Colonel Timothy S. Williams, president of the B. R. T., and John H. Hallock, president of the New York Consolidated Railroad Co., which operates the Brighton line, were also indicted, but have not been tried.

## Detroit Measure Advanced

Street Railway Commission Passes Back to Council Ordinance for City-Owned Railway

The members of the newly appointed Street Railway Commission of Detroit, Mich., after conferring on the provisions of the Castator railway ordinance, referred the ordinance back to the City Council with their recommendations. The commission favors the passage of the ordinance and the submission of the proposition therein contained to the voters at the election on April 5.

### PLAN COMPLIES WITH CHARTER

The commission studied routes provided for in the ordinance, its financial features and such other data as they considered necessary to arrive at a judgment in the matter, and as a result the ordinance was recommended with only some minor amendments in the wording of the routes described.

The recommendation voiced the opinion of the board members that the plan proposed in the ordinance complies with the charter requirements and at the same time it presents an independent, unified, self-sustaining system of railways which will, in addition, pay for itself so that it will be no expense to the taxpayers. It will afford relief to both downtown and congested factory districts, and has the merit of avoiding duplication of existing lines, and also provides adequate service for districts now without any, so as to meet the needs of the Greater Detroit, the Board states.

In commenting on the Castator ordinance, which was introduced for Mayor Couzens, the fact is emphasized that the present time is the most auspicious that has been presented to the taxpayers during the history of the railway controversy for the people to acquire and own their own lines. The Supreme Court of the State of Michigan and the Supreme Court of the United States have both fixed the status of the expired franchises of the Detroit United Railway, and the remaining franchises are nearing expiration.

The present plan is believed by the board to be the best solution of the transportation problems facing Detroit to-day, avoiding, it is believed, expensive law suits or dickering with the present company.

### ORDINANCES PUBLISHED

The ordinance with the amendments suggested by the board was laid on the table and published in the proceedings of the Council. It is entitled:

An ordinance relative to acquiring, owning, maintaining and operating a street railway system upon the surface of the streets, avenues and public places of the city of Detroit and within a distance of 10 miles from any portion of its corporate limits that the public convenience may require for the purpose of supplying transportation to the city of Detroit and the inhabitants thereof, within and without its corporate limits, and to submit to the electors of said city of Detroit a proposition to authorize and empower the city of Detroit to acquire, own, maintain and operate a street railway system, and to borrow money upon the credit of the city of Detroit to an amount not to exceed \$15,000,000 by the issuance of its public utility bonds therefor, and to call a special election to vote thereon.

## Interborough Needs Higher Fares

Financial Report by Stone & Webster Shows Large Deficit With Five-Cent Fare

A report by Stone & Webster on the financial condition and prospects of the Interborough Rapid Transit Company has just been submitted to James R. Sheffield, trustee of the Interborough Consolidated Corporation, the holding company. The report covers 103 pages of text and includes 110 plates.

In regard to earnings and expenses the report says (1) that the increase in earnings of both the Subway and Manhattan Divisions will be at substantially the same rate during the coming five years with the enlarged system as during the first five years with the original subway system. (2) That the cost of labor and materials will remain substantially the same as at present. (3) That no notable economy will be made in unit operating costs. (4) That the properties will be maintained in the future at the same high standard of excellence that they have been in the past but that about \$865,000 in maintenance items not needed for the safe operation of the road can be eliminated. (5) That during the next five years no considerable track extensions will be built which would become a financial burden to the company. (6) That new money will cost 7 per cent.

Based on these conditions the report estimates that for the five years ending 1924 the effect of an increase in fare respectively to 6 cents, 7 cents and 8 cents would be as follows:

	1921	1922	1923	1924
<b>Six-cent fare</b>				
Increase in gross earnings.....	\$7,424,000	\$7,840,000	\$8,258,000	\$8,672,000
Balance after fixed charges.....	(d) 2,897,000	(d) 1,126,000	332,000	1,834,000
<b>Seven-cent fare</b>				
Increase in gross earnings.....	12,992,000	14,700,000	15,480,000	16,260,000
Balance after fixed charges.....	1,491,000	4,347,000	6,108,000	7,917,000
<b>Eight-cent fare</b>				
Increase in gross earnings.....	18,096,000	20,580,000	21,672,000	22,764,000
Balance after fixed charges.....	5,478,000	8,996,000	11,017,000	13,087,000

(d) indicates deficit.

In regard to the insufficiency of the five-cent fare the report finds that the cost of a passenger ride during the years from 1917 to 1920 (inclusive estimated) has been respectively 4.94, 5.52, 6.68 and 7.33 cents for the Manhattan division and 4.17, 4.79, 6.15 and 6.60 cents for the subway division.

In order to earn the amount of money shown in the estimate of earnings and expenses above additional construction expenses will be required. These for the next five years covering shops, cars, power stations, substations, cables and tie lines amount to a total of \$42,700,000 of new money which will be needed for operating deficits and construction requirements.

For the fiscal year ending June 30, 1919, the Manhattan Division showed an actual cash loss to the Interborough Company of \$4,102,711 which will be increased to \$6,402,700 in 1920 by the August, 1919, wage increase. The burden thus imposed by the lease of the Manhattan Company is said to be en-

tirely due to the inadequacy of the fare charged to meet the greatly increased cost of operation. It is estimated that the competition of the Brooklyn Rapid Transit Company after the opening of the Montague Street Tunnel will amount to \$65,000 a month loss in gross earnings. However, the further entrance of the Interborough into Brooklyn with the Eastern Parkway Line considerably offsets this competition.

The report states that with the exception of a very small amount of deferred maintenance, estimated at \$409,000, the properties were found to be operated and maintained at a very high degree of efficiency.

### \$8,000,000 Loss on London Buses

Cable reports from London, England, dated Jan. 24, state that the traffic combine, comprising all the local and metropolitan railroads, including the subways and motor omnibuses, has asked the Ministry of Transport to take over these traffic systems and administer them along the same lines as those under which the government is now controlling the main railroads of the country.

According to the *Mail*, the Ministry is willing to take over the railroads, but not the omnibuses, and is preparing to adopt measures for the control of the former.

The application to the Transport Ministry is said to be in consequence of the prospect of a large loss for the year. This prospect led to the recent proposal to ask Parliament to sanction legislation enabling the combine to

double the statutory maximum fares. This resulted in a great popular outcry.

The combine with its petition submitted to the Ministry details of revenue and expenditures and estimated the loss for the coming year £2,600,000.

The advisory committee of the Ministry, after examining the figures, came to the conclusion that of this loss £1,600,000 was sustained through running the omnibuses.

### City Quiet on Purchase Offer

No action has been taken by the city of Columbia, S. C., on the offer of the Columbia Railway, Gas & Electric Company, Columbia, S. C., to sell its railway property to the city, and the matter has apparently been dropped. The offer of the company was referred to previously in the *ELECTRIC RAILWAY JOURNAL*. The letter of the company offering to sell to the city bore almost exclusively on the paving question, the offer to sell being based on the theory

that should the representatives of the city insist upon paving the company would dispose of the property to the city. There was no question of fares involved. Under the charter of the company it has the right to raise fares without permission of the municipality and the company did raise its fares from 5 cents to 7 cents effective July 1 last.

### Kansas Anti-Strike Law

Commission Can Operate Properties if Necessary and Punish Those Who Strike

The Kansas Legislature, called in special session by Governor Allen to adopt laws for settling disputes between capital and labor, has passed the Industrial Court bill recommended by the Governor. Briefly it reorganizes the Public Service Commission by adding to its duties that of passing on labor disputes in certain industries to the extent of taking over the property and operating it if the orders of the commission are not obeyed. The industries thus included are the manufacture of food products, manufacture of clothing, mining and production of fuel and the transportation of any of these products. Penalties are provided for those who refuse to work when ordered to do so by the court and for those who foment strikes.

### Mill Tax Payment in Default

Circuit Judge Falkenhainer has ordered the United Railways, St. Louis, Mo., to pay to the city the entire amount which it owes under the mill tax, which is a city levy on passengers carried, or about \$2,400,000. The order followed a motion presented by City Counselor Daues. The motion was presented to the court after the United Railways on Jan. 14 had defaulted in payment of an installment of \$239,632, with accrued interest amounting to \$143,779.

City Counselor Daues said the action was taken to protect the interests of the city, but that no further steps would be taken until the United States Circuit Court of Appeals passed upon the validity of the appointment of Rolla Wells as receiver. If the action of Judge Dyer in appointing a receiver is upheld, Mr. Daues will file a claim for the amount with Special Master Lamm. If the appellate court overrules the appointment, Mr. Daues will then file an intervening petition in the pending suits in the United States District Court.

Under the mill tax settlement entered into last January the company agreed to pay the full amount of the judgment in thirty-six quarterly installments. If a receiver was appointed for the company or a payment defaulted, the entire amount was to become due at once. The city failed to exercise its option when the receiver was appointed, but when payment was defaulted it asked that the entire amount be declared due.



### Bus Service for Hartford

A company which is said to have a capital of \$1,000,000 has declared that it will start running jitney buses in Hartford, Conn., beginning on Feb. 15, with 5-cent fares and transfers costing 1 cent. Under the State law which went into effect on Jan. 1 of this year the small jitney was put out of business and the buses must be bonded in at least \$5,000 each.

The new corporation, which is to be called the Riverside Motor Company, says it will put fifty buses in the field and will maintain service at 15 minute intervals on nine lines from 5 a.m. to 11 p.m., seven days a week. The officers of the concern are: President, Aaron Oevsner, 1725 Fulton Ave., New York City; secretary and transportation manager, William H. Lacey, Hartford; vice-president and general manager, E. H. Newton.

## News Notes

**Buffalo Wage Payments Made.**—The International Railway, Buffalo, N. Y., just before Christmas made the last payment to its employees under the wage award which gave the men a retroactive increase.

**Asks Commissioner for Recommendations.**—The Senate of New York on Jan. 19 called upon Lewis Nixon, Public Service Commissioner for the First District, to make definite recommendations looking to the solution of the railway situation in New York City.

**Practical Public Relations.**—After business firms had installed corner boxes for traffic men on the principal street corners to protect them from cold, C. P. Billings, manager of the Wheeling (W. Va.) Traction Co., had electric heaters installed in the boxes.

**Bus Service Planned in New Brunswick.**—The Middlebux Omnibus Company, recently incorporated under the laws of New Jersey with \$2,000,000 capital, expects to begin operation in New Brunswick on March 1. The new company plans to operate 180 buses in New Jersey with New Brunswick as the terminal.

**Snow Stops Baltimore Buses.**—The snowstorm which swept the eastern part of the country on Jan. 22 and 23 stopped the service of the Charles Street buses in Baltimore, Md., for two complete days. In fact, it stopped practically all of the automobile traffic in that city, few cars venturing to go out. There was no interruption, however, in the electric railway service of the United Railways & Electric Company.

**Ohio Road Abandoned.**—The Cincinnati & Columbus Traction Company, with an electric railway connecting Cin-

cinnati, Norwood, Milford, Fayetteville and Hiltzboro in Ohio, ceased operations on Dec. 31, 1919, in pursuance to an order from the Public Utilities Commission. The property, which had been in the hands of receivers since April 12, 1913, was sold at foreclosure on Feb. 15, 1919, to holders of the first mortgage notes for \$200,000.

**Anti-Strike Bill Reappears.**—A petition for the continuity of service on all electric railways owned in part or controlled by the Commonwealth of Massachusetts has been presented to the Massachusetts Legislature and referred to the committee on legal affairs. This petition embodies the recommendations of the special committee on street railway matters with regard to continuity of service, generally called the anti-strike bill.

**Pushing Public Ownership Plan.**—Mayor Thompson of Chicago, Ill., is proceeding with his plans for public ownership of the traction properties. His commission has been holding weekly meetings, but has not yet made a selection of an engineer. The following candidates are said to have been invited to a consultation with a view to the selection of one of their number: L. C. Fritch, H. A. Strauss, C. K. Mohler, R. G. Francois, A. L. Drum, Delos F. Wilcox, Robert P. Woods and C. E. Smith.

**Co-operative Stores Proposed.**—Plans are being formulated by the employees of the United Railways, St. Louis, Mo., for a co-operative food-store to buy food direct from the producers and sell it at cost to workers. Mathew True, a vice-president of the local union, will put the question to a vote of the members in the near future. The plan is to raise capital through membership fees, and establish one or more stores. Many of the conductors and motormen want the corporation also to enter the coal and ice business.

**Rotating the Division Superintendents.**—Operating officials of the United Railways, St. Louis, Mo., have decided upon a plan of transferring division superintendents from time to time in an effort to promote efficiency and acquaint the district superintendents with the whole system. The plan has been placed in effect with the transfer of superintendents in the fifth, fourth and eighth divisions. George F. Trotter goes from the fifth to the fourth; Robert E. Lee from the eighth to the fifth and John P. Rice from the fourth to the eighth.

