Electric Railway Journal

Consolidation of Street Railway Journal and Electric Railway Review

Volume 54 New York, Saturday, July 26, 1919 *Number* 4

What the Hearings at Washington Show

IT IS a wonderful story which has been told in Washington this week—the story of the creation from small beginnings, of one of the nation's great industries. The witnesses include some of the pioneers who had faith in electric power when few or no cars were being propelled by it on city streets, operators who have taken an active part in the development of the modern electric road, bankers who have financed many of the undertakings, business men and others outside the industry who realize the necessity of adequate urban and interurban transportation, and presidents and receivers who are endeavoring to work out the problem of keeping these lines in efficient service or retrieving as much as they can from the wrecks of those which have been unable to withstand the financial pressure to which they have been subjected. It is a remarkable epitome of one of the nation's largest public services and probably unprecedented in magnitude of interests involved and is being given directly by those who took an active part in all phases of this development.

It is a story of achievement in transportation methods and inventive genius in creating means for the economical transportation of large numbers of people for comparatively short distances. It is also a story of successes and failures, of extravagant hopes and bitter disappointments and of money gained and money lost in an endeavor to serve the public.

The story thus being told in Washington has its tragic side, even its sordid side, yet as a whole it is one of which any body of men can well be proud. In the early days the struggle for the most part was against physical obstacles. Every effort was made to perfect electrical equipment and adapt the largely unknown force to the haulage of passengers. Motors, cars and track were built only to be discarded for something which seemed better adapted to the work to be performed. The issue many times was doubtful yet men courageously ventured all they had on final success. During the later days the struggle has been principally against financial conditions, and the endeavor has been to operate on a financial basis that was as much outgrown as the cars and equipment of the early nineties and should long ago have been discarded.

During all of this time the people have been carried in rapidly growing numbers, for longer distances, in constantly increasing safety and convenience and at lower charges. And now the leading men in the industry are appearing before a federal commission in an effort to determine some method by which these inestimable advantages to the public can be retained and the service of these companies to the people can be made even more useful than in the past by being placed on a permanent basis.

A New Basis Is Necessary to Relieve the Situation

THE hearings before the Federal Electric Railway Commission during this past week have already demonstrated clearly two points, namely:

(1) There is necessity for immediate relief for the great majority of electric railway companies in the country, and

(2) The fundamental or ultimate relation between the railways and the cities which they serve must be different from that under which most electric roads have worked since their inception.

For the reasons already outlined, it is probable that this change would have had to come even if the war had not occurred and suddenly changed the status of values. The old system began to be obsolete when competition ceased and the consolidated roads in a city became a monopoly and this monopoly was accepted by the State. Up to that time the management of a street railway company was largely a private affair, and its policy as regards extensions and service was determined by the owners of the roads. But when monopolies came into existence the State in self defense had to regulate them. This led to the establishment by the State of standards of service and the supervision of security issues, and the days were over when a street railway could be run with the freedom of a private commercial enterprise. The financial conditions brought on by the war have thus only hastened a crisis which was bound to have come sooner or later. But unless the worn-out features of the old arrangements are abandoned and the roads are put on a fundamentally sound basis, any relief which is extended now can be temporary only.

The future basis for agreement between the railways and the cities (or State) should include the following:

(1) A determination of the value of the property.

(2) The establishment of what would be a reasonable return on such value.

(3) A decision from a traffic standpoint as to what portions, if any, of the railway system in each community may be abandoned with resulting economy and not too great public inconvenience; in other words, the determination of the most economical and desirable layout of the system for existing conditions and future growth.

(4) The discontinuance of imposts, such as paving costs, franchise taxes and other charges which have nothing to do with transportation but increase the cost of operation and thus discriminate against the car rider.

(5) The adoption of a flexible fare system which will be remunerative and at the same time encourage riding.

The street railway itself is in no respect obsolescent, and its place cannot be taken by automobiles or any other known means of transportation, nor is there any indication that this condition will change. It must remain as the chief reliance for urban transit. But the conditions under which most of the street railways in the country are operating, and have operated since horse-car days, have become antiquated and should give place to more modern methods.

It is a plan to accomplish this which we hope the commission now conducting hearings at Washington will evolve.

Electric Railways Will Now Get the Public's Ear

THE evidence being presented at Washington is the most valuable collection of data on the condition of the electric railways and their need for relief that has ever been made. Independent, therefore, of any decision which the commission may reach as to the remedy for present conditions which may be applied, each company has at its disposal an important source of material by which it can enlighten its own public as to railway conditions. The association, recognizing that this would be the case, arranged for the publication of a daily bulletin containing the high spots in the testimony and most important data presented at the hearings, and abstracts of the proceedings are being published in this paper.

One great difficulty which electric railway companies have had in the past in explaining their problems to their own public is that the people too often assume these troubles are local only. Here is an opportunity of proving to the public that the conditions are national in their extent and so universal and serious as to warrant the appointment of a national commission. A full knowledge of the facts by the public at this juncture will be most helpful in bringing relief.

The publicity to which we are referring can be obtained in many ways, but one of the best is through car cards and leaflets in the cars. The car itself is a logical medium by which the facts of the industry can be conveyed to the patrons. Leaflets containing some of these salient points developed each day at the Washington hearing can very properly be issued daily by the different companies for distribution and thus carry their message to the public. It is, of course, very important to use this information promptly, while the hearings have their maximum "news value." It is also advisable for the active manager to be sure that the newspapers and influential people in each railway's constituency understand the significance of what is now going on in Washington.

Are Zone Fares and Safeties Mutually Exclusive?

AS THE zone fare and the modern light-weight car are two of the biggest questions before the industry to-day, it is no wonder that operators are beginning to ask: Can we or can't we work the zone fare with one-man cars?

If the car were to be used on a system running through half a dozen communities over a run of 10 to 15 miles, we dare say that there would be something to think about in inaugurating half a dozen or more differential fares, but this is unnecessary where the street railway service is adjusted to the local needs of each community. The big cars might readily be reserved for the through service, while the smaller, lighter cars would be used for the development of local short-haul traffic. Generally speaking, all but our largest cities could get along with a two or three-zone system. A two-zone system embodying a short ride for a short fare and a complete route ride, if desired, for a larger fare may be found desirable in a large number of medium-size cities.

Before really going into the new problems presented by the zone fare, the railway ought first to exhaust every means of building up traffic under a universal fare. Increased service with lighter, new cars is certain to bring an increase in traffic. This increase in traffic may parallel the increase in car-miles up to a given point, after which every car-mile added brings less revenue per mile. It is only when the safety-car operator is sure that he has reached the saturation point possible with frequency of service alone that he should look into the question of securing still more traffic through short-ride fares, commutation tickets or other stimulants.

Of course, there are situations where one might begin with the zone fare first and then install more service. However, only the most stringent shortage of new money could justify this policy, for the reason that the installation of more frequent service with lighter units not only builds up traffic but also reduces the operating expenses at the same time. From this greater advantage, it follows that it will usually be found preferable to give increased service first and then to introduce the zone system which, in any event, can be a success only when the service is frequent enough to attract short riders. We may say, then, that instead of being mutually exclusive the zone fare and the frequent-service car are close partners.

How Long Will Wages Continue to Increase?

WHEN the National War Labor Board was created as a sedative for labor troubles during war time, some persons saw in this arrangement a rainbow which was to mark the passing of stormy times between employer and employee. A much larger number, including most railway men, were hardly so sanguine as that, but they did believe that the wage scales set would be proportioned to the financial ability of the companies to meet the burden. If the higher cost of necessities had hit the employees hard, it had hit the companies equally hard or harder, and the latter were well satisfied to leave to the War Board the way of finding the money to pay any additional wages, as well as to determine what a fair rate of wages was.

The National Board, however, rejected both the idea that the financial ability of the employer was a factor in determining the wages to be paid by him and that the board had the power to raise rates as well as wages. On the former point the federal body held that the companies had to pay the market price for materials and supplies and that poverty could not be pleaded as an excuse for not paying a fair price for labor—an argument which sounds all right by itself, although it occurs to us that a contract for labor during a certain period should be just as binding as a contract for material. As to power to increase rates, it was found the board had none, so that as a result of these decisions the companies were far worse off than before yet the heavy burdens thus imposed were assumed, because acceptance was considered a patriotic duty and it was worth while to be free from the prospect of wage controversy.

Developments have shown, however, that these "settlements" did not settle. It has taken less than a year for the men in Detroit and Cleveland, for instance, to become dissatisfied with the 48-cent wage which twelve months ago was considered high and to look upon nothing less than 60 cents an hour as adequate. In Boston a still higher rate has been granted. In several other cities the men are agitating and threatening strike for a wage scale higher than that fixed by the War Labor Board on their systems "for the period of the war." They are also urging in some places an eight-hour day and a six-day week, which, because of the peculiar nature of the railway business, means more than it would in general industrial establishments.

What the men feel they are entitled to because of higher cost of living is one thing; what the companies are able to pay is another. The authorities can bring these extremes together, and the only hope for stabilizing labor conditions so that electric railways can compete with other industries for the best type of labor lies in a public appreciation of the need of more elastic revenues.

Where It Pays To Mix

THE modern electric railway manager is expected to be not only a good all-around engineer but an all-around diplomat and mixer as well. Granted that he has this remarkable combination of talents, the question arises, How can he put the latter, and now more important, quality to the best possible use?

One's first tendency would be to say that he ought to take an active part in the doings of the Board of Trade, the Gyratory Club, the Noonday and the various other organizations which, in a way so typically American, combine business, good fellowship and civic patriotism. But is this enough? Is it not a fact that most of the men who belong to these organizations are largely owners of automobiles and not habitual street car riders? What will it profit to have the sympathy of fellow business men if the 100 per cent electric railway customer is not reached in the same personal fashion?

Therefore, may we suggest that the managers who are already tried campaigners for good public relations through club contacts of this kind go a step further by getting down to the folks who have no automobiles. And we believe that one of the best ways to do this is through the use of the moving picture theater. There, and there only, will one find all strata of society from the nabob, who does not ride but is an influence in the community, to the workman who even if he has no political power can refrain from using the cars if dissatisfied with the service. The manager need not feel that he is doing something absolutely novel, for the "Four-Minute Men" paved the way for him during the recent Liberty Loan campaigns. Furthermore, he may be certain that the general riding public would be only too glad to come into such personal touch with the man who is held responsible for so important a factor in their daily lives as electric railway service. We are inclined to believe that one or two sessions with *hoi polloi* will give the manager a truer insight into the feelings and viewpoint of the majority of car riders than a dozen banquets and song festivals in non-proletarian surroundings.

"Summer-ize" Your Cars!

NO ONE expects the return of those good old nights when father, mother and the children went out *en masse* to ride for hours and hours on gayly-lighted open cars. The electric railway is no longer enough of a novelty, and automobiles are altogether too numerous to expect such heavy summer-night riding as was common in the nineties and the decade following.

But to assume that summer-night riding is no longer worth cultivating at all is to make a costly mistake. A very large fraction of our citizens is still willing to use the trolley, for the good and sufficient reason that it cannot afford anything else. All that this goodly fraction is waiting for is an invitation. The open-bench car is by no means the only satisfactory form of invitation. If that type of car is going out, it is due to the fact that it cannot earn enough extra profit in sixty days to make up for its idleness the other 305 days. A "just-as-good," nay better, type of car for summer riding is a cross-seat car with large drop or raised sash in the sides and drop sash in the vestibule. Such a car, of course, must also be of the open bulkhead type. Whatever it lacks in seating capacity in comparison with the open-bench car, the convertible car more than counterbalances by its greater safety, freedom from air-blockading standees and immediate adaptability to changes in weather. Perhaps the most notable decision in this matter was that of the Tampa Electric Company, which actually replaced open-bench cars by Birney cars of standard type, although one would naturally expect a Florida city to hang on to the open-bench car longer than Northern communities.