**No Need for Municipal Ownership in Cleveland.**—Mayor Harry L. Davis of Cleveland, Ohio, in an interview in the Toledo Blade of Jan. 17 was quoted as stating that the operation of the municipally-owned water works and electric light plants in Cleveland has been successful, and that, possibly, the time may come when there will be a demand for a city-owned railway system, but, that with the service-at-cost plan in successful operation, there has yet been no demand in Cleveland for purchase of the railway lines by the city.

**Bill to Protect Jitney Passengers.**—A bill designed to protect patrons of jitneys operating in New Jersey has been presented in the New Jersey Legislature. The measure provides that any insurance company bonding jitney-men in New Jersey must deposit with the State Commissioner of Banking & Insurance the sum of \$50,000 for the benefit of any person or persons who may be injured by a jitney. Jitney-men in New Jersey are for the most part insured by companies in New York, with the result that any one injured by a jitney in New Jersey would be forced to sue in the New York courts to secure the money awarded him.

**Mr. Twining Urged to Remain.**—It is known that Mayor Moore is anxious to have William S. Twining, director of city transit of Philadelphia, Pa., continue at his post permanently if he can be induced to do so and if not, for several months. The Mayor and Mr. Twining have discussed the matter of the latter's continuing as director of transit throughout the administration. It was said that no definite settlement had been reached, but that the director "might stay for some time." If Mr. Twining decides to continue as the head of the transit department he will take a vacation, as he had planned at the end of the Smith administration.

**Long and Faithful Service Recognized.**—At the beginning of the new year, Benjamin Lyons, motorman and dispatcher on the Coronado Division of the San Diego (Cal.) Electric Railway, was presented with a gold watch by the company, in recognition of the completion of twenty years of service in the employ of the company. In the back of the case is engraved: "Presented by the San Diego Electric Railway, commemorating twenty years of faithful service, 1920." Mr. Lyons has been on the Coronado run ever since entering the employ of the company twenty years ago, operating a car between the Hotel del Coronado and the ferry. The San Diego Electric Railway has made it a practice to present each employee with a watch on the completion of twenty years of service.

## Program of Meeting

### 1920 Foreign Trade Convention

The Seventh National Foreign Trade Convention will be held in San Francisco, Cal., on May 12-15, 1920. It will be the first of these important conventions to be held on the Pacific Coast. In deciding on San Francisco for the convention city, the National Foreign Trade Council was influenced by the growing importance of the Pacific Coast in the foreign commerce of the country, and by the enthusiastic support which the Far West has given all previous foreign trade gatherings.

While the convention itself will be held in San Francisco, it will really be a Pacific Coast gathering, and the cities of Seattle, Tacoma, Portland, and Los Angeles will share with San Francisco in the attention of the visiting delegates.

# Financial and Corporate

## Service Suspensions

### San Diego Company Makes Many Changes Following Installation of Zone Fares

Beginning on Jan. 1, the same day the change of fares became effective, the San Diego (Cal.) Electric Railway made changes in routing of cars, so that all cars now have their terminals downtown. This facilitates the collection of fares under the newly adopted zone plan, and also improves the efficiency of the service in the opinion of the company's operating officials.

#### MANY LINES CHANGED

The Woolman Avenue and Old Town line, formerly known as Route No. 8, which ran from Woolman Avenue, in the southeast part of the city, through the business district and to Old Town, in the north part of the city, has been cut in two. One of the new routes retains the old No. 8, while the other will be known as No. 5. The new route 8 runs from Third and Broadway in the business district along Broadway, State and India Streets to Old Town (Ramona's home). The new route 5 runs from Third and Broadway in the business center to Fifth, along Fifth to Market Street, thence along K Street to Twenty-fifth, and along Twenty-fifth to Woolman Avenue. The mileage of the two routes is the same as was included formerly in the one.

Service was suspended over what was formerly known as route No. 5, extending along F Street from Twenty-fifth to Arctic, a distance of about 1.7 miles. This route paralleled largely that portion of the old No. 8 route which is now operated as route 5.

Service was also suspended over a portion of route 13, which formerly operated from First and Washington along Third Street to Spruce, then on Spruce to Fourth and on Fourth to Broadway. One block of track was laid on Spruce to carry the cars to Fifth, on which routes 1 and 3 operate, and route 13 also runs from Spruce through the downtown district to L Street on the Fifth Street tracks. Service was suspended on Fourth from Spruce to Broadway, dispensing with the use of 1.5 miles of track. The service on route 13 was increased, however, from a twenty-minute to a ten-minute service.

#### BEACH LINE DISCONTINUED

Operation of 2 miles of track on the Ocean Beach line was also discontinued, the cars now stopping at Ft. Foe and Santa Cruz, Ocean Beach, instead of continuing around the Ocean Beach loop constructed by the Point Loma railway. With the change the Point Loma company ceases to be an active operating company, such of its track as is

used being paid for on a flat rental basis by the San Diego Electric Railway.

Service was also discontinued for a few blocks on B Street by changing the routing of East San Diego cars to Broadway and the union depot loop instead of B Street.

According to information obtained from the office of M. J. Perrin, manager of transportation, the changes simplify the operation of all the lines.

The company issued a printed bulletin describing the changes in service, which was distributed on the cars and to every residence in the districts served.

## \$962,546 Net for Standard

### This Result Achieved Without Considering Any Profits from Company's Oil Properties

The Standard Gas & Electric Company, Chicago, Ill., earned in excess of 7½ per cent on its common stock in 1919 after the payment of all charges and preferred stock dividends. The foregoing results are without considering any part of a substantial surplus of Shaffer Oil & Refining Company, which has been put back into that property in carrying out its extensive construction program and none of which has been declared out in the form of dividends on its common stock, of which Standard Gas & Electric Company owns the majority.

Earnings of Standard Gas & Electric Company for 1919 were as follows:

Net revenue	\$2,960,896
Interest charges	993,781
Balance	\$1,967,114
Preferred cash dividends	939,568
Amortization of discounts	65,000
Balance	\$962,546

Standard Gas & Electric Company has had the best year in its history with every prospect of further marked improvements in 1920. The Shaffer Oil & Refining Company is carrying out an extensive construction and drilling program on its large acreage in Louisiana, Texas, Kansas and Oklahoma, which it is anticipated will more than double the production of that company during the coming year. The apparatus for the cracking process to be installed at the company's refinery at Cushing is now approaching completion and it is anticipated that this large cracking plant will be in full commission by July 1 this year. This will still further increase the revenue of the Shaffer Company, due to the greatly increased production of gasoline.

It is said that the utility, oil and other properties of Standard Gas & Electric Company enter the new year with the most satisfactory conditions in their history.

## Net Income Increase \$225,403

### Details Are Presented of Earnings of Capital Traction Company for Year Just Ended

The Capital Traction Co., Washington, D. C., reports earnings as follows for the year ended Dec. 31, 1919:

		Increase
Passenger revenue	\$4,516,185	\$1,025,485
Special car revenue	74	74
Mail revenue	170	*335
Total revenue from transportation	\$4,516,430	\$1,025,224
Revenue other than transportation	19,230	*19,417
Railway operating revenue	\$4,535,661	\$1,005,806
Operating expenses	2,831,159	748,099
Net operating revenue	\$1,704,501	\$257,706
Taxes assignable to railway	313,334	26,343
Operating income	\$1,391,167	\$231,362
Non-operating income	12,941	*738
Gross income	\$1,404,109	\$230,624
Deductions from gross income—		
Interest on funded debt	\$280,300	
Interest on unfunded debt	412	
Rent of leased roads		4,569
Miscellaneous deductions	4,134	
License free, track- age space	1,200	
	290,616	5,221
Net income	\$1,113,492	\$225,403
Dividends	720,000	
Surplus for year	\$393,492	\$225,403
Profit and loss adjustments—		
Credit:		
Balance at beginning of year	497,493	
	\$890,986	
Debits:		
Loss on buildings and equipment retired	\$390,482	
Uncollected accounts written off	3,067	
Material and supplies adjustments	81	
	393,630	
Profit and loss balance at end of year	\$497,355	\$138
* Decrease.		

## Boston Net \$343,333 in December

A financial statement for the month of December made public by Chairman James F. Jackson of the board of trustees of the Boston (Mass.) Elevated Railway, shows the company's receipts in excess of expenditures for the month were \$343,333.

Chairman Jackson points out that travel is always greater in December than in any other month. The cost of operation during that month is at a minimum.

There was little if any expenditure in December for reconstruction or tracks. There were no snowstorms in December.

From fares alone the company received \$2,915,130 and the total receipts from all sources were \$2,971,317. The operating expenses were \$1,930,386. Of this amount \$1,292,919 was for wages.

The total cost of service was \$2,627,983. The company hauled 29,538,204 revenue passengers. The company received an average of 10.059 cents from each of these passengers and the cost of hauling them was an average of 8.897 cents each, of which labor costs were 4.377 cents each.

## \$2,785,000 in Dividends on \$250,719,000 of Fixed Capital

### Many Significant Facts Brought to Light in New York Commission's Résumé for Year—Only One Company in Twelve Paid Dividend

There are sixty-nine electric railroads operating under the jurisdiction of the Public Service Commission for the Second District of New York, using 3,019 miles of single track. Increased rates of fare are in effect in thirty-one cities with increased mileage rates generally outside of cities and villages.

#### ONLY SIX COMPANIES PAY DIVIDENDS

There were seventy-two companies in operation in 1915 as against sixty-nine in 1919, including seven in the hands of a receiver. Of these companies, eighteen declared dividends in 1915 and six in 1919. The total investment or fixed capital represented in these properties is \$250,719,000, upon which the dividends paid in 1915 totalled \$2,785,000. The dividend appropriation for the first nine months in 1919 was \$176,124. It was \$259,555 in 1918.

Results of operating these companies for the first nine months in 1918 and 1919 follow:

	1918	1919
Operating revenues..	\$27,273,268	\$30,230,430
Operating expenses..	21,614,104	24,860,146
Net operating revenue .....	\$5,659,164	\$5,870,284
Tax accruals.....	1,719,359	1,778,098
Operating income.....	\$3,939,805	\$4,092,186
Gross income.....	\$4,438,375	\$4,837,380

The net corporate deficit, after payment of interest charges on bonds and other debts and not including dividends or betterments to rolling stock or tracks in 1918 was \$2,498,754 and in 1919 \$2,180,801.

An analysis of reports of companies shows that from 1915 to 1918 operating revenues of railroads increased 13 per cent, while operating expenses, including wages, increased 41.6 per cent and taxes 14.8.

These percentages show increased cost of operation in nine months in 1919 over 1918. Operating revenues increased 10.9 per cent, but in the outgo column operating expenses, principally wages, increased 12.7 per cent and tax accruals 3.4 per cent. Net revenue from railroad operation increased 3.7 and the gross income 9 per cent. A decrease of \$317,953 was reported in the net corporate deficit of the lines, \$2,180,801 in 1919 as against \$2,498,754 in 1918. There was a falling off in dividend appropriations of the six companies of \$83,431, or \$259,555 in 1918 and \$176,124 in 1919.

#### REVENUE PASSENGERS INCREASE

Revenue passengers carried in 1918, 403,427,091, jumped to 425,661,163 in the corresponding nine months in 1919, but there was a falling off of 1,948,864 in revenue car-miles operated.

The operating ratio increased from 66.49 per cent in 1915 to 81.27 per cent in 1918. The ratio of transfers to revenue passengers in 1915 was 25.76 per cent and in 1918 25 per cent, show-

ing that one out of every four passengers was transferred and carried on another line for a single fare.

In its report to the Legislature the commission said:

That electric railroads are a necessity to the well being and advancement of communities is demonstrated by the fact that from 1915 to 1918 passengers carried on cars increased 40,771,000. This increased use of electric railroad transportation indicates necessity which, it is believed, can not be satisfactorily met by any other present means of transportation.

The net results of operation on electric railroads in this Public Service district, as well as throughout the country, in the past have been such as to threaten the existence of the industry. A number of companies have been forced into receivers' hands and the value of the securities of nearly all the companies has been impaired to such an extent as to make it difficult for them to secure funds to make necessary additions, betterments and improvements.

## "Fair Present Value"

### Maryland Commission Says This Must Be Basis for Rate Values—A Truly Constructive Policy Necessary

The opinion accompanying the decision of the Public Service Commission of Maryland in passing upon the recent fare case in Baltimore is a remarkable commission document, in that the commission states unequivocally that if rates are to be based on value, they must be based upon "fair present value."