To point out that there are still plenty of people who want to ride in trolley cars for the sake of keeping cool may seem like emphasizing the obvious. However, the fact is that the inspiration for these remarks came from some observations made in a large Western city and a much smaller neighbor thereof. In the large city the cars are still fitted with bulkheads. These shut off so much air that would otherwise come from the vestibule that the summer-riding value of the cars is utterly lost despite the fact that they are fitted with comfortable cross-seats. While doing some enforced riding on these cars early in July, the writer was struck by the large number of people who were sitting on the sidewalks in front of their homes instead of taking the extremely long ride available for a nickel. In distinction from this is the summer riding of the smaller town, where all the cars have open bulkheads and where the public is plainly pleased at the opportunity to use them for pleasure riding. Even in this town it is noticeable that the cross-seat cars are more popular than the longitudinal-seat cars, proving once again that the public knows what it wants when it wants it!

On the whole, it is not wise to jump to over-pessimistic conclusions. No matter how many automobiles there are, the car-riding habit grows by what it feeds on—service. Give service, which includes the right car as well as the right frequency, and "the man in the street" will more often be turned into "the man in the car."

The Zone Fare in Practice

The British Electric Traction Company

A Few Notes About Great Britain's Large Holding Company—Although Granted No Fare Increases Over Statutory Rates, the Company Has Managed to Escape the Worst Because of Large Increase in Travel—How Paper Tickets Sold at a Farthing Were Used to Stimulate Riding as Close to Destination as Possible — New Standard Cars Embody Many American Principles

BY WALTER JACKSON

THE electric railway undertakings of the British Electric Traction Company are organized in accordance with the provisions of the tramways act of 1870 or the light railways acts of 1896 and 1912. Under the tramways act franchises are limited to a life of twenty-one years, after which the local authorities have the option of purchasing the property at intervals of seven years upon six months' notice.

The light railways acts provide a different method of procedure for securing operating rights, etc. These acts were intended to promote the construction of cross country lines with grants from the government if necessary. Like the tramways act, however, they were hedged about with so many restrictions that they have proved a farce in practice. This is tacitly recognized in the new act constituting a Ministry of Ways and Communications, in which this subject receives considerable attention; but, at this writing, the future is obscured in doubt.

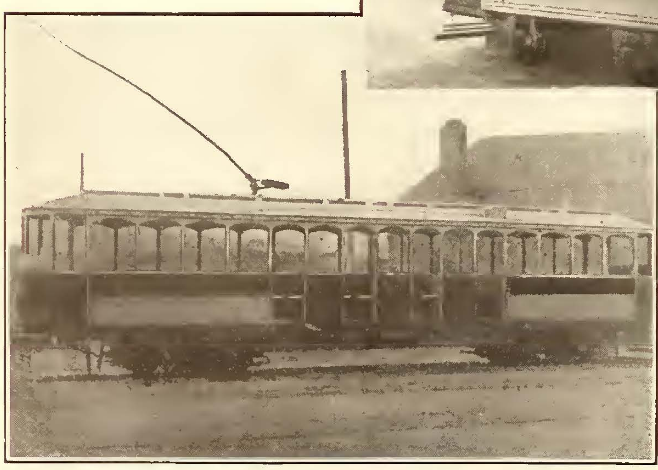
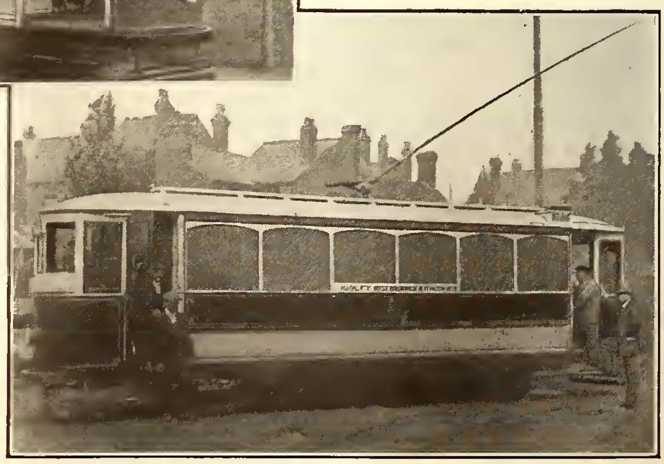
The franchises under the tramways act of 1870 also specified the conditions under which packages or freight could be carried. In practice, however, freight development was seriously hampered by the lack of facilities for through running and by the fact that the maximum freight rates authorized were too low.

As a class the franchises impose the obligation that the tramway shall be responsible for the paving between and for 18 in. on each side of the rails. In some cases lighting obligations are added. The running of specific services and the erection of waiting rooms are among other miscellaneous conditions.

Maximum fares are specified in various special acts which supplemented the tramways act of 1870. In most cases the company has the right to charge a minimum fare of 2d., and in other cases a fare of 2d. for any distance in excess of ½ mile. Yet a minimum fare of 2d. is still too high for the average Briton, and the customary minimum fare to the ordinary (non-workman) passenger is 1d. Generally not more than 1d. per mile may be charged beyond the first 2 miles.

The allowable return (if the company gets any) is not limited as a rule. How meaningless this provision has become appears from a statement by A. W. A. Chivers of the British Electric Traction Company, who says that the average return of all British tramways, whether private or public, was only 3.03 per cent for the year preceding the war, with 4 per cent allowed for depreciation.

A number of properties have been relinquished to the local municipalities in accordance with the purchase provisions of the law. In making a valuation, the value is determined by the cost of replacement minus depreciation based on actual

TYPICAL BRITISH ELECTRIC TRACTION CARS
Type 1—left—B. E. T. car with removable panels, for cross-country service, seating fifty-six; type 2—above—B. E. T. double-deck car seating forty-eight; type 3—right—B. E. T. single-deck car, seating thirty-four, available for small-town service with single operator.

physical measurements such as rail wear, efficiency ratings of generating equipment, etc. Payment in some cases is on the basis of a going concern.

"WE ASKED FOR BREAD AND THEY GAVE US A STONE"

This was the succinct summary of the situation by Emile Garcke, chairman British Electric Traction Company, when asked what relief if any had resulted from recent legislation. The measure in question, passed by Parliament in 1918, authorized tramways to seek relief by applying to the Board of Trade with proof that their net revenues had been seriously decreased during the war. Since, as Mr. Garcke pointed out, tramway returns were already at a low ebb just before the war, there was not much nourishment in being told that such unsatisfactory standards might be maintained after a weary course of claims and counterclaims before the Board of Trade arbitrators. In effect, therefore, the act is useless.

Moreover, as most of the properties are small, it would not be wise to go to the minimum fare of 2d. allowed in some cases by law. What the properties would be benefited by most largely, aside from actual subsidies, would be the reduction of heavy paving tax burdens and the granting of through running facilities with neighboring undertakings. The present conditions, Mr. Garcke stated, are anything but encouraging for tramway development, and the ways and communications act only adds to the existing uncertainty.

ENCOURAGING FULL USE OF TRAMWAY FACILITIES

The standard system of fare collection embodies the use of fare receipts and registering punches as described in articles on other properties. Prepayment was introduced at Gateshead in 1912 and is still in use there, the cars having been remodeled for that kind of fare collection. The work of the conductors on B. E. T. undertakings is simplified as much as possible, particularly by avoiding the use of transfers. Ready reckoners are placed inside the ticket boxes of the conductors to assist them in making out their reports.

In 1909 the British Electric Traction Company adopted a most interesting expedient to encourage riding by introducing farthing (½-cent) stages on top of the maximum penny ride. At that time, the increments of a penny or a half-penny ride made the stages of such length that the average passenger was tempted to walk up to a fare point before boarding in order to save a half-penny, or to leave the car at a stage point for the same reason. Obviously this did not produce maximum revenue to the tramway or maximum service to the public. Quite often a man who had begun to walk toward a fare point would decide to continue walking, or if he did board the car he would not buy enough transportation to carry him as far as his destination.

Losses due to this cause cannot be minimized in large cities with dense traffic beyond the attractions offered by laps of 0.5 mile or so because the conductor needs this average distance in which to collect his fares. Consequently, the best that a line with dense traffic can do is to space the stages more or less irregularly to take advantage of natural traffic-gathering points.

This condition, of course, does not apply in the smaller towns as a rule, or on a few routes in the larger communities. Hence it is possible to work out

TRAFFIC STATISTICS FOR SOME UNDERTAKINGS OF THE BRITISH ELECTRIC TRACTION COMPANY FOR THE CALENDAR YEAR 1917

Undertaking	Route-Miles	Car-Miles per Route-Mile	Car-Miles per Car	Car-Miles per Car-Hour	Passengers per Route-Mile	Passengers per Car-Mile	Pence per Car-Mile
1	3.63	78,481	46,255	7.11	1,326,223	16.90	15.27
2	3.06	69,683	40,044	6.00	860,158	12.35	15.71
3	6.90	70,489	44,539	7.53	1,128,844	16.02	15.50
4	10.32	96,952	48,038	7.22	1,881,004	19.40	18.47
5	22.88	44,802	50,722	7.18	560,622	12.52	16.89
6	12.38	100,412	48,285	7.23	1,575,044	15.69	16.41
7	6.47	44,168	40,013	6.05	415,558	9.41	11.67
8	7.42	137,635	46,566	6.95	2,012,750	14.63	14.31
9	2.54	78,852	48,795	7.51	821,603	10.42	12.57
10	4.60	28,278	42,532	6.64	181,256	6.42	13.53
11	3.70	74,341	36,616	6.30	753,171	10.13	13.55
12	8.51	46,609	50,564	7.54	446,404	9.58	15.69
13	9.00	75,070	44,301	6.52	756,748	10.08	14.44
14	5.35	48,046	36,215	6.21	444,317	9.25	11.09
15	31.67	75,867	41,079	6.34	891,280	11.75	14.27
16	4.81	26,559	42,269	8.55	193,116	7.27	15.40
17*	2.48	26,488	19,695	5.22	302,267	11.41	10.49
18	8.17	50,231	45,262	7.33	460,906	9.17	11.65
19	17.30	66,421	49,419	7.47	887,026	13.35	16.68
20	13.00	101,386	44,958	6.48	1,089,467	10.75	13.96
21	1.75	75,072	37,812	6.64	437,857	5.83	5.22
22	4.21	62,759	37,866	7.29	674,188	10.74	17.96
23†	2.92	32,403	25,014	5.42	331,147	10.22	14.77
24	15.51	48,489	44,139	6.94	611,749	12.62	14.04
25‡	5.86	51,039	28,756	5.18	660,019	12.93	13.32
26	4.28	28,039	38,775	6.29	197,186	7.03	11.96
27	22.35	54,190	46,062	7.13	598,240	11.03	15.17

NOTE—The foregoing figures do not include two steam tramways and one foreign property.

* The figures for this undertaking are for six months only.

† This is a seaside undertaking (Weston).

‡ This is a cathedral town (Worcester). The "service hours" are below the average, and the service starts late in the morning.

a plan whereby, as Mr. Chivers puts it, "a passenger should be able to enter a car at any point and get the the full value for his fare." The plan as adopted in 1909 involved the use of the smallest coin of the realm, the farthing. As actual farthings were scarce, the company devised a strip ticket (see page 156), which was sold at face value and accepted in lieu of copper.