The commission further holds that "with the end of the war the time has come when we can no longer be satisfied merely to preserve the *status quo ante* of utilities subject to our jurisdiction." "Rather," says the commission, "has the time come for the inauguration of a truly constructive policy in the case of business enterprises of all kinds, our public utilities included."

#### PUBLIC VITALLY INTERESTED

The order of the commission in the fare case of the United Railways & Electric Company was referred to in the *ELECTRIC RAILWAY JOURNAL* for Jan. 10, page 124. The opinion of the commission follows in part:

If rates are to be based upon value, they must be based upon "fair present value," and conditions are still so far from normal that we would not feel justified at the present time in accepting present-day prices as conclusive of that fair value which should be used as the basis for the making of rates to remain effective for any considerable period in the future.

On the other hand, we would not feel justified in continuing longer to fix rates upon the "war emergency" basis, since the theory of that method of rate-making was merely to preserve the *status quo ante* of the property and business during the period of the emergency created by the pendency of the war.

With the intimate knowledge of the company's affairs, acquired through a period of what is now nearly ten years, this commission is firmly convinced that the present and future welfare of this community requires the preservation of the property of the company, and its continued operation in the service of the public not only unimpaired, but in a position to meet all reasonable demands incident to the growth of the city and community.

While the property of this company nominally belongs to its stockholders, subject

There are a number of causes to which this result can be attributed, one being establishment of the 5-cent fare in cities during the early days of electric railroad transportation and its continuance through successive periods of so long a duration that the public has come to consider this basis a proper one regardless of conditions affecting the earnings of these companies.

This condition exists in places to the extent that serious consideration has been given the replacement of street railways by other means of urban transportation rather than permit companies to increase fares to provide for increased operating expenses including necessary facilities for proper service.

The use of the privately-owned automobile has had a detrimental effect upon the earnings of railroads within city limits and the competition of automobiles operated for revenue outside of cities, has been an important factor in the impairment of revenues on interurban railroads.

The reason why the net results of operation have approached a disastrous condition, the report continues, can be largely attributed to the abnormal increase in operating expenses and taxes, reports showing that during 1915 and 1918 operating revenues increased 13 per cent, the operating expenses 41.6 per cent and taxes 14.8 per cent.

to mortgages held by its bondholders, the public itself is interested even to a greater extent than either the stockholders or bondholders in the continued operation and maintenance of such property.

In the case of operation, the public is the first to suffer from inadequate service. Inasmuch as proper service can never long be rendered in any line of business enterprise without reasonable compensation, it is incumbent upon the public to pay for the kind of service it desires, and such public cannot justly complain if it does not receive a character of service better than that for which it has paid.

But the requirements of the public will be by no means fully met merely by a satisfactory operation of the company's present property and equipment.

The city of Baltimore is one of the most important commercial and industrial centers in the country. This growth during the past twenty years has been regular and consistent, and has kept pace fairly well with our other large cities. During this period it has been necessary for the railroads company to add to its service equipment and property in order that it might keep up with the community which is has undertaken to serve. During the war the advantages of Baltimore as a commercial and industrial center, and as a place of residence as well, came to be appreciated to a greater extent than ever before with the result that a new impetus was given to our city and it has now fully entered into an era of prosperity and growth the like of which it has never enjoyed at any time in the past. But the city cannot continue to grow to advantage unless the railway system continues to grow as well and keep abreast in all respects with the community which it serves.

It appears by the petition of the company that it now has under consideration plans for the expenditure in the near future of \$3,000,000 to \$4,000,000 in the purchase of some 300 to 350 cars, the improvement or reconstruction of approximately 40 miles of track and the general improvement of service.

This money is to be expended for the benefit of the public. The surplus which the company accumulated in pre-war times, together with the depreciation reserves which had been accumulated under more favorable conditions, has been exhausted. Therefore the company has no funds at the present time with which to make these improvements. Hence this large sum must be borrowed, and in order to borrow the same the company must have credit with the investing public.

Companies with assets in some instances of a value several times in excess of their outstanding obligations and with assured earnings three, four, five and six times their interest charges, are offering 6 and 7 and in some instances as high as 8 per cent for the use of funds with which to further develop their business.

With such a demand for the use of money, investors are demanding substantial security for their loans, and are insisting that there be both a substantial equity in the property over the amount of funded securities and assured earnings largely in excess of the aggregate interest charges thereon. If less than this is offered, the investors will either decline to make the loan upon any terms whatsoever, or will insist upon an abnormally high rate of interest in order to compensate them for the additional risk taken in making the investment. This last means either that the interest rate itself must be abnormally high or that the securities be sold at a discount which will yield the desired rate.

#### SECURITY HOLDERS MUST BE PROTECTED

In the case of a public utility, where securities are sold at a discount with the consent of the State regulatory body, the utility is entitled to charge the public in addition to what would otherwise be the cost of the service, the amount necessary to amortize such discount during the life of the security. Where, on the other hand, the interest rate is made abnormally high with the consent of the State regulatory body, good faith requires that the purchasers of such securities be protected in their investment by the fixing of rates which will enable the utility to pay such abnormally high rate of interest.

Thus, in either event, the public is the one to suffer most where the financial credit or any of its utilities is so far impaired, that it is obliged to pay abnormally high prices for the loan of funds to be used in improving its property or service for the benefit of the public. It follows that the prospective investors shall be given reasonable assurances of earnings materially in excess of the company's interest charges.

Pending the establishment of fares based upon a valuation of the company's property or the adoption of a plan, under which fares will be more or less automatically established upon a basis of actual cost of the service rendered, it is the belief of this commission that an earning capacity of one and a half times the fixed charges of the company is reasonable and necessary and in the interest of the public. A portion of the responsibility for earning such balance to surplus should be placed upon the company, and this responsibility can and should be met by the exercise of all reasonable economies and efficiencies on its part. But the commission is not to be understood as undertaking to establish in the future rates and fares estimated to yield such a balance to surplus of \$1,500,000, or to increase existing rates in order that they may yield such amount. We merely mean that it is not our intent to refuse such earning capacity, provided the company, by diligent, sensible, economies and good service can produce such surplus. If, in time, the balance to surplus under any existing rate of fare, should come to exceed such \$1,500,000, the commission, of its own initiative, will proceed to consider the propriety of reducing rates of fare then in force.

Pending the institution and coming into full effectiveness of such economies and increased efficiency, it was at the date of the original opinion and is now the view of this commission that the rates of fare authorized to be charged by the company should be such as may reasonably be anticipated to yield a balance to surplus of approximately \$1,000,000 after the payment of the company's operating expenses, taxes, fixed charges, and the making of reasonable allowances for the maintenance of the property and of its accident and depreciation reserves.

#### COMMISSION MAY RECONSIDER

In other words, if, after exercising what may seem to the commission to be a reasonable economy and efficiency in the operation of its property, it appears that the company is unable to earn under the established rates such a balance to surplus of approximately \$1,000,000 the commission stands ready, upon request of the railway, to reconsider the estimates set forth in its original opinion, and also the rates of fare authorized to be charged by our Order No. 5120 passed pursuant thereto.

But in fixing \$1,000,000 as the minimum balance to surplus which the company should be permitted to earn under existing conditions, this commission is not to be understood as undertaking to guarantee such balance to surplus at the expense of the public and at any and all hazards.

It will be noted that we have conditioned our conclusion as to such balance to surplus, first, upon the exercise of reasonable efficiency in the operation of the property, second, upon the exercise of reasonable economies, and, third, upon the expenditures of no more than reasonable amounts for the maintenance of the property and of its accident and depreciation reserves.

### \$161,536 Deficit in Des Moines

In spite of the fact that the Des Moines (Ia.) City Railway carried 2,169,200 more passengers in 1919 than it did the year previous the company has a deficit of \$161,536 on its year's business.

These figures are gained from the annual report of the company made to the City Council by Scott Goodrell, city car supervisor.

Gross receipts for the year were \$1,856,097. Operating expenses were \$1,492,542.81. The number of revenue passengers increased by more than 2,000,000, but the free passenger list was cut from 1,064,068 in 1918 to 859,889. The number of transfers taken up during the year was 5,604,616. The total number of passengers carried during the year was 41,878,777.

The deficit was caused by the increased wages paid to the trainmen. The amount paid to trainmen in 1919 was \$623,851, an increase of \$154,240 over the previous year. The trainmen's wages equaled 33.61 per cent of the company's gross earnings. The operating cost per passenger is shown by the report to be 4.6 cents.

### Arranging to Resume in Wellsburg

There is a possibility that local railway service will be restored in Wellsburg, W. Va., in a few weeks at the most, according to a letter received by City Solicitor C. J. Jacobs, of Wheeling, from C. P. Billings, general manager of the Wheeling Traction Company.

Mr. Billings has informed the city solicitor that the matter was being taken up with the union relative to the operation of one-man cars in Wellsburg. Under the circumstances it is not thought that the union will insist on the company placing two men on a car from Wellsburg.

A list of stops on both the Pan Handle line and the S. W. & W., to be eliminated will also be submitted by Mr. Billings. In all probability the company will receive the most favorable consideration on this question.

Through the action of the railway in trying to work out a plan to restore the local cars, possibility of court action or the Public Service Commission is eliminated.

### Seattle Made \$10,659 in Seven Months

According to a report filed by Thomas F. Murphine, superintendent of public utilities, with the Mayor and City Council of Seattle, Wash., the municipal railway, during the first seven months of its operation as a city-owned utility, made a net profit of \$10,659. The total gain or profit cleared by the railway between April 1 and Oct. 31, according to Mr. Murphine's report, was \$527,883. From this was deducted \$460,237, interest on utility bonds; \$53,499 being the estimated amount of industrial insurance;

and \$3,487, which is in addition to damage claims already paid out during the period, on the assumption that the damage claims will total approximately \$7,000 a month. The total revenues of the system for the period mentioned are placed at \$3,177,365; operating expenses, \$2,649,481; total car-mileage by city cars, 9,692,032 miles. The employees' wages have been increased approximately thirty-three per cent, while their working day has been standardized to eight hours.

### Receivers Want to Earn 8 Per Cent on \$13,158,000 Valuation

The receivers of the Memphis (Tenn.) Street Railway, at a hearing before the Public Utilities Commission of that State on Jan. 16, formally applied for an allowance of \$13,158,000 as an amount invested upon which they should earn, and upon that amount they asked a rate of return of 8 per cent and upon additional capital invested hereafter a rate of return equal to the rate upon which such capital is secured.

The receivers placed the present day replacement value of the property at \$19,000,000. They further declared that a renewal and replacement reserve should be accumulated from the earnings upon the premium of 4 per cent of the value of the depreciable property. This they contended aggregated \$7,761,000.

The receivers also asked for an 8-cent fare. They declare such fare is essential to meet the allowances applied for to render first-class service in Memphis.

The reports of the engineers covering the appraisal of the property of the company were referred to at length in the ELECTRIC RAILWAY JOURNAL for Jan. 10, page 120.

### Chicago Traffic Increasing

A statement issued by the Chicago (Ill.) Surface Lines shows the earnings, expenses and passengers carried for December. An interesting feature of this report was the showing as to operating ratio, including taxes, for December, 1919, 1918, 1917 and 1916, the figures being 77.48 per cent, 77.29 per cent, 68.33 per cent and 64.03 per cent respectively.

Comparing December, 1919, and 1918, there was an increase of \$1,311,522 in gross earnings, \$1,021,953 in operating expenses and taxes, and \$313,854 in the receipts which are divided between the city and the companies. Comparing the divisible receipts with a normal period, however, there was a decrease of \$98,234 as against December, 1916.

Total passengers for December, 1919, and 1918, were 111,226,671 and 102,679,918 respectively. The average fare per passenger, including revenue, transfer and free, was 3.85 cents against 2.90 cents. Trainmen's wages were \$1,470,248, compared with \$1,024,705, and total of all wages was \$2,229,960, against \$1,549,832.

## Public Utility Business Is Your Business

The Illinois Committee on Public Utility Information is carrying on in that state a helpful campaign for fair play toward the corporations which furnish public service. The committee has recently distributed thousands of pamphlets entitled "A Letter About Your Business." The letter is addressed to "Mr. and Mrs. Security Holder." It points out that there are approximately 230,000 owners of utility securities in Illinois, and more than 2,000,000 indirect owners or persons who have an interest in the prosperity of savings banks and insurance companies. It also sets forth that fully 70 per cent of the \$1,000,000,000 of public utility securities of Illinois corporations are owned within the State.

With these facts as a basis, the security holders are urged to be more active in the safeguarding of their property. Comparison is made with the owner of a grocery store, who, if anyone attempted to injure his business, would immediately seek redress. As a part owner in the utility business, the security holder is reminded of his duty to answer unfair charges and let the newspapers know that the corporations which render public service have some friends. He is also told of the helpful effect of writing commendatory letters to public utility commissions and other regulatory bodies upon the rendering of unprejudiced decisions.