Under the "fair fare" plan, as it was designated, the minimum fare usually remained at 1d. but above the penny fare there were 1¼d., 1½d., 1¾d. fares and so on, according to the number of stages traveled. On many routes the long-distance fares were on the basis of more than four sections for 1d. As shown in Fig. 1, which compares penny end-on stages with farthing stages, a passenger traveling from stage "0" to stage "5" under the farthing plan would have to pay only 1¼d., whereas under the old system he would have to pay 2d.,

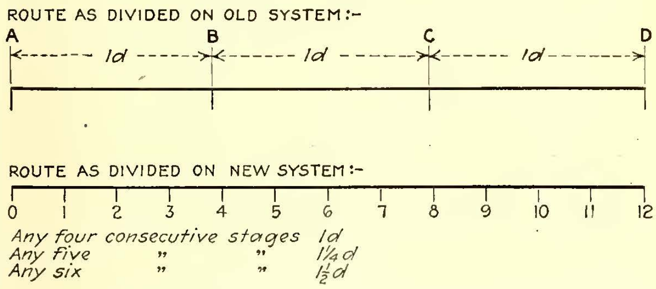


FIG. 1—ZONE DIVISIONS UNDER B. E. T. "FAIR FARE" PLAN

that is to say, if he did not get off and walk after riding a penny-worth. The passenger would also be likely to board the car in more comfort than if he had to take his chances with a crowd at a penny end-on stage.

The introduction of the shorter stages made possible by the farthing increment scheme was accompanied by the use of numbered stages. As the numbers were marked on the poles, the passenger was in no doubt as to his alighting point, since he had to watch only for the same number as that punched on his ticket. For still better identification, each section of the route was marked black or white by painting black or white bands around the poles. In addition, the sections were numbered consecutively by means of plates on the boundary poles of each section. One part of the plate bore the number of the completed section, and the other bore the number of the section just beginning. The black and white arrangement thus worked out is shown in Fig. 2.

The tickets were arranged on the same principle, as shown in the accompanying views of 1d. and 1¼d. specimens. On these tickets the adjoining sections were distinguished by one being black and one of the color chosen for the specific denomination. When a passenger paid his fare, the conductor punched the ticket opposite the number of the stage to which the passenger was entitled to travel. Thus, if he got in at

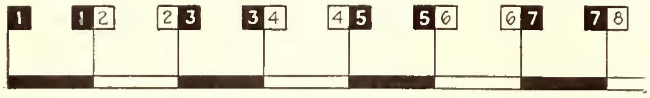


FIG. 2—DIAGRAMMATIC VIEW OF B. E. T. LINE WITH BLACK AND WHITE SECTIONS

stage "2" he was entitled to ride to any point in "5" for a penny (or vice versa), the fare being, say, four sections for 1d. Likewise, if he traveled from stage "2" to stage "6," he would pay 1¼d. instead of 2d.

With the coming of the war, the farthing became too microscopic in value to be used as a fare increment. But by the time it was withdrawn it had done its work of creating the habit of taking the maximum-length ride instead of walking hundreds of yards to save a penny or even a half-penny. The car-mile earnings, even on routes where one can walk from end to end within an hour, are eloquent testimony to the strength of the riding habit in B. E. T. communities. It is also a fortunate fact for the company that war wages have been a big factor in increased riding. This has been the one offset to the great increase in the expenses of operation.

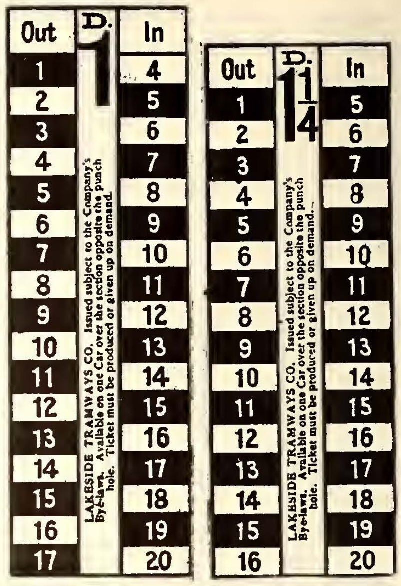
New Standard B. E. T. Cars

The company has recently developed three types of cars for use on its Black Country undertakings and on other properties to replace gradually the wide number of varieties now in service. These are illustrated on page 154.

Type 1 is a side-opening single-deck car, the openings being closed in winter by installing four doors on each side. This is a double-truck car, 44 ft. over all and 35 ft. over the body. It carries two GE-60, 35-hp. motors, which give it sufficient power to operate at fairly high speeds over country highways and right-of-way. The seating capacity is fifty-six.

Type 2 is a double-deck single-truck car 27 ft. over all and 16 ft. over the body. It has an 8-ft. 6-in. wheelbase and is equipped with two GE-249, 40-hp. self-ventilated motors. The top deck is covered, and the platforms are partly vestibuled. This car seats twenty-two below and twenty-six above. It is being used for service into Birmingham.

Type 3, the smallest, is probably the most interesting of the new cars. It is a single-deck thirty-four-seat car, 33 ft. over all and 22 ft. over the body, with a wheelbase of 8 ft. 6 in. Entrance is at the rear, as usual, but exit is on the rear side via a front door which, by means of a wire attached to the door-control handle, is operated only by the motorman. The motorman is ready to open the door as soon as the passenger operates a bell-cord inside the car or on the front platform, the idea being to have an alighting passenger waste as little time as possible.



EXAMPLES OF B. E. T. "FAIR FARE" TICKETS

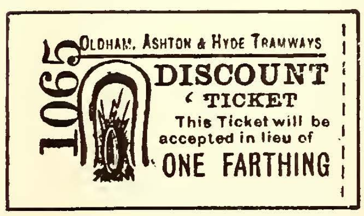
This third type of car is also remarkable in British practice for its absence of bulkheads and interior trim. At night the motorman draws a curtain behind him to prevent dazzle. The car seating is longitudinal. The car may be operated temporarily as a one-man car, and it it may also be operated as a pay-as-you enter car. The type has proved so popular at Dudley that it is earning as much per car-mile as the double-deck cars on the same route. On more interesting point is that this type of car will soon be equipped with two GE-258 self-ventilated, ball-bearing motors, probably the first British application of this well-known "safety-car" motor.

Some Characteristic Operating Features

The great range of size and the large number of undertakings operated by the British Electric Traction Company do not permit many specific statements as to details of operation, but the following facts may be of some value:

A fair average for the distance between stops would be 600 ft. In some of the smaller towns a passenger will be picked up almost anywhere but set down only at certain specified places. In general, it is not held to be necessary to space the regular stops shorter than 600 ft., but nothing that could attract the short rider is overlooked. Most stops are now made on the near side.

Even in the smaller communities, short headways prevail as compared with those for towns of similar size in the United States where the big two-man car is still in use. Ten to fifteen-minute intervals are characteristic only during the off hours, much better service being given at other times. It is noted that the daylight-saving plan was of marked benefit in improving the evening shopping and pleasure travel. A like result is expected from the shorter workday, although the morning peak will be sharper with the coming of later hours for workmen.



B. E. T. FARTHING TICKET TO INCREASE TRAVEL

Loading in queues is being used more and more in recent years. It may be explained that Britishers have long been accustomed to stand in line for the cheaper seats at theaters, and they got further training during the day of the food coupon. Hence they take quite readily to this means of loading cars decently and in order. Standing in cars was rare before the war, but the shortage of equipment and the need of saving fuel enlarged the number of straphangers, at least temporarily.

The schedule speeds on the different B. E. T. properties vary in accordance with the characteristics of the services anywhere from 7 to 15 m.p.h. The actual net car-miles per car-hour are shown in the accompanying table, which is representative of some of the small associated undertakings, to range from 5.18 to 8.55. It is rather interesting to observe that practically all the tramways operating in round-the-year communities average more than 40,000 miles per annum from their cars, two of them exceeding 50,000 miles. The traffic density per car-mile, even in the case of the smallest properties, is in excess of ten passengers, with a maximum of 16.9 on a short road and 19.4 on a long one—fair evidence that the service is well patronized.

Buses Pave the Way for the Tramway

The varied scope of the British Electric Traction Company's activities in small towns and large lends special value to its opinion on the operation of buses as derived from experience under a diversity of circumstances. The company looks upon the bus as an excellent forerunner and builder-up of a traffic which can be operated more economically with a tramway as soon as conditions warrant a car interval of ten minutes or less. The capital charges on a tramway are too high to justify construction for a less traffic density than this. With a bus it does not matter whether the service is half-hourly or hourly, because the capital expenditure is almost in direct proportion to the number of buses.

The bus services of the British Electric Traction Company are largely of this intermediate nature. The fares charged are invariably higher than the tramway fares. When the buses happen to run over a car route for part of the way the minimum fare on the bus is placed at a figure which will reserve it for the suburban long-distance rider for whom it is intended.

For any tramway a number of buses could be acquired as a wise way of determining the ultimate traffic possibilities of new districts and of supplementing pleasure-travel facilities, particularly as buses may be diverted at short notice to wherever a traffic need arises.

Probably no one man has had a wider experience in the promotion, construction and operation of British tramways and electric light and power installations than EMILE GARCKE, president of the British Electrical Association and for many years the managing director and now the chairman of the British Electric Traction Company. The B. E. T., as it is popularly known, controls outright or is associated with about sixty tramway, electric supply and other electrical undertakings having a subscribed share and debenture capital of about £24,000,000. The associated tramway companies operate about 430 miles of route and carry about 405,000,000 passengers per annum. In the earliest days of electricity, Mr. Garcke was active in manufacture and installation. Between 1883 and 1893 he was with the Brush Company. In 1893 he became managing director of the Electric Construction Corporation and shortly thereafter managing director of the British Electric Traction Company. Aside from his company and association activities, Mr. Garcke is known, wherever British money is invested in public utilities, through his great "Manual of Electric Undertakings," published annually since 1896.

The Psychology of Claim Adjustments*

The Author's Impressions of the Human Factor in Settling Claims With Suggestions on the Diagnosis of the Type of Case

By J. H. Handlon
Claim Agent, United Railroads of San Francisco

EXPERIENCE plus intuition and a broad perspective are the prime requisites of the successful claim agent, as we all know, and no fixed rules can be set for our guidance, yet there are certain features of our work that deserve more than a passing thought, and perhaps a closer adherence to the policies I am about to outline may bring our work to a more successful issue.

Speaking generally, claims may be divided into five classes: (1) the just claim; (2) the claim not based upon the facts; (3) the exaggerated claim; (4) the exorbitant claim; (5) the false claim.

Of the first classification—the just claim—there is nothing to say other than to urge the prompt adjustment of this type of claim on an equitable basis. It is important, however, that the claimant should be impressed with the courteousness of the claim agent and the honesty of his motives in the hope that the settlement may convert an enemy or strengthen a friendship.

The second classification—the claim not based upon the facts—is of greater moment. An effort should be made to ascertain whether the claimant is sincere in his belief that he has a just claim or whether he is endeavoring to bolster up his case for dishonest motives.

Having determined that there is no apparent attempt to falsify, then the claim agent should endeavor to educate the claimant to his viewpoint, if the claimant appears to be a fair-minded individual, and by means of oral and written arguments or physical proof strive to convince him that his claim is lacking in merit. Should it be determined that the claimant is attempting to strengthen a claim that could not withstand a close and impartial scrutiny, then it is good policy not to attempt to prolong negotiations but to take a firm stand and defy the claimant to proceed in the matter. In both instances however, there should be borne in mind, as in all claims, the wisdom of litigating the case and the advisability of effecting an amicable adjustment at your own figure.

Classification three—the exaggerated claim—should pass through the same formula as the preceding type of claim. Having determined whether the claimant is sincere in his belief that the claim is as serious as alleged, then the way is clear to decide upon a future policy. Should the claimant apparently labor under a mistaken idea that the injury is more serious than could be reasonably anticipated, then the claim agent should fortify himself with facts and figures to prove the unreasonableness of such an argument. Time solves many problems and is a great reconciler. Often it works to the advantage of a claim agent in convincing a stubborn claimant that his claim is of lesser importance than he thinks.