## Financial News Notes

**Bond Issue Proposed in Chicago.**—The Chicago (Ill.) City Railway has filed a petition with the Illinois Public Utilities Commission for permission to issue \$1,928,000 of 5 per cent first mortgage gold bonds.

**I. R. T. Wants Tenders of Bonds.**—The Interborough Rapid Transit Company, New York, N. Y., is calling for tenders of its first and refunding mortgage 5 per cent gold bonds due Jan. 1, 1966, to exhaust the sum of \$248,218.03, now on deposit in the sinking fund.

**New Directors for Warren Street Railway.**—Robert H. Jackson and Warren M. Preston, Jamestown, N. Y., have been elected directors of the Warren Street Railway. Mr. Jackson has been counsel for the company for several years. Mr. Preston is vice-president of the company.

**Conference on Valuation.**—Tusca Morris and A. J. Colburn, attorneys, Fairmont, W. Va., and Chief Engineer Cline, Parkersburg, representing the Monongahela Traction Company, held

a conference on Jan. 5 with the engineering department of the Public Service Commission relative to valuation of the properties of the company in Parkersburg to be made by the commission.

**Car Trust in Indiana.**—The Interstate Car Trust Company, Indianapolis, Ind., incorporated with a capital stock of \$225,000, will supply the Interstate Public Service Company with eight new interurban cars for service between Indianapolis and Louisville. The usual car trust certificates will be issued, but the details of the transaction have not been announced.

**Car Trust for Trenton.**—The Trenton & Mercer County Traction Corporation, Trenton, N. J., has made application to the Board of Public Utility Commissioners for approval of a plan of financing under which the company proposes to buy forty new cars at a total expense of \$240,000. The cars will be bought from the J. G. Brill Company and \$60,000 must be paid at the time of the placement of the order and the remainder on installments. All the indebtedness for the cars would be secured under the familiar car trust plan.

**Court Approves Car Purchase Details.**—Judge Julius M. Mayer in an order in the Federal District Court has approved and confirmed contracts made by Lindley M. Garrison, receiver of the Brooklyn (N. Y.) Rapid Transit Company, from the J. G. Brill Company for 200 safety cars. Of the new cars, 108, costing in the aggregate \$672,685, are to go to the Brooklyn Heights Railroad; seventy-three cars, costing \$454,685, to the Nassau Electric Railroad, and eleven cars at a cost of \$68,514 for the Brooklyn City Railroad. The Brooklyn, Queens County & Suburban Railroad will receive eight cars, costing \$49,828.

**Ordered to Restore Service.**—The City Council of Wellsburg, W. Va., in special session on Jan. 5 ordered C. P. Billings, vice-president and general manager of the Wheeling Traction Company, to restore railway service there immediately. Cars were stopped in Wellsburg six weeks ago, the company taking the position that the local system was not a paying proposition. It was announced that the equipment that had been removed would be used to perfect the service of the company between Wheeling and Steubenville. Mr. Billings said that he would not carry out the order of the Council, but would take the matter up with the State Public Service Commission.

**Request to Issue Bonds Withdrawn.**—The Public Service Commission for the Second District has closed the application of the International Railway, Buffalo, N. Y., for permission to issue \$3,000,000 in ten-year debenture bonds. This action was taken at the request of attorneys for the International Railway asking that the application be withdrawn or discontinued. The present management of the company, it was stated, has come to the conclusion that

it is not now practicable to carry out the scheme of financing, as stated in the application, and that some new plan for meeting obligations and expenses outlined in the company's application must be devised. The city did not object to this action by the company.

**Illinois Property Transferred.**—The physical property of the Southern Traction Company of Illinois, recently sold for \$400,000 to C. B. Fox, president of the Aluminum Ore Company, East St. Louis, Ill., has been turned over to the purchaser by William Trautman, receiver. The transfer took place at the Southern Traction Company's offices in East St. Louis. It enables the purchaser to proceed with the work of erecting terminals and improving the road generally. A payment of \$200,000 was made when the road was bought. On Feb. 15, \$50,000 is to be paid and the final payment of \$150,000 is to be made on March 15. The road runs southeast from East St. Louis. It taps valuable coal property, some of which is owned by the Aluminum Ore Company.

**Dispute Over Service.**—Further testimony was taken on Jan. 26 before Supreme Court Justice Cropsey in Brooklyn, N. Y., to determine whether or not the service effected recently on Harry J. Blackham, general superintendent of the Staten Island Midland Railway, had been legal. The purpose was to determine whether the officers of the company were in contempt of court for alleged violation of the injunction which restrained the officials from discontinuing service on the line. After hearing several witnesses, Justice Cropsey ordered both counsel for the city and the company to submit briefs and adjourned the matter until Jan. 29. The abandonment of service by the company was referred to in the ELECTRIC RAILWAY JOURNAL for Jan. 24, pages 218 and 222.

**Bonds of California Road Offered.**—A syndicate composed of Blyth, Witter & Company, San Francisco, the Harris Trust & Savings Bank, Chicago, and E. H. Rollins & Sons, New York, have underwritten \$840,000 San Francisco-Sacramento Railroad first mortgage 6 per cent gold bonds. The company owns and operates a modern electric passenger and freight railroad of about 100 miles of main and branch lines extending from Oakland to Sacramento, with through trains connecting with ferries, giving direct service to San Francisco. This \$840,000 issue represents the entire bonded indebtedness of the company and will be secured by a first and only mortgage on all property. The company showed total interest charges earned 5.88 times for twelve months ending Nov. 30, 1919, and for the past five years the interest charges have been earned in excess of four times. The bonds are of serial issue, maturing 42,000 for 1921 to 1940 inclusive, and are offered at prices to yield from 6½ to 6¾ per cent. The bonds are due serially until 1940.

# Traffic and Transportation

## Court Upholds Fare

Appellate Division in New York Says Legislature Alone Can Authorize Increase in Rates

The Appellate Division of the Supreme Court sustained on Jan. 23 the decision of Justice Edward R. Finch of the Supreme Court restraining Lewis Nixon, Public Service Commissioner for the First District of New York and Receivers William R. Begg and Arthur C. Hume from increasing the rate of fare charged on the lines operated by the Manhattan & Queens Traction Corporation.

The opinion of the court was written by Justice Frank O'Laughlin, all of his associates concurring. The court holds as did Justice Finch, that a contract is a contract; that neither the Public Service Commissioner nor any one else has authority to authorize the railway to charge more than a 5-cent fare, in view of the terms of its agreement with the city, and that relief in the line of increased fare, if needed, must come from the Legislature.

### LEGISLATURE HAS FARE POWER

Justice O'Laughlin declares that the necessary permission to lay out and maintain a traction system was granted by the Broad of Estimate & Apportionment on July 15, 1912, being embodied in a formal contract between the city and the South Shore Traction Company, the Manhattan & Queens company's predecessor in interest, the city exacting payments of specified percentages of the gross receipts of the company annually, with a provision for a fixed minimum sum each year, and providing that the company should not charge any passenger a greater fare than 5 cents for one continuous ride from any point on the railway or any line or branch operated in connection therewith, to any other point thereon or on any connecting line or branch thereof within the limits of the city, and that the rate of fare upon the local bridge cars or on through cars entitling passengers to ride once across the bridge should not exceed 3 cents for the bridge transportation. Also that the company should sell bridge tickets at the rate of not more than 3 cents for one, and 5 cents for two, and should carry free all members of the Police and Fire Departments when in full uniform. Subdivision thirteen of section five provides for a forfeiture for any violation or breach or failure to comply with any of the provisions of the grant of contract.

Admitting that the Legislature has power to increase the rate of fare, Justice O'Laughlin said in his opinion: "Whether the Legislature could deprive the city of its reserved right to

declare the grant forfeited for charging a greater rate than that prescribed" should be taken to the Court of Appeals for prompt decision.

In commenting on the decision Lewis Nixon, Public Service Commissioner for the First District of New York, said:

In all my talks I have stated with all the emphasis I could command that the responsibility was up to the city in the matter of fair increases. In the Manhattan and Queens case a hearing was called merely to bring out the facts. Obtaining a writ of prohibition was one way for the city to avoid responsibility for acting.

When I have the power in any instance no one will accuse me of hesitancy in using it. Let us hope that the decision of the Appellate Division will result in having the law construed so that all will understand it.

## Service by Interurban in City May Be Stopped

The city government of Milwaukee, Wis., has procured a court decision that the Milwaukee Electric Railway & Light Company has no right to render interurban service on its Milwaukee city lines, without first obtaining a city franchise for that business, except on certain parts of the city lines where the court found that the company has interurban franchise rights.

In consequence the residents of that city face the prospect of losing after Feb. 1, a service which has been supplied by the company for more than twenty years. Although the service has been a big factor in building up Milwaukee, it has never earned a profit for the company. The company says it can not afford to ask for or accept the interurban franchise on which the City Attorney insists.

The details of the changes in the interurban service necessitated by the decision of the court have not yet been fully arranged, but the company has stated that the changes will be announced in time so that all affected by them may make proper plans in their own interest.

In the decision in favor of the city the court, following an old decision of the State Supreme Court in a similar case, has indicated that damages might be collectable. The company says:

So doing the city government has set an example which thousands of other owners of abutting property might be expected to follow, if the company, accepting a franchise, should expose itself to that danger. Operating without formal franchise the company cannot be sued for damages. All that it can be made to do is to discontinue supplying interurban service over city streets. This, under the court's finding in the city's suit, we are required to do, beginning Feb. 1. The company is eager to serve, but cannot risk being bankrupted by thousands of damage suits, in order to continue serving for no profit.

The company has signified its willingness to sell to the people of Milwaukee any time the people are ready to buy. The case of the company is being widely advertised by the company itself in its own interest.

## New York Case Dragging

Effort Fails Which Was Made by Surface Railways to Speed up Traction Inquiry

The inquiry by the city officials of New York into the need of the traction companies there for additional revenue was continued during the week ended Jan. 31. The city is adhering to the program which it laid down for the conduct of the inquiry by continuing the sessions on the Interborough Rapid Transit Company before taking up the affairs of any of the other companies.

Following the adjournment of the hearings last week Mayor Hylan announced rather blatantly that the city had proved its case against that company. In consequence counsel for the receiver of the New York Railways on Jan. 28 requested that the city proceed to consider the affairs of that company. To this the Mayor demurred. The desire of the railway was to prevent the proceeding from dragging out to interminable length, particularly if the city had nothing more to prove with respect to the Interborough.

In consequence of the request from the New York Railways a lively tilt ensued as to the right procedure to follow, in which the Mayor exercised his prerogative as director of the inquiry by ordering both the receiver for the New York Railways and counsel for the receiver to be seated.

### ADDITIONAL TESTIMONY OF AUDITOR

Edward F. J. Gaynor, auditor of the Interborough, was recalled on Jan. 28 and identified documents relating to the financial affairs of the Interborough which were offered in evidence. One of the documents was the expense sheet, which showed that the payroll of the lines had increased from \$4,593,324.35 in 1905 to \$17,309,974.35 up to June 30, 1919. The reports did not contain a valuation of the I. R. T. properties, which James L. Quackenbush, general counsel of the company, said was due to the fact that Stone & Webster, employed by committees representing the security holders of the railroad, had pursued their examination along their own lines.

Corporation Counsel Burr asked where the receipts from note and bond issues had gone. The attorney replied that the statement accounted for \$74,980,460, the bulk of which, he declared, had not been diverted to outside securities, but had gone into the equipment of the subway.

Corporation Counsel Burr again brought out at this session the fact that the company had paid out more than \$20,000,000 in dividends between 1913 and 1917. In this connection Mr. Burr suggested that while the company was applying to the Public Service Commission for leave to issue notes it was at the same time distributing this "royal largess" in the form of dividends aggregating \$20,000,000. James L. Quackenbush, counsel for the company, objected to the use of the term "royal largess."

## Connecticut Case Closed

Objections Confined Largely to Zone Details Rather Than to General System

The Connecticut Company's rebuttal to charges of various towns in the State that its new zone system is inequitable was finished on Jan. 23. The Public Utilities Commission ordered the various parties interested to submit briefs to the commission before the close of business on Feb. 24. Oral arguments on the briefs will be made on March 2. The commission informally stated after the session on Jan. 23 that a decision in the matter would be reached probably some time in April.

Richard T. Higgins, chairman of the commission, said to a representative of the *ELECTRIC RAILWAY JOURNAL* after he had consulted with his colleagues of the commission on the question as to when a decision might be expected:

This is a matter of great importance, not only to the people of Connecticut, but to the entire United States, which is looking to Connecticut for a decision as to the practicability of a zone system. The hearing has covered a great deal more ground than the 6-cent hearing did and we shall go very carefully. If we should decide in favor of the zone system there might be some adjustments necessary. The decision may be looked for in April.