A rigid investigation starting off with the assumption that the claimant is deliberately exaggerating the extent of his claim will often reveal an attempted deception and no reasonable expense should be spared in furthering such an investigation.

---

*Abstract of paper read at annual convention of Pacific Claim Agents' Association, Oakland, Cal., July 17, 1919.

Classification four—the exorbitant claim—may not arise from any dishonest motive of the claimant but it may be his or her conception of the value of their claim. This viewpoint may be based upon the advice of attorneys, relatives, friends or neighbors or preconceived ideas that they have nurtured in their minds brought about by newspaper accounts they have read of sums sued for or recovered as a result of litigation.

Again, it is a peculiar trait of human nature for those who have adjusted their claims to exaggerate wilfully and voluntarily the amount they have collected. Through such channels as stories bandied about, witticisms, stage jokes, etc., there has arisen a popular notion that a public service corporation is legitimate prey and that a claim against such a concern has a false and exaggerated value and is not subject to the same economic laws that control other claims.

It is an axiom that the average attorney is not a successful claim agent for the reason that in analyzing or partitioning a claim, and more especially a personal injury claim, he places too much stress upon his interpretation of the law and not enough upon the general facts or the loss involved. What is more vital in coloring the average attorney's perspective is his tendency in adjusting a claim before litigation has been suggested, to say to himself, "What would a jury give in this case?" This is a very expensive attitude of mind.

Unfortunately, some claim agents have the same attitude of mind. It is this trend of thought that creates a claim agent whose offers are like bids in an auction room where $50, $100 or $1,000, or some such amount is added, regardless of the merits of the claim, but solely in the hope of adjusting it. Such a claim agent makes it difficult for the more enlightened claim agent in the same community to settle claims on an equitable footing.

In all sincerity, why should not a personal injury claim agent take the same attitude as the average, prudent business man, who, when endeavoring to dispose of a commercial transaction (and that is all a claim is when reduced to its last analysis notwithstanding the attempt often made by the claimant to collect punitive damages,) endeavors to reduce the cost of the transaction to the lowest possible figure.

The competent claim agent, always open to conviction, having determined what he considers just, strives to effect a settlement on that basis, yet he is not so parsimonious as to refuse to allow a reasonable deviation from the offer he has determined upon. The human element is so important a factor in adjusting claims that it is very difficult to proportion the constituent features of a claim.

A claimant may be inspired in presenting a claim by a mere desire to be remunerated for his losses; again he may be inspired by mercenary motives or a desire to be revenged for some fancied wrong he has harbored against the company. Some claimant's actions are prompted by a dislike for corporations in general and the corporation involved in particular, while others are of a naturally combative disposition and they welcome an occasion when they can present a claim. The intervention of advisers encourages persons to be claimants and even the discourteous actions of the company employees immediately after the accident may cause the slightly injured person to press his claim to the limit.

In general, claimant's motives are so varied and their attitude of mind may be so complex that it is very difficult to determine at times the reason or reasons that have caused the claimant to be so aggressive or litigious. To illustrate—even the nationality or length of residence in the United States of the injured party may have a bearing upon his attitude of mind and sometimes he is influenced by the treatment afforded corporations in the state or community where he formerly resided or now resides. I think we will all concede that the small town man has a more exalted opinion of his claim than the city man.

The last type of claim—the false claim—should be given no consideration other than to spare no effort or expense to expose its falsity and to fight to the limit any attempt successfully to litigate it. "Millions for defense but not one cent for tribute," were the words of an American ambassador on a momentous occasion. Let me take the liberty of stating that in my opinion these words may well be applied to the handling of the false or fictitious claim, ever bearing in mind, as Shakespeare says, "In cases of defense 'tis best to weigh the enemy more mighty than he seems."

Confidence Should Be Cultivated

Much has been said and written about the importance of influencing the attitude of mind of the claimant so that he is in a more receptive mood to negotiate a reasonable settlement. This is a vital factor in the successful handling of a claim. Specifically speaking, an effort should be made at the outset to establish confidence and the claimant should be impressed, if possible, with the claim agent's frank and friendly attitude.

When electric railways were more or less of an innovation (and it was about at that time that the claim agent first became a necessity, for, as a veteran street railway official has wittily remarked, "In the horse-car days all the injured person expected was an apology"), it seemed to be the practice of street railway managements to appoint an ex-city detective or some other kind of an ex-peace officer as claim agent on the theory I suppose that his experience in detecting criminals better qualified him to detect attempted fraud on the part of claimants.

As a natural sequence, claimants were often looked upon with grave suspicion by that type of claim agent. The fact that a claimant had filed a claim was sufficient evidence to prove him a suspicious character, and claim agents themselves not infrequently resorted to unscrupulous tactics to further their ends.

The claim agent of today has inherited some of the prejudices against claim agents that have been created by such tactics, therefore we should strive in every way from the very inception of the claim, to overcome this prejudice.

Even the reception room of the office should be made comfortable and attractive and the reception of the claimant should be courteous. Correspondence should be polite but firm in tone. In brief, everything should be done within reason to create the proper atmosphere or as harmonious an invironment as possible.

Beneficial results can be accomplished by establishing a reputation in the community for fair, square dealing, and it is our duty as conscientious, progressive claim agents to strive to elevate the moral standards of our vocation by discountenancing unscrupulous actions on the part of a co-worker, who, blind to the future, does today what tomorrow he will be ashamed of, and who will justifiably reap the unwelcome harvest of lack of confidence and distrust and suspicion that he has sown.

Illinois Association Holds Summer Meeting

Large Attendance and Animated Discussion Add to Interest of Papers on Track Maintenance, Publicity and Safety Cars

THE summer meeting and outing of the Illinois Electric Railways Association were held on Wednesday, July 16. At the invitation of President W. C. Sparks, vice-president Rockford & Interurban Railway, the meeting was held at the Rockford Country Club.

A feature which contributed to the congeniality of the occasion was the means by which some forty of the members reached the scene of activities. At the invitation of R. A. Moore, general manager Aurora, Plainfield & Joliet Railway, members from Chicago and Southern points met at Joliet the previous evening and had dinner at the Joliet Commercial Club. Afterward the party left Joliet on Mr. Moore's special car, the Louisiana, and traveling over the Aurora, Plainfield & Joliet, Aurora, Elgin & Chicago, Elgin & Belvidere and Rockford & Interurban rights-of-way, reached Rockford about 11 p. m. Refreshments were served on the car.

Wednesday morning automobiles conveyed the members from the hotel to the Country Club, where a brief welcome by President Sparks was followed by the roll-call, reading of the minutes and treasurer's report. The latter showed the assets of the association on June 30 last to have been $1,290.16. The membership committee presented the applications of nine new supply firms and these were accepted.

Monolithic Construction Not Approved

A paper on "Track Maintenance" was presented by John B. Tinnon, engineer maintenance-of-way Chicago & Joliet Electric Railway. An abstract of this paper will appear in a later issue. Deviating from his paper occasionally, Mr. Tinnon said that open-track maintenance is practically the same on interurban and steam railways, but these methods do not apply on paved city streets. He also referred to solid concrete (monolithic) construction as not reducing the maintenance to any extent and thought that it would be wiser to make a saving of, say, $5,000 per mile in the construction of the track and add this to the maintenance allowance which has always been inadequate. Mr. Tinnon stated that money has no doubt been wasted in the track department. The time has come now when more money and more work are going to be put into maintenance to prolong the life of the track rather than to put down new track when the old track is apparently worn out.

In the discussion which followed this paper, D. E. Parsons, general manager East St. Louis (Ill.) & Suburban Railway, said that when the city is to put down a new paving his company asks to be relieved from the assessment and does its own part of the paving at one-half the cost of the assessment. Mr. Parsons agreed that concrete construction is too expensive and not warranted.

W. C. Sparks said that on his property a good subsoil is available and that he uses 100-lb. 6-in. A.R.A. rail on wood ties and brought to grade on 6 in. to 8 in. of crushed stone. The only concrete used is enough to carry the brick pavement, and this is a 1:9 or 1:10, mix which is just strong enough to maintain the surface of the brick. A 1½-in. sand cushion with an asphalt filler is used.

C. J. Jones, superintendent of transportation Aurora, Elgin & Chicago Railroad, said that on his property 6 in. of ballast is used under the tie and concrete is filled in to within 6 in. of the top of the rail. A brick pavement is used on a 2-in. sand cushion. The rail is 100-lb. A.R.A. Mr. Jones said that proper drainage is a very important factor. To illustrate this he cited a case where in well-drained track 4-in. rail had been replaced by a 6-in. rail and the wood ties which had been in the track for twenty-five years were in such good condition that they were left intact. No concrete was used even to support the paving, and this is still in good condition.

A 6-in. vitrified tile is laid with open joints under all new or rebuilt track, both open and paved construction, on his property, said D. E. Parsons. With double track the tile is laid under the track, while with single-track it is laid at each side. The tile is connected with the sewers.

W. C. Sparks suggested that the railway companies seek relief from the paving burden through the American Electric Railway Association at the hearings being held in Washington. T. D. Smith, publicity agent Chicago & Interurban Traction Company, suggested that some propaganda be carried out through the Illinois Committee on Public Utility Information.

In a discussion on the maintenance of railroad crossings, several members stated that manganese crossings had proved an absolute failure and that the most important thing was good drainage and careful and constant inspection. J. B. Tinnon said that his policy was to dig a catch basin and lay lines of tile in cinders. These are covered by 2 ft. of rubble stone and then a crushed stone foundation for the track. Mr. Tinnon stated that it is poor drainage and not the speed of operation of the steam trains which tears up the crossings.

"Get the Advertising Habit," Said Mr. Mullaney

That the best means of winning sound public opinion is by publicity through the home town paper was the basis of the address on "Public Utility Life Insurance," by Bernard J. Mullaney, director Illinois Committee on Public Utility Information, which will be abstracted in a later issue.

In addition to the points covered in the paper, he said that public good will is the basis for increased revenues, which in turn is the basis of credit for obtaining additional capital. In speaking of the work of his committee Mr. Mullaney said that the work of sending out publicity material to every newspaper in the State had been going on since May. The committee has since June 7 had a check on about 250 papers, representing about one-third of the papers which receive the material. These papers have published data helpful to the utility business in an amount which has amazed the committee, which would have been satisfied to see one-third of it printed. The material is being accepted by the papers without question.

There are also intangible benefits, for even if the material is not printed, if the editor reads it his editorials will reflect the result. In this work the coöperation of the railways in the field is needed. The case is analogous to a commercial enterprise, wherein the salesman is necessary to follow up the advertising. In the same way the railway managers must help sell the ideas to the local publishers, by getting on good terms with them.

Mr. Mullaney also spoke of the work done by the publicity section of the committee of one hundred. One of the most important results to be obtained from the hearings he said is the news value to the local papers. The committee each day will send a digest of the testimony to every electric railway and it is up to the railway to see that the vital points find their way into the papers and to use them as publicity in other ways.

In answer to a question, the speaker said that the conversion of an unfriendly newspaper must be handled as a personal matter. It is a question whether it is advisable to buy advertising space in an unfriendly paper with the idea of combating the influence of the editorial pages.

D. E. Parsons said that his company uses advertising space in every newspaper in every city and county through which they operate and also makes news for these papers.

Safety Cars Again Prove a Popular Subject for Discussion

The third paper, "Safety Cars and the Results of Their Operation," was read by E. M. Walker, general manager Terre Haute Lines, Terre Haute, Indianapolis & Eastern Traction Company. As stated in the paper, operating figures were omitted because these were included in an article which was published in this paper June 28. The paper which appears elsewhere in this issue covers the general facts which are of interest to the financial man who is some day going to ask the backward operator why he was not advised of these possible economies.

A lively rain of questions followed the paper. These were largely concerned with such matters as flagging at railroad crossings, the duties of the operator in collecting fares, issuing transfers, changing his trolley and fare box, etc. Mr. Walker stated that in Terre Haute the safety cars operate over five steam-railroad crossings. Two flagmen are employed at each of these, each working nine hours per day at a salary of $70 per month. He also said that there had not been a personal injury on the safety cars in Terre Haute since they were placed in service seven and one-half months ago. The schedule speed is 11 m.p.h. When the discussion turned to the collection of fares, Mr. Walker emphatically stated that he did not believe in a fare over 5 cents. In fact he believes in fares below 5 cents and thinks that with the safety car the short-haul rider can be carried for such a low fare.

Association to Be Represented at Atlantic City

Following the papers a telegram from John H. Pardee, president American Electric Railway Association, was read urging attendance at the hearings before the federal commission at Washington and asking advice as to when the individual members would be present. It was also decided that R. V. Prather, secretary of the association, should be sent to the convention of the American Electric Railway Association as a representative of the Illinois Association. A rising vote of thanks was given to President W. C. Sparks and to R. A. Moore for their contributions to the success of the meeting. Before adjournment, H. B. Adams, safety supervisor Aurora, Elgin & Chicago Railroad, urged attendance at the electric railway sessions of the National Safety Council which will be held at Cleveland, Ohio, Sept. 29 to Oct. 1, and D. E. Parsons made a plea for increased membership in the National Safety Council.

The meeting then adjourned for luncheon, following which a golf tournament was held on the eighteen-hole

MEMBERS OF THE ILLINOIS ELECTRIC RAILWAYS ASSOCIATION course. Those who did not care to play golf were taken in private automobiles for an inspection of Camp Grant. More than sixty members attended the session and the number would have been considerably greater had it not been for serious labor situations on several large properties.

Safety Cars and the Results of Their Operation*

Author Says Increase in Revenue Keeps Parallel With Increase in Service and that a New Model of Car Each Year Might Be Desirable

BY E. M. WALKER
General Manager Terre Haute Lines, Terre Haute, Indianapolis & Eastern Traction Company

THE synonymous use of the expressions "one-man car" and "safety car" is a confusion of terms. In these days of peril to the electric railways, when every effort is being and should be made to furnish urban transportation of the highest class at a minimum of cost, it is necessary to be specific as to just what we mean when we say "safety car."

The study of one-man car operation will reveal that such method of operation is by no means a new thing. It takes us back to the earliest days of any attempt at the transportation of passengers in cities. The carrier's cart, the omnibus and all the other forerunners of the car which finally moved on tracks were managed and operated by one man. Even the first of such cars themselves, those drawn by horses and mules, were also of the one-man type. Electrification of street railways may therefore be said to mark the need of two-man operation. Naturally, in order to get back to safe operation by one man, it was necessary to introduce every device possible to promote ease of manipulation for the operator and comfort and safety to the passenger. This brings us down to the so-called "safety car."

*Abstract of paper read at Rockford meeting of Illinois Electric Railways Association, July 16, 1919.

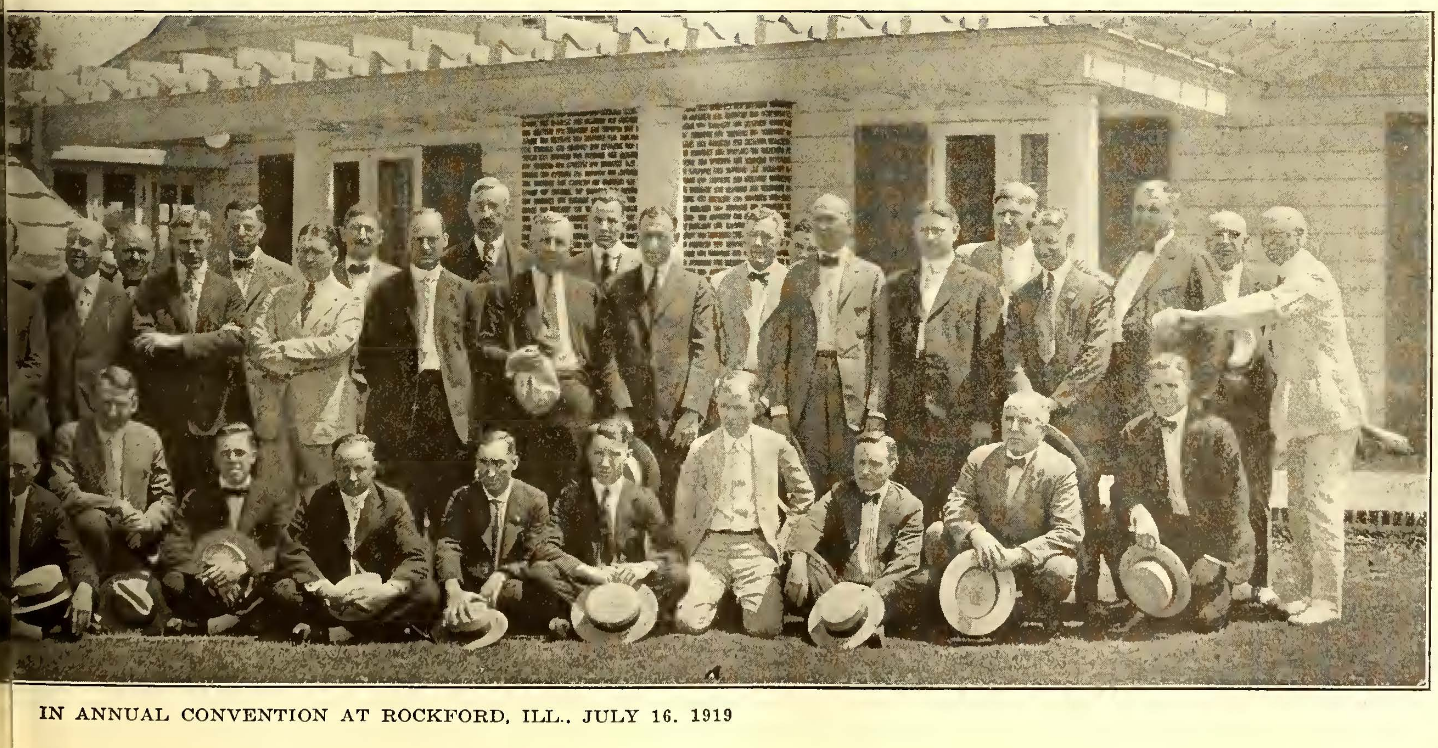
When we speak of the safety car we refer to the specially designed, light-weight, single-truck car, equipped with light-weight motors and air compressors, with air-operated door and step, in which the safety of the passenger is always assured while the car is in motion, so far as it can possibly be assured. Of this type there are now either in actual daily operation or on order for early delivery, from 1200 to 1400 cars in about 100 representative American cities.

The success of the safety car has been so marked wherever it has been tried that its sponsors and the operators who have had experience in its use are practically unanimous in the belief that it is applicable to most of the needs of urban transportation, regardless of the size of the city and in spite of so-called local conditions, which, in most cases, are more apparent than real.

To the question as to the size of the safety car, "more cars and oftener" is the answer, and the slogan "A car in sight all the time" is an easy one to live up to with safety cars on the tracks. In some of our cities it is not an uncommon sight to see large crowds collected on the street corners melt away under the incessant attack of the jitney bus, whose average seating capacity is no more than five persons. And yet in these cities large street cars are being operated ten and fifteen minutes apart. Surely in a case like this "service" means the employment of a vehicle that will at least approach the frequency and speed of the jitney bus and that will exceed it in comfort and safety.

The writer has been called an enthusiast on the safety car. In explaining this attitude at a recent meeting of electric railway men, he had occasion to say that he was strongly in favor of the safety car, because it provides safety for the passenger, safety for the operator, safety for the company adopting it and safety for the banker behind the company.

Thirty safety cars of the standard Birney type were purchased by the Terre Haute division of the Terre Haute, Indianapolis & Eastern Traction Company in the latter half of 1918. They were purchased because



IN ANNUAL CONVENTION AT ROCKFORD, ILL., JULY 16, 1919

tee, which would have been satisfied to see one-third of it printed. The material is being accepted by the papers without question.

There are also intangible benefits, for even if the material is not printed, if the editor reads it his editorials will reflect the result. In this work the coöperation of the railways in the field is needed. The case is analogous to a commercial enterprise, wherein the salesman is necessary to follow up tbe advertising. In the same way the railway managers must help sell the ideas to the local publishers, by getting on good terms with tbem.

Mr. Mullaney also spoke of the work done by the publicity section of the committee of one hundred. One of the most important results to be obtained from the hearings he said is the news value to the local papers. The committee each day will send a digest of the testimony to every electric railway and it is up to the railway to see that the vital points find their way into the papers and to use them as publicity in other ways.

In answer to a question, the speaker said that the conversion of an unfriendly newspaper must be handled as a personal matter. It is a question whether it is advisable to buy advertising space in an unfriendly paper with the idea of combating the influence of the editorial pages.

D. E. Parsons said that his company uses advertising space in every newspaper in every city and county through which they operate and also makes news for these papers.

Safety Cars Again Prove a Popular Subject for Discussion

The third paper, "Safety Cars and the Results of Their Operation," was read by E. M. Walker, general manager Terre Haute Lines, Terre Haute, Indianapolis & Eastern Traction Company. As stated in the paper, operating figures were omitted because these were included in an article which was published in this paper June 28. The paper which appears elsewhere in this issue covers the general facts which are of interest to the financial man who is aome day going to ask the backward operator why he was not advised of these possible economies.

A lively rain of questions followed the paper. These were largely concerned with such matters as flagging at railroad crossings, the duties of the operator in collecting fares, issuing transfers, changing his trolley and fare box, etc. Mr. Walker stated that in Terre Haute the safety cars operate over five steam-railroad crossings. Two flagmen are employed at each of these, each working nine hours per day at a salary of $70 per month. He also said that there had not been a personal injury on the safety cars in Terre Haute since they were placed in service seven and one-half months ago. The schedule speed is 11 m.p.h. When the discussion turned to the collection of fares, Mr. Walker emphatically stated that he did not believe in a fare over 5 cents. In fact he believes in fares below 5 cents and thinks that with the safety car the short-haul rider can be carried for such a low fare.

Association to Be Represented at Atlantic City

Following the papers a telegram from John H. Pardee, president American Electric Railway Association, was read urging attendance at the hearings before the federal commission at Washington and asking advice as to when the individual members would be present. It was also decided that R. V. Prather, secretary of the association, should be sent to the convention of the American Electric Railway Association as a representative of the Illinois Association. A rising vote of thanks was given to President W. C. Sparks and to R. A. Moore for their contributions to the success of the meeting. Before adjournment, H. B. Adams, safety supervisor Aurora, Elgin & Chicago Railroad, urged attendance at the electric railway sessions of the National Safety Council which will be held at Cleveland, Ohio, Sept. 29 to Oct. 1, and D. E. Parsons made a plea for increased membership in the National Safety Council.

The meeting then adjourned for luncheon, following which a golf tournament was held on the eighteen-hole

course. Those who did not care to play golf were taken in private automobiles for an inspection of Camp Grant. More than sixty members attended the session and the number would have been considerably greater had it not been for serious labor situations on several large properties.

Safety Cars and the Results of Their Operation*

Author Says Increase in Revenue Keeps Parallel With Increase in Service and that a New Model of Car Each Year Might Be Desirable

By E. M. Walker
General Manager Terre Haute Lines, Terre Haute, Indianapolis & Eastern Traction Company

THE synonymous use of the expressions "one-man car" and "safety car" is a confusion of terms. In these days of peril to the electric railways, when every effort is being and should be made to furnish urban transportation of the highest class at a minimum of cost, it is necessary to be specific as to just what we mean when we say "safety car."