Attorneys for some of the towns attempted to have the commission rush the hearing to a completion, but Joseph F. Berry, the company's lawyer, said that he would have to have two weeks after getting a transcript of all the evidence before his brief would be ready for printing. Mr. Berry has to answer arguments from fourteen towns which have protested the system. There has been virtually no opposition to the zone system as such, but in nearly every case the length of rides has not been sufficient, the petitioners claim. Commutation tickets used to be sold on one line, but the company says it has given up that idea for good. It also has decided against all forms of tickets, because of the temptation to potentially dishonest conductors.

Some of the petitioners have indicated that they will argue for segregation of parts of the system. For instance, the city of Bridgeport says it would like to buy the Connecticut Company's lines within the city limits, feeling that it can make a 5-cent fare pay. The commuters of Manchester think that the Hartford division lines pay well enough to warrant a reduction of rates and they would have the 187 miles of line in that division operated as a separate unit.

## Seattle Sticks to Five Cents

At a special meeting of the City Council of Seattle, Wash., recently, that body adopted a resolution favoring the continuance of a 5-cent fare on the municipal railway. The Council also passed a resolution limiting the expense the system should bear for paving in business and residential districts. The resolution provides that "any deficits resulting from railway operation will be

met in some other way than by increasing fares beyond 5 cents."

Councilmen who opposed the resolution assert that it is "political piffle," and does not bind the Council, or any future Council, to the low fare policy outlined, since the present Council could, if it felt so minded, rescind the resolution at its next meeting.

## City Loses Again

Chicago Receives Set Back in Effort to Restrict Fare and Impound Revenues

The city of Chicago, Ill., lost another inning in its fight for a restoration of the 5-cent fare on the Chicago Surface Lines when on Jan. 22 Judge McGoorty of the Circuit Court refused the plea for a temporary injunction against a higher rate. The court also denied the city's request for an order impounding revenues collected in excess of that produced by a 5-cent fare. The hearing on the application for a permanent injunction was continued until March 9, and it is expected that before that date the Illinois Supreme Court will have passed on the question of the utilities commission's right to change the rate fixed by a contract ordinance.

The municipal authorities have been contending that a change in the ordinance terms concerning rates of fare constituted a breach of contract and that the agreement as to right of operation purchase price and a 5 per cent return on investment was thereby nullified. On this point the court said:

The right of the companies to operate their lines, the agreement to divide the net receipts between the companies and the city, the right of the companies to a 5 per cent return on their capital accounts, and the option given the city to purchase the railway properties in the manner described in the ordinances are questions on which neither the State nor the Public Utilities Commission has any control by virtue of the police power.

### WANTS COMMISSION'S POWER CURTAILED

The city also urged that if the commission has the power to increase rates in spite of the Chicago ordinance, such increase should be limited to such rate as would allow the companies to meet only operating expenses, not including a return on investment. The court held that "if it is once conceded that the commission has the power to regulate rates, it follows that such rate should be sufficient to include a reasonable return upon the present fair value of the property employed by such corporation in the public service."

The city also made much of the contention that when the Circuit Court of Sangamon County remanded the 7-cent fare case to the commission, the authority to collect such rate was annulled, and the appeal of the companies to the Supreme Court did not operate as a stay order. Judge McGoorty said the position of the city is not in accord with decisions of the Supreme Court. He, therefore, held that his court had no authority to issue an injunction or to give the other relief prayed for.

## Kansas City vs. Philadelphia

Kansas City Railways Points Out Wherein Two Cities Differ in Service and Obligations

In a comparison between the fares and operating conditions of the Kansas City (Mo.) Railways and the Philadelphia (Pa.) Rapid Transit Company, the *Railwayman*, the official publication of the Kansas City Railways, notes that the statement that the fare in Kansas City is 7 cents, while in Philadelphia it is 5 cents, is very misleading. The *Railwayman* says:

In the first place, Philadelphia car riders have to pay 3 cents for a transfer at 580 out of 900 transfer points in the city, and can get only one transfer at that, for if they do not reach their destination on that transfer they pay another nickel or walk. In Kansas City, on the other hand, there are free universal transfers, and you can use as many as necessary to continue your journey in the same general direction. In 1918 more than 50 per cent of the Kansas City car riders used free transfers, and in 1919 just 47.42 per cent of them rode on transfers. In Philadelphia 21.35 per cent used transfers.

It is pointed out that the average paid by all passengers of the Philadelphia Rapid Transit Company is 3.98 cents, while the average fare paid by Kansas City riders was 3.94 cents in 1919, and 3.32 in 1918. From 1915 to 1919, inclusive, the average fare in Kansas City has been 3.39 cents. The average length of car ride in the two cities is said to be practically the same. It is also pointed out that the Philadelphia Rapid Transit Company does not clean, pave, repave, or maintain the paving on its right of way, while in Kansas City the railway pays the whole of this burden.

In support of a contention that service in Kansas City is better than in Philadelphia, the *Railwayman* states that there were carried per trainman in Philadelphia last year 412 passengers, while in Kansas City only 360 passengers were carried per trainman daily. In continuing the article states:

There isn't a railway company in the country—privately owned and operated—that would not like the chance and privilege of doing what Philadelphia does. And it isn't just to any company in the United States to make comparisons with Philadelphia unless all the facts of the situation are set forth.

## Fare Increase Deferred in Buffalo

Thomas E. Mitten, Philadelphia, president of the Philadelphia Rapid Transit Company, and a member of the bondholders' protective committee of the International Railway, Buffalo, N. Y., was in Buffalo for several days during the week ended Jan. 24 inspecting the properties of the company with a view of recommending changes in the personnel of the operating staff.

While in Buffalo Mr. Mitten conferred with Buffalo bankers and members of the bondholders' committee relative to a plan to reorganize the Buffalo, Niagara Falls and Lockport lines. Mr. Mitten said that plans are also under way for the restoration of owl car service on about fifteen local lines. The owl car service was discontinued more than a year ago.

It is reported that Mr. Mitten is opposed to putting the 7-cent car fare authorized by the Public Service Commission in force in Buffalo just at the present time. Mr. Mitten's opposition to the 7-cent fare has been the sole reason why the higher fare has never been put into effect. It is said that the company's income at present is sufficient under a 5-cent fare to pay operating expenses. If the owl car service is restored, it is probable that the 7-cent fare may be made applicable to those who patronize the owl cars.

An inventory of the property of the International Railway is being made by Mr. Mitten with a view of determining the value of the company's property.

### Staggered Hours Again in New York

After a twenty-four-hour increase of 2,361 influenza cases in New York City on Jan. 24 with nearly as many persons stricken in Manhattan as were reported in the entire city during the preceding twenty-four hours, Health Commissioner Copeland took action to relieve congestion on the city's transportation lines to check the spread of the disease.

After long conferences with representatives of the railways, retail dry goods stores, motion picture and theatrical enterprises and the Public Service Commission, Dr. Copeland arranged for the opening and closing of offices, manufacturing plants, stores and places of amusement at such times as would permit the distribution, over a longer period, of railway traffic during rush hours.

The changes became effective at 1 A. M. on Jan. 28 and will be continued as long as is deemed necessary by the Health Department.

### Fare Protest Case Still Pending

Neither the Rhode Island Company, Providence, R. I., nor any of the nine or more cities and towns that appealed to the Supreme Court from the fare rates put into effect by the consent of the Public Utilities Commission has filed a brief either for or against the continuance of the fares now charged for rides on the cars.

After the matter was threshed out orally before the Supreme Court last fall, the cities of Pawtucket and Cranston and the towns of Warwick, West Warwick, North Providence, East Greenwich, Cumberland, Burrillville and Johnston were allowed until Dec. 1 and the Rhode Island Company was allowed until Dec. 22 to file briefs.

Later the time was extended until Dec. 15 for the appellant cities and towns and to Jan. 9 for the railway company, and finally to Jan. 12 for the appealing municipalities and to Feb. 2 for the railway. The dates for further hearing on the appeals were changed from Dec. 29 to Jan. 16, and finally to Feb. 9.

It was said on Jan. 16 that there will not be any hearing before the

court until the opportunity has been given for the Legislature to take some action looking toward the solution of the railway company's difficulties.

The successive postponements of the hearing have apparently been made by the consent of all parties.

### Second Kansas City Traffic Report

John A. Beeler has presented the second of his traffic suggestions as the result of the study which he is making for the Kansas City (Mo.) Railways. The report deals with conditions on Eighth Street. The previous report dealt with Twelfth Street. It is said that the application of the suggestions made previously by Mr. Beeler has speeded up traffic materially. A summary of the latest suggestions by Mr. Beeler follows:

Reduce number of car loading stops on Eighth St. between Broadway and McGee St. to four. Eight stops are now in effect.

An overhead system or viaduct should be considered in the near future from Wyandotte St. to Grand Ave. This would eliminate vehicular interference.

Reroute trams to reduce number now turning into and out of Eighth St.

Use the pre-payment plan of fare collection at the Main St. and principal elevated stations on Eighth St. during the period of heavy loading.

Lengthen the elevated platforms and the one at Main St., to enable four cars, two in each direction, to load simultaneously when necessary.

Raise the platforms so as to reduce the difference in level between the station platform and the car stop to assist in loading and unloading.

Steps should be taken to eradicate or at least minimize the short "kinks" in the elevated structure.

Follow general "double-berthing" plan now employed on Twelfth St. Eliminate vehicular parking on Eighth St.

### Chicago Elevated Fare Reduced

The Illinois Public Utilities Commission in an order issued on Jan. 29 directed the Chicago Elevated Lines to reduce their straight 8-cent fare by selling two tickets for 15 cents. The cash rate will remain at 8 cents. The order will become effective on Feb. 1.

Under the commission's order the fare to Evanston and Wilmette from Chicago is reduced from 14 cents to 12 cents, and within the Evanston city limits it remains at 6 cents. In complying with the order the company will issue paper tickets.

The commission authorized the straight 8-cent fare on the Elevated Lines several months ago, at the time when it permitted the Chicago Surface Lines to raise their fare to 7 cents. The fare on the Surface Lines has since been reduced to 6 cents by order of the commission.

### Seven Cents in Albany

The United Traction Company, Albany, N. Y., has been authorized by the Public Service Commission of the Second District to increase its fares. On all the city lines in Albany the fare will be 7 cents. The fare will also be 7 cents in Rensselaer. To Troy, Watervliet, Cohoes, Green Island and Waterford the fare will be 14 cents.

Zone A, in which the 7-cent fare will be charged, includes Rensselaer and

Albany as far as Garbrance lane. Zone B includes Troy, Watervliet, Green Island, Waterford and Cohoes, and 7 cents will be charged for urban and interurban traffic.

The same transfer privileges as those granted under the 6-cent fare will continue. The financial condition of the company was given by the commission as its reason for granting the increase, together with the fact that all materials going to make up the trolley system and its operation have increased since the 6-cent fare was granted in August, 1918.

Labor increases alone since the 6-cent fare was granted totaled \$184,000. The decrease in the number of passengers carried under the 6-cent fare from the old 5-cent rate averaged 4.25 per cent. The commission considered the question of the company selling six-ride tickets for 40 cents as an inducement to keep the future number of passengers carried as at present.

The decision was rendered on Jan. 22. It was expected that the Commission would file at once a new tariff of rates coinciding with the rates noted in the commissions order. The new rates become effective five days after the filing of the new tariff.

### Reports on Costs in Fare Case

George E. Taylor, chief engineer for the Public Service Commission of West Virginia, has reported to the commission on the cost of maintenance and upkeep of the track and equipment of the Charleston Interurban Railway.

A short time ago the commission ordered its technical experts, Mr. Taylor and Mr. Nease, to investigate the costs of operation of the company and its earnings, with reference to its rate application to increase the rates from 5 cents to 7 cents in the city limits of Charleston, W. Va.

The report of Mr. Nease has been filed, and with the receipt of the conclusions of Mr. Taylor, the case promises to be settled in the near future.

Mr. Taylor's report dealt altogether with the proper charges for the maintenance of the rolling stock and equipment and for the renewal of track.

For the upkeep of the physical condition of the trackage, \$39,370 should be charged annually, of which \$32,213 should go to the city lines proper, the report states. A total of \$8,000 should be charged to equipment maintenance, of which \$3,742 should go to the city lines.

For the maintenance of rolling stock, \$50,200 should be charged to lines of which \$28,120 should go to the city lines proper. The total cost of city line maintenance is \$64,075.