The study of one-man car operation will reveal that such method of operation is by no means a new thing. It takes us back to the earliest days of any attempt at the transportation of passengers in cities. The carrier's cart, the omnibus and all the other forerunners of the car which finally moved on tracks were managed and operated by one man. Even the first of such cars themselves, those drawn by horses and mules, were also of the one-man type. Electrification of street railways may therefore be said to mark the need of two-man operation. Naturally, in order to get back to safe operation by one man, it was necessary to introduce every device possible to promote ease of manipulation for the operator and comfort and safety to the passenger. This brings us down to the so-called "safety car."

*Abstract of paper read at Rockford meeting of Illinois Electric Railways Association, July 16, 1919.

When we speak of the safety car we refer to the specially designed, light-weight, single-truck car, equipped with light-weight motors and air compressors, with air-operated door and step, in which the safety of the passenger is alwaya assured while the car is in motion, so far as it can possibly be assured. Of this type there are now either in actual daily operation or on order for early delivery, from 1200 to 1400 cara in about 100 representative American cities.

The success of the safety car has been so marked wherever it has been tried that its sponsors and the operators who have had experience in its use are practically unanimous in the belief that it is applicable to most of the needs of urban transportation, regardless of the size of the city and in spite of so-called local conditions, which, in most cases, are more apparent than real.

To the question as to the size of the safety car, "more cars and oftener" is the answer, and the slogan "A car in sight all the time" is an easy one to live up to with safety cars on the tracks. In some of our cities it is not an uncommon sight to see large crowds collected on the street corners melt away under the incessant attack of the jitney bus, whose average seating capacity is no more than five persons. And yet in these cities large street cars are being operated ten and fifteen minutes apart. Surely in a case like this "service" means the employment of a vehicle that will at least approach the frequency and speed of the jitney bus and that will exceed it in comfort and safety.

The writer has been called an entbusiast on the safety car. In explaining this attitude at a recent meeting of electric railway men, he had occasion to say that he was strongly in favor of the safety car, because it provides safety for the passenger, safety for the operator, safety for the company adopting it and safety for the banker behind the company.

Thirty safety cars of the standard Birney type were purchased by the Terre Haute division of the Terre Haute, Indianapolis & Eastern Traction Company in the latter half of 1918. They were purchased because

MEMBERS OF THE ILLINOIS ELECTRIC RAILWAYS ASSOCIATION IN ANNUAL CONVENTION AT ROCKFORD, ILL., JULY 16, 1919 something had to be done radically to improve the city street car service and to enable the company to continue to carry people at a 5-cent fare. Had not this been done we could visualize the jitney buses running away with the best part of our business, and we could see ourselves losing the good will of the people by our failure to serve them adequately. On Dec. 1, 1918, we placed eight of these cars in operation on one of our city lines, and gradually and promptly increased the number, so that now we are operating twenty-six cars regularly every day out of a total of thirty owned. We expect to make sufficient increase in our equipment to provide full safety-car service on our entire city system. That we do this is the expressed wish of the city government and of the people whom we serve. So much for the salability of the safety car to the people.

By means of the safety car we have stemmed the jitney tide. We have recovered that portion of our business which we have temporarily lost to this generally reckless competitor, and we have recovered the good will of the people. By means of the safety car we have transformed a thirty-car system into a forty-two car system, and we plan eventually to make it a forty-eight-car system, with no increase in city trackage. Also we have been enabled with the light-weight safety car to deliver to the riding public 28 per cent more car-miles than last year during the corresponding seven-month period, with a 3 per cent reduction in power used. And this saving in power would be much more impressive on paper but for the local operating conditions, which include 143 interurban passenger trains in and out each day and sixteen interurban freight trains in and out; each one of these using city power for an average of four miles on each round trip.

Some Important By-Products of the Safety Car

A general description of the operation of safety cars in Terra Haute appeared in the Electric Railway Journal of June 28, 1919, and it is not the intention or desire to repeat here what has been covered in that article. There are, however, by-products of safety-car operation which were not given more than passing mention in the article. For example, accidents are often caused because passengers, alighting from the rear end of a city car of conventional type and crossing the street over double track, step behind the car from which they have just alighted. On an average of two or three times a year in a city the size of ours it has happened that a car going in the opposite direction at the time has caused a serious accident from this cause. Such accidents have now been entirely eliminated; in fact, personal injuries on cars have become practically a thing of the past. Our experience in the last seven and a half months of operation of safety cars has shown us that the theoretical saving in the cost of accident on or by safety cars as compared with the ordinary type of car, on the basis of operating regularly twenty-five cars, has been at the rate of 8.6 per cent per annum on the total investment cost of thirty cars owned by the company.

Another by-product of safety car operation is the absence of complaints of discourtesy and inattention on the part of the car operators. We borrowed a leaf out of the book of a progressive psychologist and placed in each car a card bearing the operator's name. This personal touch is appreciated by operator and passenger equally, and operators are seldom referred to by number.

Earning possibilities depend very much upon local conditions, and it does not necessarily follow that a certain rate of revenue per car-mile obtained in Springfield would follow with safety cars or any other type of cars in Columbus. With us, however, revenue has gone up practically parallel with the increase in service. Safety-car operation is so flexible that it is possible by adding service gradually to find the point of service saturation.

Safety Cars That Are Well Maintained Will Prove Durable

By way of summary it may be said that light weight promotes speedy and frequent service, and therefore weight need not and should not be allowed to interfere with quick service beyond the point where weight coördinates with safety. We are in the business to serve the public, and we must serve them with speed, safety and economy. When we do this we need not fear that the public will stint their rewards in increased patronage; the public are quickly responsive and human nature does not greatly vary with localities. The cost of carrying a superfluous ton of car weight for an entire year would have paid at least 3 per cent on the cost of the car. A light-weight safety car properly cared for will last as long as many heavier types of cars, just as a Ford with proper care will last as long as a Packard.

I look forward confidently to the time when standardization of the safety car will provide for a new model each year. This will promote minimum cost of production. Thus at a fixed time each year the next year's model will be decided upon, and from that time until the next year changes in detail will be held for incorporation in the next year's model. Thus each well-ordered company may adapt itself to the habit of purchasing each year a few of the new models, the replacements being designed to take care of retirements and the natural growth of the property. In this way the rolling stock may be kept always up to date and in good style. These are the things that appeal to the public.

Let us take it for granted that city street car transportation service is a public necessity and will remain so until its place is taken by some agency not now in sight. In this field the safety car will gradually force its way forward as the best means, in a large majority of cases, of filling the needs of the people for this class of public service.

Belgian Electrification Plans

The United States consul-general at Brussels, Hon. Henry H. Morgan, reports to the Department of Commerce that the Belgian minister of railways has approved a project for the electrification of Belgian railways and that instructions have been issued to the railway administration to submit plans by August of this year for the electrification of the line between Brussels and Antwerp and Brussels and Luxemburg, to be followed immediately with an electric line between Brussels and Ostend. Construction is to begin early in 1920. It is proposed to make the Brussels-Antwerp trip in twenty-five minutes and to run trains every fifteen minutes.

Washington Hearings Continue

A Wealth of Evidence On the Railway Status Is Presented to the Federal Electric Railway Commission by the Committee of One Hundred—This Week the Commission Began Evening Sessions—This Report Covers the Hearings from July 17 to Noon of July 23

HEARINGS before the Federal Electric Railway Commission still continue to occupy a most important place in the minds of railway operators and others interested in the welfare of the electric railway industry. Our last week's issue contained an account of the proceedings up to Wednesday evening, together with a telegraphic summary of those of Thursday. Some further particulars of the Thursday sessions, together with the proceedings of the subsequent sessions up to the press date for this week, are contained in this issue. The Association hoped to complete the presentation of its case on Friday of this week and in an attempt to achieve this aim night sessions have been held. The order of presentation of the testimony does not follow the plan originally outlined by the Association and published on page 80 of our issue for July 12, as it has been necessary to conform to a certain extent to the conveniences of the witnesses. In this report it has seemed best to follow the testimony in the order in which it was given.

Copyright by Harris & Ewing
CHAIRMAN ELMQUIST

Thursday's Sessions

Further testimony from W. J. Clark of the General Electric Company relative to the early history of the electric railways was made the first order of business in the Thursday morning session. In his direct testimony Mr. Clark gave comparisons of conditions as they exist on American and European electric railways. He pointed out that foreign street car lines have been built only where they were sure to pay a reasonable revenue and that suburban extensions designed to promote the expansion of municipal districts were not given consideration in the construction of these railways to the same extent as in America. In this connection the point was made that a large part of the expansion of American cities has been at the expense of the investor in electric railway securities rather than at the expense of the public. In response to a request from the commission Mr. Clark discussed at some length the methods of securing franchises used by the early promoters of electric railways.

Continuing his direct testimony, Mr. Clark showed that the rapid progress in the industry had resulted in a short effective life for electric railway equipment. He also made the point that the early experimental work was done at the expense of the electric railways and that this constitutes a part of the just investment in all of the older electric railway properties.

In the course of the cross-examination the commission asked a number of questions relative to zone fare systems, water-power development, cost-of-service plans, methods of regulation, and the prejudices which the public at present entertain against the electric railway companies. Mr. Clark felt that the zone-fare system deserves consideration, and, in response to a question from the commission as to whether zone fares had not caused congestion in Glasgow, replied that in Glasgow congestion existed long before the tramways were built. In the matter of water-power development as a source of power supply for electric railways, Mr. Clark pointed out that as a rule one horsepower of water power as estimated by the United States Geological Survey may actually yield from 3 hp. to 5 hp. through effective stream control and efficient plant operation.

Regarding the matter of regulation he said that local authorities cannot properly regulate utilities to-day because so many of the utilities supply service outside of city limits. For the same reason municipal ownership is practically a dead issue. Regulation by state authorities is likely to produce better results and prevent a recurrence of something similar to the franchise bargaining which existed in some municipalities in the earlier days. The causes of the existing prejudice Mr. Clark listed as follows: Certain acts of the promotors of the railways; excessive exaggeration concerning the effect of these acts, and that the street railway is the one form of utility with which the average citizen is in daily contact with the employees of the utility.

As to the cost-of-service plan, Mr. Clark agreed with General Tripp that it is an equitable system for governing charges for street railway service. He further said that the proper basis for revenue under such a plan is a valuation of the property, preferably by a state authority. Also, the operation of a cost-of-service plan should be safeguarded by a state regulative body. In the matter of rates proper attention must be given to those who ride for convenience rather than necessity, as the necessity rider has never paid any street railway dividends.

DEAN COOLEY TALKS ON COSTS

After the completion of Mr. Clark's testimony, Mortimer E. Cooley, Dean of the College of Engineering, University of Michigan, appeared before the commission to testify as to the elements which enter into the first cost of an electric railway. Dean Cooley, long well known as one of the foremost experts in the country on the matter of public utility valuation, kept the interest of his hearers at a high pitch while he discussed in a clear and lucid manner the financial troubles which beset the promotion of a public utility project. He told the commission that he had valued public utility property with an aggregate physical value ranging somewhere between $1,250,000,000 and $1,500,000,000. He stated that one of the principal troubles in valuation work is the sheer ignorance of both the public and the railways themselves relative to the fundamental facts about valuing property for rate-making purposes. He also said that education was the thing most needed, as the present attitude of the public mind is such that the public cannot be approached and is not willing to meet the companies half way.

Dean Cooley discussed the elements which enter into the cost of a property substantially as follows: The principles involved in the valuation of public utilities are the same, no matter what type of utility is involved. In all, there are from eighteen to twenty cost factors involved in the total investment cost of such an undertaking.