There are 10.12 miles of track in the city, Mr. Taylor estimates, and of this mileage 0.8433 miles should be renewed annually, he estimates. This will make an annual cost of \$67,080, of which \$54,885 should be charged to the city lines proper. A mile of track costs \$79,545.



## Transportation News Notes

**Asks Seven Cents in Penn's Grove.**—The Salem & Penn's Grove Traction Co., Penn's Grove, N. J., has applied to the State Board of Public Utility Commissioners for a 7-cent fare. The fare is now 5 cents.

**Will Discontinue Transfers.**—The Wichita Falls (Tex.) Traction Co., announces that it will discontinue transfers. Explanation is made that this action is taken as a means of increasing revenues, as the lines are now being operated at a loss.

**Wants Zone Increase.**—The Board of Public Utility Commissioners held a hearing on Jan. 24 on the application of the Shore Fast Line, Atlantic City, N. J., for permission to raise the fare 1 cent in each zone and increase the price of commutation tickets. Decision was reserved.

**Reduced Ticket Rate in Williamstown.**—The Lykens Valley Railway, Williamstown, Pa., operating in parts of Dauphin, Lebanon and Schuylkill Counties, has filed with the State Public Service Commission notice of decrease in rates for books of tickets to be sold at 5½ cents per zone instead of 8 cents, the cash fare.

**Decision Reserved in Fare Case.**—There was a hearing before Public Service Commissioner Thomas F. Fennell on Jan. 23 upon the proposed increase in the rate of fare, 5 cents, by the Black River Traction Company between Glen Park and Watertown, N. Y. Decision was reserved.

**Right to Charge Six Cents Extended.**—The electric railways operating in Dayton, Ohio, have been authorized to continue charging a straight 5-cent fare indefinitely. They were to have gone back to a basis of six tickets for a quarter on Feb. 22 if they did not merge by that time. Merger plans have been declared impossible.

**One-Man Cars in Rutland.**—For the past two weeks a new one-man safety car has been in operation on the South Belt line of the Rutland Railway, Light & Power Company in Rutland, Vt. The car has worked out a great deal better than had been expected. A new Birney car is ready for shipment, and as soon as it arrives, it will be placed in service on the North Belt line.

**"Punch" Tickets at Reduced Rates.**—A reduction in fares on certain lines of the Eastern Massachusetts Street Railway, Boston, Mass., was announced on Jan. 21 by the public trustees. The 10-cent fare is being reduced to sixteen rides for \$1 on a punch ticket. The lines affected are Woodlawn to Chelsea Square, Broadway and Eastern Ave.

to Chelsea Square, and County road and Malden Street to Chelsea Square, Chelsea.

**Seven-Cent Zone Desired.**—The Trenton, Bristol & Philadelphia Street Railway, Bristol, Pa., operating between Morrisville and Torresdale, Pa., has filed with the Public Service Commission of Pennsylvania a new tariff of passenger rates, increasing the zone fare from 6 cents to 7 cents. The fare was increased to 6 cents about a year ago. The new rate of fare will go into effect on Feb. 14. There are seven zones between Trenton and Torresdale.

**Eight-Cent Fare in Ossining.**—The Public Service Commission for the Second District, has granted authority to the Hudson River & Eastern Traction Company to charge an 8-cent fare on its main line in Ossining with free transfer to the Spring Street line and a 5-cent fare on the Spring Street line with a 3-cent transfer charge to the main line, during the winter months for a two years' period as authorized by the Ossining trustees.

**Discontinues Commutation Fares.**—The Bristol & Plainville Tramway Company, Bristol, Conn., has announced the discontinuance of all commutation fare books on its lines. The company is the only electric railway in the State which had maintained a 5-cent fare during and since the war. Commutation books have been sold, reducing the rate to 4 cents on the lines between Bristol, Plainville and Terryville. No change in the regular fare is contemplated, it is stated.

**Seven Cents in Cosmopolis.**—Application for increase in fares in the cities of Hoquiam, Aberdeen and Cosmopolis is made by the Grays Harbor Railway & Light Company in a new tariff filed with the Public Service Commission on Jan. 20. The company asks for a 7-cent fare within the cities and 10 cents between cities. School tickets would be sold at the rate of 3½ cents to the school board for distribution to pupils. Free transfers would be granted on lines in Aberdeen and Hoquiam. The new tariff will become effective on Feb. 20.

**Change in Interurban Rates.**—The Public Service Commission of Missouri has granted a rate of 1.3 cents per mile between terminal point and intermediate suburban towns over the Kansas City, Clay County & St. Joseph Railway. The present rate is 2 cents a mile. The new rates will become effective on Feb. 15. The points benefited will be from Kansas City to Liberty, from Kansas City to Ferrel View and from St. Joseph to Dearborne. Intermediate towns will pay the old rate. The company has a mileage of 83 miles. Its property was valued by the commission at \$4,800,000.

**Another Increase in Centralia.**—The North Coast Power Company has applied to the State Public Service Commission for permission to increase rates on railway between Centralia and Chehalis. The present rate is 10 cents, with a 5-cent fare to the fair grounds,

the half-way mark. The proposed new rate from Centralia is 5 cents to the city limits, 10 cents to the fair grounds and 15 cents to Chehalis, and the same from Chehalis to Centralia. Unless the increase is protested, the new rates, which are the same as were in effect before jitney competition forced the traction fares down, will go into effect on Feb. 16.

**M. & S. Rate Changes.**—Niles and Warren in Trumbull County have granted new franchises to the Mahoning & Shenango Railway & Light Company, Youngstown, Ohio, in which the 5-cent fare has been raised to 10 cents and the ticket rate established at seven for 50 cents with the proviso that these rates shall obtain for three years. After that time the rates will be determined on a service-at-cost basis, with the provision that they shall never exceed the specified rates. Under the old franchises a 5-cent fare was specified for hauls between the various cities of approximately 5 miles, with the ticket rates eleven for 50 cents.

**Appeal to the I. C. C.**—C. P. Billings, general manager of the Wheeling (W. Va.) Traction Company has notified the Council of Steubenville that the company has applied to the Interstate Commerce Commission for a new rate schedule on the Steubenville-Brilliant line of the Wheeling Traction System, stating that this action was taken after efforts to arrange a conference with the Councils of Steubenville and Mingo Junction had failed. The council has placed the matter in the hands of Solicitor Ralph Levinson, who will decide whether to go before the commission with the city's side of the case or take up the subject with the company.

**City Refers Fares to Commission.**—The City Council of Olympia, Wash., has put up to the Public Service Commission the matter of an amendment of franchise, permitting an increase of fares in the city from 5 cents to 7 cents on the lines of the Olympia Light & Power Company. The City Council adopted the report of the franchise committee instructing the city attorney to refer the railway to the commission for verification of its contention that increased fares are necessary, contending that the Public Service Commission is better equipped than the Council to determine the necessity for the increase.

**No More Smoking in St. Louis.**—The Public Service Commission of Missouri has issued an order authorizing Rolla Wells, receiver for the United Railways, St. Louis, to forbid smoking on cars at all times. The order becomes effective on Feb. 3. Under present rules passengers may smoke on the three rear seats when the weather permits the car windows to be open. The ruling is a result of a hearing on Jan. 8, at which both smokers and non-smokers were heard. The hearing was requested by Col. Albert T. Perkins, general manager under the receiver, who asked that the previous order—providing for smoking on the three rear seats—be rescinded.

## Personal Mention

### Dr. Hunt Retires

Dr. Charles Warren Hunt, after twenty-five years of service as secretary of the American Society of Civil Engineers, has requested that he be relieved from active duty in connection with that office. In compliance with his request, the board of directors on Jan. 21 passed a resolution appointing Dr. Hunt secretary emeritus of the society at a salary of \$9,000 for the coming year, and a salary of \$6,000 a year thereafter. It was also unanimously voted that Dr. Hunt be granted a leave of absence for six months, and that his services as secretary emeritus begin when his successor takes office.

At the annual meeting of the society in New York City on Jan. 21 and 22, Arthur Powell Davis was elected president. Mr. Davis is best known in connection with his work as director and chief engineer of the U. S. Reclamation Service. The other officers elected were: Vice-presidents R. A. Cummings and F. L. Stuart; treasurer, A. S. Tuttle, and directors Carlton Greene, C. W. Hudson, J. A. O'Connor, J. C. Hoyt, Anson Marston, and D. C. Henny.

The annual report of the board of direction indicated a net increase in membership for the year of 475 as compared with 343 for the previous year. The total membership on Jan. 1, 1920, was 9,408.

### Mr. Tulley Acting President

H. C. Tulley, vice-president of the Philadelphia (Pa.) Rapid Transit Company, has been elected acting president of the International Railway, Buffalo, N. Y., to succeed Edward G. Connette, resigned. Mr. Tulley's appointment was recommended to the directors of the International Railway by the bondholders' protective committee of which Elliott C. McDougal, Buffalo, is chairman.

James W. Samuel has been relieved of his duties as assistant secretary and treasurer of the United Railways, St. Louis, Mo., by Receiver Rolla Wells as in the best interests of the company. Mr. Samuel is about forty years old. He has been with the railway about twenty-five years, having entered the employ of the company as a clerk. He was a protegee of the late Robert McCulloch, who preceded his son, Richard McCulloch, as president of the company. Mr. Samuel occupied in turn many important positions with the company. For many years he was chief clerk in the office of the treasurer and four years ago was elected to the office of assistant secretary and treasurer. In addition to his connection with the United Railways, Mr. Samuel was interested with William V. Brumby, of

the publicity department of the railway, in the publication of the pamphlet "Know St. Louis," devoted to advancing the interests of the city.

### Mr. Pratt in New Field

Vice-President of Baltimore Company Resigns to Head New Finance Company

James R. Pratt, who has been a vice-president of the United Railways & Electric Company, Baltimore, Md., for several years and one of the best known and most popular of Baltimore's business men, on Jan. 21 severed his



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JAMES R. PRATT

connection with the railway in order to accept the presidency of the Federal Finance & Credit Company, a new organization with executive offices in the Munsey Building, Baltimore.

In announcing his resignation Mr. Pratt said that it was only natural that he should have many feelings of regret in severing his relations with the United Railways & Electric Company. The people and the press of Baltimore have been very kind to Mr. Pratt during his connection with the railway and he took occasion in announcing his new connection to express his grateful appreciation of the courtesy and co-operation which he has always received at the hands of the public and the press.

As president of the Federal Finance & Credit Company Mr. Pratt believes that he will have an opportunity for greater personal advancement and in aiding in the progress of Baltimore by giving it a new financial institution. Baltimore has made marked advance commercially in the last few years and being interested in the commercial growth and development of the city Mr. Pratt has long been anxious to assist in helping to take care of the

finances of the steadily increasing volume of business being done in the city.

As president of the Federal Finance & Credit Company Mr. Pratt will have associated with him A. J. Fink, as vice-president; W. L. Rigger, as treasurer, and until recently secretary and assistant treasurer of the Finance & Guaranty Company, and as directors the following gentlemen: Dr. M. H. Carter, of the Resinol Chemical Company; Len M. Frailey, capitalist, formerly officially connected with the Campbell Soup Company; George N. Reed, capitalist, of Reedville, Va.; Roland R. Marchant, city solicitor of Baltimore; W. H. Winstead president of the W. H. Winstead Company, Inc.; and Addison E. Mullikin, attorney-at-law.

Mr. Pratt went to Baltimore from Talbot County when a young man and secured a position with the railway, then the Baltimore Traction Company. He started as conductor and later served as motorman, from which position he was taken into the claim department as an investigator. While working as an investigator he studied law, graduated and was admitted to the bar. He was later made assistant claim agent and later assistant to the general manager, claim agent; assistant general manager, second vice-president and general manager and vice-president in the order named.

In commenting on Mr. Pratt's change the *Baltimore American* said editorially:

James R. Pratt, is a fine example of a man who, by industry and energy, directed by a clear brain, made himself a master of his work. For a quarter of a century Mr. Pratt has been connected with the United, rising by sheer force of worth and ability from the place of conductor to that of vice-president and general manager of the corporation. His promotion was gradual, but sure and steady as his ability was quickly recognized and the company made good use of his talents. Mr. Pratt is a Marylander, an Eastern Shoreman, and is proud of it. His success in his new financial field is assured. Men of his type do not fail.

C. R. Gowan, general passenger agent of the New York State Railways, Syracuse-Utica lines, has resigned to enter the life insurance business. He has been connected with the local lines in Syracuse and their predecessors for fifteen years, since leaving the public schools of his native town, Little Falls. He began, in Utica, as clerk to W. J. Harvie, then electrical engineer of the Utica & Mohawk Valley Railway and the Oneida Railway, and three years later became chief clerk to C. Loomis Allen, vice-president and general manager of these lines. Mr. Gowan's duties were increased by his appointment as general passenger agent, first of the above lines in 1910 and two years later of the Syracuse Rapid Transit Railway also. His headquarters were transferred to Syracuse where he had direct charge of Mr. Allen's office, and of that of B. E. Tilton, who became general manager in March, 1912. He retained the same title and duties in the New York State Railways, organized in November, 1912. Mr. Gowan's new affiliations are with the Syracuse office of the State Mutual Life Assurance Company, Worcester, Mass.