In the promotion of a new utility the first thing to be done is to determine the feasibility of the project. This includes a preliminary determination of the investment, public sentiment toward the undertaking, and franchise conditions. If from the promoter's standpoint the project is feasible, the next step involves the employment of a staff of engineers, who also go over the project and report as to its engineering practicability. If

O. D. YOUNG AND RANDALL MORGAN DISCUSSING THE MONDAY MORNING SESSION WITH COMMISSIONER GADSDEN*

the engineers' report justifies of the undertaking, the next step is to secure financial assistance from bankers. This preliminary work all costs money, the amount ranging from 2 to 5 per cent of the total investment in the property. An important point relative to these costs is the fact that the public is not familiar with them, very few laymen knowing anything at all about their existence. In case the project seems feasible to the bankers, it is put upon a working basis, a construction organization is gathered together, ground is broken, and the public first takes notice of the undertaking.

"Hidden" Costs Are Elusive But Important

While the public thinks that cost begins only with the actual beginning of construction work it fails to take into account many of the costs which actually occur during the construction period. The time involved in constructing an undertaking will vary from one to four years, depending upon the type and magnitude of the physical structure. The company can build its own structures, or it can have them built under contract. In either event due allowance must be made for contingencies. Formerly it was the custom to allow 10 per cent of the estimated cost for this item. In many cases this amount is too small, and in some few cases the contingency costs have been four times the initial estimated cost. In the ordinary range of public utility undertakings they will range from 5 to 30 per cent of the total investment cost.

Other cost elements which are not commonly given just consideration by the public are the items of accident insurance, fire insurance, interest on capital during the period of construction and taxes on materials and land during the construction. These items in the aggregate may amount to a very considerable sum of money.

Among the other what might be termed "hidden" costs which enter into the total investment of a public utility undertaking, but about which the general public is decidedly ignorant, are the promoter's profit, the cost of securing money and the working capital necessary during operations. The promoter's profit is necessary, although to quote Dean Cooley's exact words, "The promoter is a stench in the nostrils of the public." Nevertheless, the promoter is a very necessary factor in the organization of any new undertaking, and if the parties organizing the undertaking do not themselves act as promoters it will be necessary for them to employ a promoter and to pay him a real salary for his work.

Money, Like Steel Rails, Must be Purchased

The cost of money is likewise a very real and very necessary cost, as money must be purchased in the market like any other commodity. This cost is usually included in the discount taken by bankers for selling the bonds or other securities. One of its most important elements is the expense incurred by the financial institutions in investigating the stability and general financial conditions of the undertaking.

Working capital may be defined as the money that lies idle in the bank subject to check. If a company is not permitted interest on this money, interest nevertheless will have to be paid and will be borne by the public in the end in the form of increased rates.

With the construction work all complete and working capital in the bank, a company is ready for operation. Its physical equipment may be said to be in 100 per cent condition, although its actual value, as long as it lies idle, is its value as determined by the junkman.

Questioned by the commission relative to the matter of giving stock to bond purchasers, Dean Cooley said that this stock, despite its being a gift, had a real value. Were it not for the gift of the stock the bonds would sell at a lower price. The difference between this lower price and the actual selling price of the bonds represents the real value of this stock.

In response to a question from the counsel for the association, Dean Cooley said that the items indicated above may range from 10 to 12 per cent of the total investment on small properties, while on a certain property with which he was familiar, located in New York City, the amount was 60 per cent. The average figures will range from 18 to 30 per cent.

With the completion of Dean Cooley's direct testimony, the hearing adjourned for the noon recess.

At the beginning of the afternoon session Counsel Warren read into the record a telegram from the San Diego (Cal.) Electric Railway Company in which was set forth the serious financial condition of this company owing to the high cost of labor and other costs that are affecting all other railways. Dean Cooley again resumed the chair, and was questioned at length by the commission relative to obsolescence, depreciation, methods of valuation, need of increased fares, municipal

*This and the following photographs are by Harris & Ewing, Washington, D. C.

ownership, paving and franchise taxes, and the service-at-cost plan. The substance of Dean Cooley's replies to these questions is given in the following paragraphs:

Depreciation is possibly as little understood as any other thing connected with a utility property. Some elements of the property have a long life, others a short one. A steam engine may have a life up to thirty years, while the life of a tie ranges from six to eight years. After say fifteen years, part of a property is new, part of it worn out, the balance only partially worn out. If a property is properly maintained, it will last an indefinite length of time. The depreciation is constant after it has gone through the cycle of the longest-lived material in the physical structure of a property. Under these conditions the condition of the property will be from 85 to 90 per cent instead of the 100 per cent condition which obtains when the property is new. This condition cannot be bettered, because if attempts be made to do so some good material will be thrown away. The condition cannot be lowered without endangering operation.

For rate-making purposes 100 per cent condition should be used, however, instead of the 85 or 90 per cent condition, inasmuch as the 100 per cent condition more nearly indicates the actual cost. The difference between the 85 per cent condition and the 100 per cent condition must be taken care of by a depreciation fund. A second kind of depreciation fund is necessary to take care of renewals, as money must be put aside to do this renewal work each year. Both of these funds must be paid out of earnings. They amount to from 1½ to 2 per cent of the investment, and it is a religious duty to see that they are kept intact.

The methods of property valuation as used as a basis for rate making may be classified as historical, book, reproduction new, and reproduction new less depreciation. The latter is sometimes called the present value. Inasmuch as the past history of most public utilities is very vague and incomplete, the only fair and practical method of determining the value of a property is by the cost of reproduction methods.

Obsolescence in the electric railway and electric power utilities is a far more important item than it is in some of the other utilities, as for instance the gas utility. In many instances it has been necessary to throw away rolling stock and power generation apparatus which, while in good physical condition, has become obsolete by reason of invention or the development of newer, more convenient or more efficient equipment. Because of this obsolescence the investment in railway properties has been much greater than it otherwise would need have been.

M. O. a Great Educator

Practice in regard to cost of establishing a business is undergoing radical changes in the matter of accounting. No new property makes a return on the investment in the earlier years of its life. It takes time to build the business up to a revenue earning basis. Formerly this cost of establishing the business was considered a capital charge. The present trend as set by public regulative bodies is to consider it as an operating charge and to amortize it over a number of years. In some cases the operating charge from this cause alone amounts to from 25 to 30 per cent of the cost of the property.

Maintenance costs have advanced to about 50 per cent more than they were in pre-war days. Labor cost has practically doubled. The result is that to secure anything like pre-war net earnings the gross earnings today must be more than 50 per cent higher than they were before the war. This means that fares must be raised at least 50 per cent. With further reference to this point Dean Cooley said: "I firmly believe that public utilities should be allowed to earn only enough to induce capital to come in, to serve the public and satisfy investors, and, being public utilities, should not be permitted to earn more. I recommend that the street railways be given the right to charge fares that will permit them to meet their operating expenses, so that they can keep up their service and maintain their properties intact."

Asked by the commission as to his opinion of municipal ownership, Dean Cooley said that he advocated municipal ownership and that theoretically it is better in every way than any other form of management and operation. He added, however, that it is a fruitless prospect when taken from a practical point of view.

THESE THREE MEN HAVE BEEN REGULAR IN THEIR ATTENDANCE AT THE HEARINGS: GEORGE WESTON, EDWIN GRUHL AND HARLOW C. CLARK

Asked why he advocated it, Dean Cooley replied that he thought it the best and quickest way to convince the public that it is not desirable. "It would be a case of giving candy to a person who wants it until it gives that person the stomach-ache," he said.

Higher Fares Increase Earnings in Pittsburgh

William D. George, one of the receivers of the Pittsburgh Railways Company, was the next witness. Mr. George said that he had been connected with the railway industry only since his appointment as a receiver last December and that before his appointment he had been engaged in the real estate business in Pittsburgh.

In his direct testimony Mr. George stated that the 5-cent-7-cent zone fare system inaugurated last summer increased the gross revenue about 15 per cent over that received from the old 5-cent flat fare. During the first five months of its operation the average fare for the zone system was 6.23 cents. It is now 6.29 cents. The increase indicates a greater riding in the outer zone. The Pittsburgh Railways Company has asked for an increase to a straight 10-cent fare to become effective August 1, because its present income is still insufficient. A ticket arrangement in connection with this 10-cent fare involves the sale of four tickets for 30 cents and eight tickets for 60 cents.

The Pittsburgh Railways Company is a combination of about sixty underlying companies and operates approximately 600 miles of track. To give proper service it should build 26 miles of new track each year. The company is at present in default of fixed charges amounting to between $2,500,000 and $3,000,000. At present franchise taxes, bridge tolls, street cleaning and other special city taxes amount to about $300,000 per annum. The receivers are endeavoring to secure the remission of these taxes. The street cleaning tax amounts to $80,000 per year and the bridge tolls, $125,000 per year.

Regarding the labor situation in Pittsburgh, Mr. George stated that the train men want a raise from 48 cents to 60 cents maximum wage, but that the War Labor Board has not as yet handed down a decision. If this increase be granted and the wages of other employees raised correspondingly, additional income to the amount of $2,000,000 per year will be necessary.

In his cross-examination by the commission Mr. George was asked a number of questions relative to the efficiency of present operating methods, the cost-of-service plan, state regulation versus city regulation, and public interest in the industry. In replying to these questions Mr. George stated that he had entered upon the receivership in a critical mood, feeling that the railways were being mismanaged. His six months' experience has convinced him that this was not true. The Public Service Commission of the State of Pennsylvania is making a valuation of the Pittsburgh Railways properties at present. This valuation is to be used as a basis for a service-at-cost plan. Mr. George said that he believed state regulation of utilities is best, stating that there are eighty boroughs or civil units in the Pittsburgh vincinity served by the Pittsburgh Railways, and that this fact alone would make local regulation a practical impossibility.

Mr. George went on record as strongly opposed to the zone fare system. Speaking as a practical real estate man, he said that no city, from the standpoint of public interest, could afford to see a zone fare system built up within its limits. He estimated that the value of the 30-ft. lot within a 5-cent zone system would be fully $1,000 greater than the value of a similar lot outside the 5-cent zone. He stated that in his opinion zone fares caused undue congestion and cited the congested housing districts in the city of Glasgow as an example of the effect of the zone system.

Relative to the abandonment of outlying lines, Mr. George said, that in the expansion of a city these lines are needed and that he would far rather increase the fare than decrease the service which is the lifeblood of a community. He stated that in his opinion the theory of increased fares cutting down service is a fallacy. In the long run the people will respond and while at first the riding may decrease, the decrease is only a temporary one. Further questioning by the commission relative to regulation brought from Counsel Warren the statement that he was authorized to say that the American Electric Railway Association was in favor of regulation and of the extension of the principle of regulation to all those states in which it does not now exist.

Friday's Sessions

In a carefully prepared statement F. H. Sisson, vice-president of the Guaranty Trust Company, New York, presented to the commission a very clear view of the present condition of street railway credit and of the present cost of capital during the forenoon session on Friday. An abstract of Mr. Sisson's statement is reproduced elsewhere in this issue.

In his direct testimony Mr. Sisson further stated that electric railway securities were more widely distributed than any other class of securities and that their failure would cause widespread ruin. He stated that there was no doubt in his mind but that higher fares would give a higher return and that the zone system would bring back the short haul passenger. In some of our large cities, New York, for instance, one can ride 30 miles for a nickel. However, when a passenger rides from Yonkers to Coney Island the ride is made at the expense of the investors in the railway property. Collection difficulties constitute a real argument against zone fares, and the authorization of 7½-cent and other intermediate coins might be of considerable value. The 5-cent fare never did cover obsolescence and depreciation and never would have been adequate if proper charges for other items had been made the earlier years of the electric railway industry.