A. J. Johnstone has been appointed auditor of the Portland Railway, Light & Power Company, Portland, Ore.

F. I. Fuller has been promoted to have charge of operation of the Portland Railway, Light & Power Company, Portland, Ore., with the title of first vice-president.

John H. Van Brunt has resigned as vice-president and general manager of the St. Joseph Railway, Light, Heat & Power Company, St. Joseph, Mo., after thirty-one years of continuous service.

R. W. Shepherd, formerly auditor of the Portland Railway, Light & Power Company, Portland, Ore., is now general auditor and assistant treasurer of the Portland Railway, Light & Power Company, Portland, Ore.

B. C. Adams, manager of the Empire District Electric Company, Joplin, Mo., has been appointed to succeed John H. Van Brunt with the St. Joseph Railway, Light, Heat & Power Co., St. Joseph, Mo. Mr. Adams has been a member of the Doherty organization, which controls the St. Joseph property, from its earliest days, and has been general manager of the Lincoln, Spokane, Montgomery and Empire District (Joplin) properties.

Col. Diedrich Schindler, managing director of the Ateliers de Construction Oerlikon, Zurich, Switzerland, who has been in this country in attendance at the International Labor Conference, has returned to Switzerland. In connection with his visit to this country Col. Schindler took the opportunity to spend a few weeks in Cuba. His company is active in electrification matters in Europe and has at present a large number of electric locomotives under construction.

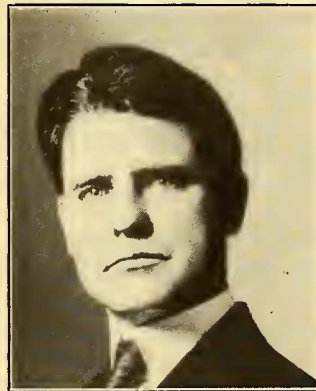
James F. Hamilton, president of the New York State Railways, Rochester, N. Y., was in New York City on Jan. 28, to take over the management of the Fourth and Madison Avenue surface railway at the request of the New York & Harlem Railroad, the original owners, to whom the lines were returned when they were separated from the New York Railways system by order of Federal Judge Julius M. Mayer on Jan. 21. The New York & Harlem Company is a subsidiary of the New York Central Railroad, which also controls the New York State Railways. The order of separation becomes effective at midnight on Jan. 31, and the independent operation of the lines under the direction of the Harlem company will begin at that time.

B. J. Yungbluth has resigned as general storekeeper of the Pittsburgh (Pa.) Railways to accept a position with the Mitten Management Co., Philadelphia, Pa., Mr. Yungbluth started his railway career with the Duluth South Shore Railroad where he rose to the position of storekeeper of the Hancock (Mich.) stores. He was connected with that company for seven years. He then became storekeeper for the New York Central Lines at Lima, Ohio, which position he held for four years. He be-

came affiliated with the Pittsburgh Railways in 1909 as general storekeeper and held that position until his present change. During this time he has greatly improved the methods of storekeeping and brought the department to a high degree of efficiency. He has contributed several articles to the *ELECTRIC RAILWAY JOURNAL* bearing on the efficient management of the stores department.

### M. T. Montgomery to Direct Pittsburgh Stores Department

M. T. Montgomery has assumed the duties of general storekeeper of the Pittsburgh (Pa.) Railways. Mr. Montgomery entered the electric railway field in 1898 as a conductor with the United Traction Company, now a part of the Pittsburgh Railways, subsequently becoming dispatcher and, later, manager of the traffic department. In 1908 he was appointed superintendent of the



M. T. MONTGOMERY

Mexican Tramway, Mexico City, Mexico. Six years later he was made manager of railways of the Monterey Railway, Light & Power Co., Monterey, Mexico.

Owing to the unsettled condition of Mexico he resigned his connection with the last-named company in July, 1919, and, returning to the United States, became special assistant to the general manager of the Pittsburgh Railways. As general storekeeper he succeeds B. J. Yungbluth, whose resignation is noted elsewhere in these columns.

C. L. Proctor, general manager of the Danbury & Bethel Gas & Electric Light Company, Danbury, Conn., will succeed at Joplin, Mo., B. C. Adams, who goes with the St. Joseph Railway, Light, Heat & Power Company, St. Joseph, Mo. Both are Doherty properties. Prior to his connection with the Danbury company, Mr. Proctor was new business manager of the Empire District Electric Company and general superintendent of the Athens Railway & Electric Company, Athens, Ga.

J. F. Sloan has been appointed assist-

ant purchasing agent of the Interborough Rapid Transit Company, New York, N. Y., and assistant purchasing agent for the receivers of the New York (N. Y.) Railways. Mr. Sloan has long been connected with the Interborough. He was formerly chief clerk in the office of the purchasing agent.

R. S. McDougall, claim agent of the New York State Railways, Rochester, N. Y., has been named by James F. Hamilton to be general manager of the Fourth and Madison Avenue lines in New York City, separated from the rest of the system of the New York Railways by the federal court as noted elsewhere in this issue. Mr. McDougall has been claim agent of the Rochester lines of the New York State Railways for a number of years. He was recently promoted to claim agent of the entire system of the company. In 1916 Mr. McDougall was elected acting president of the association by the executive committee at the mid-year meeting in Chicago on Feb. 4. He is now president of that association.

David W. Ross, vice-president of the Interborough Rapid Transit Company, New York, N. Y., in charge of contracts and supplies since 1908, has resigned effective Jan. 31. Mr. Ross previous to accepting the position as vice-president of the Interborough, was in the supply business in New York City. For a considerable number of years he was connected with the steam railroads, and before becoming a resident of New York was director of purchases of the Isthmian Canal Commission. He was born on Nov. 9, 1869, at Mineral Point, Wis. He moved to Chicago in September, 1887. In March, 1888, he entered the service of the Illinois Central Railroad as clerk in the telegraph department, serving with the company in various capacities until June 1, 1905, when he entered the service of the government. During his connection with the Illinois Central Railroad Mr. Ross was in turn secretary to the general superintendent, secretary to the general manager, secretary to the assistant of the vice-president, secretary to the second vice-president, chief clerk to the second vice-president, then purchasing agent, and finally superintendent of transportation. Mr. Ross has several proposals under consideration for re-entering business, but will not announce his plans until they are fully matured.

## Obituary

George F. Rand, chairman of the board of the Marine Trust Company, Buffalo, N. Y., who made an offer to purchase the property of the International Railway several months ago, was killed in an airplane accident near London. He was on his way via airplane from Paris at the time of the crash. He was fifty-five years old. The body was brought to Buffalo for burial.

# Manufactures and the Markets

DISCUSSIONS OF MARKET AND TRADE CONDITIONS FOR THE MANUFACTURER,

SALESMAN AND PURCHASING AGENT

ROLLING STOCK PURCHASES

BUSINESS ANNOUNCEMENTS

## Machinery Center Opened

Fifteen Firms Unite in Permanent Plant Equipment Display in New York City

Allied Machinery Company of America recently opened an Allied Machinery Center occupying 30,000 sq.ft. of exhibition and office space at Center and Walker Streets, New York City. The center has been established as part of an educational and sales promotion plan in the field of heavy plant and machinery construction, encouraging sound construction economies. Both export and domestic purchases are served. The following companies are represented: Austin Manufacturing Company; Austin-Western Road Machinery Company; Barber-Greene Company; Carbic Manufacturing Company; C. H. & E. Manufacturing Company, Inc.; Clyde Iron Works; Cook Motor Company; A. B. Farquhar Company, Ltd.; Hydraulic Pressed Steel Company, Lakewood Engineering Company; Parsons Company; Sterling Wheelbarrow Company; Thew Automatic Shovel Company; Western Wheeler Scraper Company; Wyoming Shovel Works.

At a luncheon given Jan. 27 to celebrate the opening of the Allied Machinery Center the speakers included Joshua W. Alexander, Secretary of Commerce, Senator Edge, W. L. Saunders, George Edward Smith, president of the Royal Typewriter Company, and former Secretary of Commerce W. C. Redfield. The chairman at the luncheon was Charles F. Lang of the Lakewood Engineering Company.

## Year's Lightning-Arrester Business Shows Increase

Season Prolonged by Heavy Fall Buying—Shipments Made in Reasonably Short Time

Regardless of the time of year, reports from manufacturers of lightning arresters indicate that during the past fall sales have been rather large. Current business is increasing, while sales for the month of October were especially high. In one case sales during that month were almost equal to those during the past spring and summer months and were about 100 per cent greater than for the same month in 1918. Another manufacturer sold at least 50 per cent more in October than in any previous month of last year.

Although it has not been possible to get figures from all manufacturers, it is generally agreed that 1919 sales will exceed those for 1918. Some reports have been received showing increases in sales of from 17 to 32 per cent over

the previous year. In one case this increase has come entirely in the last six months.

Deliveries are good and run from stock to six weeks. In one case they are given as good or bad, depending on the kind of product, with the expectation that in 1920 they will be good. Where stock cannot be accumulated, shipments are running up to six weeks, depending upon the requirements of the customer and the voltage ratings of the arresters. Even six weeks is considered rather short time for filling orders. One manufacturer who can fill orders in from ten days to two weeks has been materially assisted in this by the standardization of the product and a large stock of raw materials.

It is not expected that any increase in price will come into effect within

the near future. Advances in the neighborhood of 15 per cent in the past six months have been reported on account of increasing prices of labor and materials.

Increased business is looked for in view of the general business outlook and some new power and line developments. The future seems much brighter than the immediate past because it is believed that most companies now have more time and more money to devote to the question of lightning arresters than under conditions prevailing a year ago. At the same time, one manufacturer finds that the smaller utilities are buying more equipment. Taken all in all, the lightning-arrester season has been extended beyond normal, and increased business for the whole year has been satisfactory.

## Active South American Demand for Electric Railway Supplies

Total of Thirty-three Cars Placed Recently for Cuba and South America—Good Sales of Track and Roadway Equipment Expected

Manufacturers of electric railway supplies and accessories are making preparations to do a considerable amount of exporting business during the year. Although present rates of exchange will hold down sales from a European standpoint, much business is expected from South American countries, where rates of exchange are more nearly equal. In the case of Argentina, the rate of exchange is slightly against the United States. For the past half year, a number of manufacturers have had agents in Europe and the Latin-American countries finding out what the business is, and how it can be financed. These men are sending back promising reports and for certain lines it is assured that there will be a considerable amount of business.

### MARKETS BECOMING BETTER IN CUBA

Cuba has become a rather active market for rolling stock and railway supplies since the sugar shortage commenced. American interests are now going into Cuba on a large scale, clearing the land, putting up power houses, building railways and erecting sugar mills. This has been reflected immediately in the railway market, for during the last quarter of 1919 the Hershey Cuban Railway placed orders for sixteen steel motor cars, in addition to a considerable amount of other material. Thirteen of these interurban cars are 47 ft. long and of semi-steel construction, ten being passenger and

three being combination passenger and baggage cars. About the same time, the Matanzas Electric Railway placed an order for fifteen 28-ft. steel safety cars. Orders are expected from Havana and other sections of the island.

### SOUTH AMERICA OFFERS GOOD MARKET

Manufacturers are now totaling their sales for the past year for the Latin-American countries and especially for the South American field to get an idea of what the business has been. One of the largest manufacturers reports that its business in South America will amount to considerably more than that of 1918, although this includes electrical equipment from power and industrial sources as well as from the electric railways. Reports have been received that an electric street railway will be built in Barranquilla, Colombia, during the year. In Chili much railway work is contemplated. The government expects to electrify the lines from Valparaiso to Santiago, and some of the work will probably be done this year. Business as a rule has slackened quite considerably in Chili on account of the lessening of the demand for nitrates since the close of the war.

Better connections will naturally be established with South American ports in the near future by the laying of a cable from Rio de Janeiro to Cuba. This will have connection with the United States at the Barbados. Also

communication with Chili is expected to be made in the near future by the Western Union Telegraph Company, which is planning a line from the Canal Zone along the west coast of South America to Santiago, Chili.

In Brazil there is great activity in all lines. The government is planning to electrify the Central Railway and it is known that American firms will bid on some of this work. One railway, Cia de Traccao luz e Forca, Brazil, has placed an order in the United States for two 55-ft. motor baggage and passenger cars of the semi-steel type.

## Spikes, Bolts and Nuts Active

**Increased Production Needed to Supply Demands—Deliveries Lengthening Because of Heavy Railroad Buying**

Demands for spikes, bolts and nuts are increasing daily. Western railroads which recently placed rail orders up to 300,000 tons are now in the market and are buying up all available stocks. The delivery situation is gradually growing poorer. Present deliveries are three to four weeks on moderate quantities. It is estimated that 25,000 kegs of spikes have been placed by the railroads and producers are booked ahead for two to three months. Prices vary considerably, ranging from \$3.35 to \$3.85 per hundred pounds in carload lots.

Bolts and nuts are reported sold out for the first quarter with a considerable volume of business placed for the second quarter. Railroads are the principal buyers and purchases have been heavy of late. Trade bolts are quoted at \$6.50 base with carload lots 1c. a lb. less. Deliveries range from 45 to 60 days now but it is believed that by April, deliveries will range from 75 to 90 days.

The plates and angles are also in good demand and are quoted by several producers at 3c. a lb. at the mill for February and March delivery.

## Paint and Varnish Prices to Advance Soon

**Raw Materials Up—Inquiries Good with Volume of Business Fair—Deliveries Good**

Price advances are being marked up regularly in raw materials entering into the manufacture of paints, varnishes and enamel. There have been three advances recently in the pigment market with another increase expected at any time. Turpentine is now quoted at \$1.97 a gallon. It has been fluctuating since the last of December at which time it was quoted at \$1.79. The most recent increase of 11 cents a gallon during the past two weeks, according to reports, is due to heavy demand, both export and domestic. The supply generally is unsatisfactory, and it is not expected that there will be surplus stocks in the market until after the new crop comes in in April. Linseed oil is quoted at \$1.93 to \$1.95. White lead, which was fairly stable up to Jan. 1

at 14 cents, is now quoted at 14½ cents. Other raw materials are stable.

In the better grades of varnish used in railway work, prices have been advancing because of the higher cost of turpentine, which is used largely in its manufacture. Prices of varnishes now range on an average from \$2.30 to \$6 per gal. The present discount is 25 per cent off list price, but varies according to quantities ordered and is subject to other conditions. Most paints are up according to the price trend in pigments. Furthermore no general decline in prices is expected for some time to come. Prices now range from \$1.50 to \$6 per gal. net. The demand is not heavy at the present time in the railway field but is gradually picking up. Enamels now range in price from \$2.75 to \$6 per gal. net.

Brushes are a gauge of the manufacturers' troubles. There is much difficulty in securing brush makers and the situation is becoming more serious all of the time. According to several large distributors, an advance in price is expected shortly on account of the acuteness of the bristle market. Stocks are badly broken and prospects of replenishing are poor.

Cans and containers for paints and varnishes have advanced from 30 to 60 per cent. In addition, deliveries on certain sizes are and have been quite uncertain. The cost of paper used in making labels for cans has not increased appreciably, but the printing of the labels has advanced considerably.

Deliveries of paints, varnishes and enamel are good and no trouble has been met up to the present time in this respect. From all predictions this spring and summer will experience demand of paints and varnishes in practically every line, not only in new work which will open up in the building trades, but also in all branches of the railway industry.

## Rolling Stock

Pekin (Ill.) Municipal Railway is in the market for three cars.

Indianapolis, Columbus & Southern Traction Company, Columbus, Ind., has placed an order with the Cincinnati Car Company for eight cars.

Spokane & Inland Empire Railroad, Spokane, Wash., plans the expenditure of \$60,000 for conversion of present two-men cars to the safety type.

## Franchises

South Covington & Cincinnati Street Railway, South Covington, Ky.—W. T. Rossell, superintendent of the South Covington & Cincinnati Street Railway has announced that the trackage plans for and approaches to the new Dixie Terminal have been completed and the company now is negotiating for the purchase of equipment to be installed on the lower floor of the new building. Newport cars are to enter the terminal

on the first floor, until the building is completed; Covington cars also will use the first floor. After the completion of the terminal building the Covington division cars are to enter from the Suspension bridge to the second floor and are to make a loop on the first floor, Mr. Rossell added. The loops are planned to hold several cars, and passengers entering the receiving stations will be required to purchase tickets for their respective lines at a ticket office to be placed at the entrance of the loop.

## Recent Incorporations

Warren Street Railway, Jamestown, N. Y.—This company will erect a new freight station in Jamestown to cost about \$10,000.

San Francisco & Sacramento Railroad, San Francisco, Cal.—The articles of incorporation of the San Francisco & Sacramento Railroad were filed at San Francisco on Dec. 31, 1919. The new company, which is the successor to the Oakland, Antioch & Eastern Railway, is capitalized at \$8,000,000. Incorporators are: Hugo Arnstein, Walter Arnstein, L. L. Levy and Jesse H. Steinhart, all of San Francisco; H. E. Mitchell, William E. Garvey, S. T. Marr and H. J. Sutherland of Oakland, and S. P. Westinghouse of Alameda.

## Power Houses, Shops and Buildings

Reading Transit & Light Company, Reading, Pa.—The Reading Transit & Light Company's Roadway Department is making plans for carrying out a general rehabilitation of suburban lines during 1920, practically all of the work done in 1919 having been confined to city lines.

With the holiday rush of traffic over, the company is enabled to give more attention to repairs to cars and other equipment. Considerable work in this direction has been done during the past ten days and will be continued until equipment is placed in the very best condition possible.

Marshall (Tex.) Electric Co. This company has announced that \$85,000 will be spent at once in installing new machinery in its power plant. The new equipment is needed for the proposed increased railway service and also for the additional power which this company will furnish to new industries. Two new boilers and two turbo-generators of 950 kw., will be installed.

Bamberger Electric R.R., Salt Lake City, Utah.—The Bamberger Electric R.R. plans to build a station at Kaysville during the present year.

The Wheeling (W. Va.) Traction Co. plans to construct a warehouse at Wellsburg, W. Va., for the storage of freight.

## Track and Roadway

**Pacific Electric Railway, Los Angeles, Cal.**—The Pacific Electric Railway is laying tracks along the waterfront in San Pedro east of the present tracks, preparatory to the construction of a new passenger station.

**San Francisco-Oakland Terminal Railways, Oakland, Cal.**—The California Railroad Commission has ordered the city of Richmond, the San Francisco-Oakland Terminal Railways, and the Southern Pacific Railroad to make improvements to the MacDonal Ave. subway, Richmond, to the extent of \$50,000. The San Francisco-Oakland Terminal Railways must rearrange and properly construct its track so as to have one track in each barrel of the subway.

**Sarnia (Ont.) Street Railway.**—Engineers of the Ontario Hydro-Electric Power Commission are conducting a survey of the system of the Sarnia Street Railway with a view to the purchase of the latter by the city.

## Trade Notes

**Henry Ford & Son**, are at work on their new gasoline car and expect to make a trial run some time in March.

**Roi B. Woolley**, who has been director of publicity of the Society for Electrical Development, Inc., for the past two years is now with Thomas F. Logan, Inc., advertising agency, New York.

**Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.**, announces that J. G. Miles has been appointed supply division manager of the Seattle office, succeeding C. V. Aspinwall, now the company's representative at Spokane, Wash.

Mr. Miles has served several years as the head of the insulation section, and has been responsible for the exploitation of bakelite and bakelite mica products, as applied to insulation and gears.

**Duff Jack Sales Company, Ltd., 245 Oxford St., London, England**, has been formed to represent the Duff Manufacturing Company of Pittsburgh in the British Isles, and has been given the exclusive agency in this territory for Duff and Barrett jacks.

**Wolverine Tube Company, Detroit, Mich.**, has moved into its new plant at 611-625 Central Ave., comprising two and one-half acres of land with 30,000 sq.ft. of floor space in the factory, which will afford greater facilities for producing brass and copper tubing.

**Joyce-Cridland Company, Dayton, Ohio**, manufacturer of Joyce jacks, announces the opening of its New York office on the fifth floor of the Grand Central Palace at Forty-fifth St. and Lexington Ave. Arthur S. Beattys, Eastern Sales Manager, is in charge.

Lieut. L. M. Clark has recently become associated with the Railway Im-

provement Company, New York, in the sales department. Lieut. Clark was formerly master mechanic of the Indianapolis Street Railway and the Terre Haute, Indianapolis & Eastern Traction Company.

**Harper, Bean, Ltd., London, England**, has been formed in London to include A. Harper & Sons & Bean, iron founders; Vulcan Motor & Engineering Company, Swift, the British Motor Trading Corporation, Steel Manufacturers of Sheffield and a number of subsidiary manufacturers of electric lighting and starting sets.

**General Electric Company, Schenectady, N. Y.**, has added 40,000 sq.ft. to its factory at Windsor, Conn., which was purchased about fifteen years ago from the Eddy Electric Company, then in bankruptcy. About 150 employees will be added. Small motors and other supplies of lighter character are produced at Windsor, with Arthur A. Bailey as general manager.

**W. Jerry Stanton** has accepted a position with the Ohio Brass Company. Mr. Stanton has been identified with the electrical industry for the past twenty years, having started with the General Electric Company. For eighteen years he remained with them in their testing, engineering and sales departments. Since that time he has been with the Railway Improvement Company and the National Railway & Appliance Company.

**Pacific Auto Railcar Company, Sacramento, Cal.**, reported to be a million dollar industry, has completed plans for its factory along the Twelfth St. road, just north of Sacramento, and will soon start construction work. When finished the plan will cover eight acres and is expected to provide employment for 400 workers. Railway motors cars and automobile bodies will be manufactured. A. R. Meister is in charge of the affairs of the company.

**Economy Electric Devices Company, Chicago**, has recently closed an order with the Indiana Union Traction Company for the equipment of the 105 high speed interurban cars of that company with Economy meters. These meters will be furnished with the special inspection dials which are a popular feature of the Economy meters. Other recent orders of the Economy Electric Devices Company are with the Rochester & Syracuse Railroad for meters for all classes of interurban cars belonging to that company and with the Stark Electric Railroad for a complete installation of meters for its city and interurban cars.

**Vickers, Ltd., London, England, and Brown-Boveri & Company, Paden, Switzerland**, have made working arrangements which cover not only British business but also the British colonies and certain European countries. The Vickers company has acquired the sole British and colonial rights in all the patents of Brown, Boveri & Company, Ltd., and the latter firm undertakes to conduct no direct business in

any part of the British Empire. In addition, direct combination is to take place between the subsidiary undertakings of both companies in France and Italy. Vickers, Ltd., has also purchased shares in the Brown, Boveri Company to the amount of £280,000. The arrangement will lessen the risk of competition of continental firms, as there are now only two neutral manufacturers who are capable of building large generating sets such as those required by the Edinburgh Corporation.

**Stone & Webster, Boston, Mass.**, has announced the addition of six new partners all of which have been connected with the organization for long periods. These are: Frederick P. Royce, a graduate of Massachusetts Inst. of Technology of the class of 1890 and long connected with the development, financing and management of public utilities and recently in the analysis and investigation of the Brooklyn Rapid transit and Interborough Railway system; George O. Mulfield, a graduate of Cornell, 1897, and affiliated with the construction department, specializing in hydro-electric development; Henry B. Sawyer, formerly treasurer of several companies managed by the Stone & Webster Corporation and recently engaged in the construction of a 30,000 kw. hydro-electric plant in Japan; Frederick S. Pratt, Harvard 1894, engaged in the development of chemical projects and formerly in charge of the Puget Sound Traction, Light and Power Co.; Harry H. Hunt, a graduate of Massachusetts Inst. of Technology, 1889, connected with the management of various public service companies under the control of Stone & Webster Corporation, and Howard L. Rogers, a graduate of Massachusetts Inst. of Technology, 1893, a member of the division of engineering and construction for many years.

## New Advertising Literature

**V. V. Fittings Company, Philadelphia, Pa.**: Inserts for catalog No. 21 on new types of Safety Switches.

**C. H. Whall Company, Boston, Mass.**: A booklet on the character, uses and possibilities of hard fiber.

**Underfeed Stoker Company of America, Detroit, Mich.**: A thirty-one-page booklet containing much interesting information regarding coal from various geographical sections of the country.

**Cutler-Hammer Manufacturing Co., Milwaukee, Wis.**: A booklet "Electrical Operation of Gate Valves" which contains an address given by Peter Payne Dean before the Metropolitan Section of the American Society of Mechanical Engineers.

**Portable Machinery Company, Inc., Passaic, N. J.**—Bulletin on portable belt conveyors for handling material horizontally or at a slight incline. In addition to handling coal, sand, crushed stone, etc., they are also being used for conveying manufactured products, such as cement, etc., affording a flexible, and automatic conveying arrangement.