State Commission Helps Portland

Testifying as to the effects of increased fares on the property with which he is connected, A. H. Ford, vice-president and general manager of the Cumberland County Power & Light Company, Portland, Me., said that the results had been very satisfactory. Originally this property was operated on the old New England 5-cent fare zone method. These zones ranged from three to four miles in width. The first change in fares was made in August, 1918, when the flat 5-cent fare was changed to a flat 6-cent fare, except on three of the more important city lines of Portland where the 5-cent fare was retained. This change was accompanied by a great deal of opposition on the part of the public. The theoretical increase in gross earnings was about 18 per cent, but the actual increase was only about 4 per cent. In June, 1919, the fare was increased and a system of fare zones about one mile in width was established. There are three zones within the city proper and the minimum fare for a ride is 7 cents. The fare per zone is 2⅓ cents, making a ride through four zones cost 9⅓ cents. To facilitate fare collection tickets are sold on the basis of a five-ride ticket for 35 cents and fifteen zone tickets for 35 cents. About 95 per cent of the fares are ticket fares. For the first half of July of this year the gross earnings were 37 per cent greater than those of a year ago, whereas the theoretical increase on the basis of the increase in fares was 40 per cent.

Of particular interest in connection with this testimony was Mr. Ford's story of the co-operation of the Public Utilities Commission of Maine. When the 6-cent fare did not give sufficient revenue to place the property on a stable basis, the commission set about educating the public with respect to the difficulties of the traction company. It held a dinner at Portland to which it invited the members of the local chamber of commerce. With the business men of the city there assembled, the commission discussed the financial conditions of the company and the conditions which had led up to it. Later it followed this with a meeting of the newspaper men whom the commission asked to help in the matter of properly educating the public with respect to the local street railway situation. These efforts of the commission caused such a change in the public sentiment that whereas the increase from a 5-cent to a 6-cent fare aroused a great deal of opposition there was practically no opposition whatever when the increase to the 7-cent fare was made. Mr. Ford said that the commission had helped other Maine railways in very much the same manner, assisting them to get notable increases in fares which have given commensurate increases in gross earnings. The educational work of the commission was followed up by the company, which discussed the situation freely with its employees, and held a series of public meetings.

Mr. Ford expressed the opinion that whereas the traffic may diminish at first upon an increase in fares in time the traffic will return to normal. He also said that the zone system is the fairest method of charging for service because the people pay in proportion to the service which they get. On this particular property the ratio of securities outstanding to the physical value of the property is as 100 to 132. With the present return a 5 per cent dividend on the stock and the bond obligations of the company can easily be carried.

INCREASED FARES SUCCESSFUL ON AMERICAN RAILWAYS

Increased fares and their effect on riding habit and gross earnings was also discussed by C. L. S. Tingley, vice-president of the American Railways Company, Philadelphia, Pa. Mr. Tingley stated that his company had increased rates on practically all of its properties and that the result of a fare increase depends on industrial conditions. In Scranton, the effect of a 20 per cent increase in fare was to yield between 12 and 13 per cent actual increase in gross revenue. The history of the fare situation in Scranton has been a rather checkered one during the last two years. The present fare is 7 cents with a ticket arrangement of four tickets for a quarter. More passengers were carried on this fare basis in June and July of this year than with the 5-cent fare of last year.

On the Wilmington & Philadelphia line the intense industrial activity has had such an effect on the traffic that theoretical fare increases have been practically realized. In June, 1918, an increase from 5 cents to 6 cents resulted in a 20 per cent increase in gross earnings. At present the gross earnings are running about 7 per cent more than they were with the same fare last year. On this line the old-fashioned zone arrangement of zones 3 or 4 miles in length prevails. On the Altoona property of this company the first change in fares was made in April, 1917, when the 4-cent tickets for a 5-cent ride were dispensed with. In April, 1918, the fare was increased from 5 cents to 6 cents. The gross earnings now average from 30 to 35 per cent greater than before the original increase.

Questioned by the commission as to whether his company was employing one-man or safety cars on its smaller properties, Mr. Tingley said that it was not. They had not felt justified in scrapping present equipment and did not feel that one-man operation was safe enough on account of the heavy grades existing on a number of their Pennsylvania properties.

The commission asked Mr. Tingley a number of questions relative to methods of regulation and fare adjustment. His main objection to state regulation was that it takes a great deal of time to get changes made. In his opinion the cost-of-service plan as at present administered in several of our large cities does not give the company sufficient return on its investment. In conclusion Mr. Tingley said that while increase in fare may decrease the traffic in some instances, it offers the only possibility for the immediate rejuvenation of railway credit.

Several witnesses representing manufacturers of electric railway supplies fallowed Mr. Tingley. The first of these, J. G. Barry, sales manager of the railway department, General Electric Company, presented a series of charts and tables showing the increases in electric equipment costs. As presented the charts and tables showed the changes within the period beginning 1914 and ending 1919. The charts showed that there had been a slight decrease in the cost of electric railway equipment since the beginning of the current year. This decrease was caused mainly by the considerable decrease in the cost of copper which occurred about the first of the year. Owing to the fact that copper has again made a very considerable increase in price, higher prices may be expected in the near future. Abstracts from the tables are shown herewith.

COSTS OF ELECTRICAL EQUIPMENT

	Cost		
Year	1914	1918	1919
Car equipment:			
Four 25-hp. motors, type K control	$1,450	$2,900	$2825
Per cent	100	200	195
Locomotive, 50 tons	$13,700	$27,500	$27,000
Per cent	100	201	197
Rotary converter, 300-kw.	$2,350	$4,225	$4,225
Per cent	100	179	179
Steam turbo-generator, 1000-kw.	$12,700	$24,000	$23,000
Per cent	100	189	181

COMPARATIVE COST RATIOS FOR RAILWAY SUPPLY PARTS

Year	1914	1918
Gears and pinions	100	227
Malleable iron (overhead line material)	100	350
Transformers	100	178
Switchboards	100	182
Average for all supply parts	100	204

Questioned by the commission as to the electric railway supply business of this company, Mr. Barry said that in normal years his company sold about $20,000,000 worth of equipment. This dropped during the year 1917-1918 to $9,000,000, of which a considerable portion was financed by the Emergency Fleet Corporation. The volume of railway business at present is about 25 per cent of normal, while the general business of the company has been about normal for several months. He further stated that electric railway credit is very poor, and that the companies would buy if they were able to finance their purchases. The bulk of the business at present is due to the installation of one-man cars on a number of properties. This equipment is sold on a credit basis, 25 per cent cash and 75 per cent in car trust certificates maturing in from one to thirty-six months. M. B. Lambert, assistant manager of the railway department, Westinghouse Electric & Manufacturing Co., followed Mr. Barry on the stand. He read a prepared statement showing the increases in cost of equipment as well as the increase in cost of the raw material from which this equipment is made. His cost increases were very similar to those testified to by Mr. Barry. The material cost increases, expressed in per cent, are shown in the accompanying table.

INCREASE IN COST OF RAW MATERIALS IN PER CENT OF COST IN 1914

Item	Per Cent	Item	Per Cent
Pig iron	106	Coke	35
Steel plates	141	Mica	100
Copper	58	Asbestos	560
Steel castings	220	Other insulation	125
Spelter	30	Sheet steel	180

How the war has affected the cost of cars was discussed at length in a written statement by W. H. Heulings, Jr., vice-president J. G. Brill Company. Mr. Heulings stated that the elements of cost which enter into cost of car equipment for a given road are character of car, whether wood or steel, replacement of light with heavy rolling stock and obsolescence of type. Relative to the latter element he stated that in many cities rolling stock still in good operating condition has been scrapped because the public desired more up-to-date and comfortable cars. The introduction of the prepayment idea costs the industry from $600 to $800 per car converted. Very few cars indeed live out their life time in service on a given property. Mr. Heulings stated that the labor charge entering into the cost of cars increased 120 per cent between 1915 and 1919, and that the material had increased 119 per cent. He stated that about one-third of the cost of the car is chargeable to direct labor expense.

Asked by the commission how car standardization would affect the cost of cars, Mr. Heulings stated that the best evidence along this line was that whereas safety cars had advanced only 50 per cent in cost, other cars have advanced 100 per cent. The safety car as now built is practically a standard car and is used in localities ranging from Texas to Canada, and from California to Maine.

FROM LEFT TO RIGHT: C. H. BECK, HERBERT WARREN OF DULUTH AND L. D. PELLISSIER OF HOLYOKE

The balance of the Friday afternoon session was taken up in hearing the testimony of Henry L. Doherty of the Henry L. Doherty Company, New York. Asked by Counsel Warren as to the effect of increasing fares on railway traffic, Mr. Doherty said that he had not come to the hearing for the purpose of testifying and would have to discuss the matter in a purely general way, as he had no statistical information with him. He classified riding as necessity and non-necessity riding. A raise in fares will diminish, temporarily at least, the non-necessity riding. An increase in fare, however, will increase gross revenue. The counsel for the association then turned the witness over to the commission for counter examination. The commission suggested that Mr. Doherty tell them in his own way his views of the electric railway situation. He discussed the subject substantially as follows: The early 5-cent fare was fixed largely because of the convenience of the nickel. In those days the roads were rarely more than 2 miles in length, whereas now 15-mile to 20-mile rides are not at all uncommon in large city districts. In the early days labor cost 15 cents per hour; now it costs 60 cents per hour. There seems to be no possibility except to raise fares and then go to the cost-of-service basis. The industry ought to have gone to the "metered" riding basis long ago.

Under present conditions security holders are suffering. In the end, however, the public will suffer far more loss than the security holders. If the financial credit of the railways is not restored extensions cannot be built, service will have to be decreased, and the wage earner will suffer because he has no other means of transportation. State regulation is better than regulation by local authorities, and in general the industry has not been hurt by commissions but has been hurt by the delay which so ordinarily exist between a necessity and the ruling of the commission on that necessity. In the matter of regulation the public must be educated to the fact that capitalization and valuation have no relation. As a general proposition there should not be as much difference in valuations as made by different experts as now exists. As far as franchises are concerned, the less there is in the body of a franchise the better for all concerned, provided regulatory bodies act promptly. The franchises now presented by city authorities contain about one-half page of rights of the company and sixty pages of rights of the city.

Difficulties with the public have been great because little grievances have been exaggerated for political purposes for so long that the people think they have to guard their rights very closely whenever matters pertaining to public utility corporations are involved.

Monday's Sessions

At the opening of the hearing on Monday Counsel Warren said that he would like to introduce two reports on the cost of materials. The first was from A. H. Englund, vice-president and treasurer Electric Service Supplies Company, Philadelphia, giving a list of average prices for a variety of electric railway materials for 1914 and 1918 by years and for the first six months of 1919. The material thus included embraced lighting arresters, overhead line material, high-tension transmission material, copper rail bonds and car equipment specialties. Tables were presented, in most of these cases, both of the actual figures and the percentage increases. A typical table follows:

CAR EQUIPMENT SPECIALTIES

Relative selling prices during the years mentioned in percentages, prices of 1914 being taken as 100 per cent.

Item	1914	1915	1916	1917	1918	1919
Steel gear cases	100	105	126	211	238	239
Incandescent headlights	...	100	112	142	155	155
Trolley catchers	100	100	111	139	168	200
Curtain signs	100	110	165	175	200	213
Lighting fixtures	100	100	100	110	115	120
Fixture shades	100	100	104	121	132	166
Trolley poles	100	100	123	181	230	265
Trolley cordage	100	106	122	161	221	250
Fare registers	100	106	125	139	139	139
Motorgears, West. 101, solid cast steel	100	106	119	206	224	224
Motor gears, West. 101, solid forged steel	100	115	146	189	240	245
Motor pinions, 17 teeth, 5-in. face	100	116	167	244	260	267
Average percentages	100	105	127	168	194	208

The second exhibit was a statement from James S. Thompson, vice-president American Brake Shoe & Foundry Company, of the cost of steel plate, pig iron, scrap iron and coke from July, 1912. The costs were expressed in percentages as given on the chart herewith. Commenting on this chart Mr. Thompson said, in part:

"This chart shows generally that from July 1, 1912, to July, 1915, there had been slight reductions in the

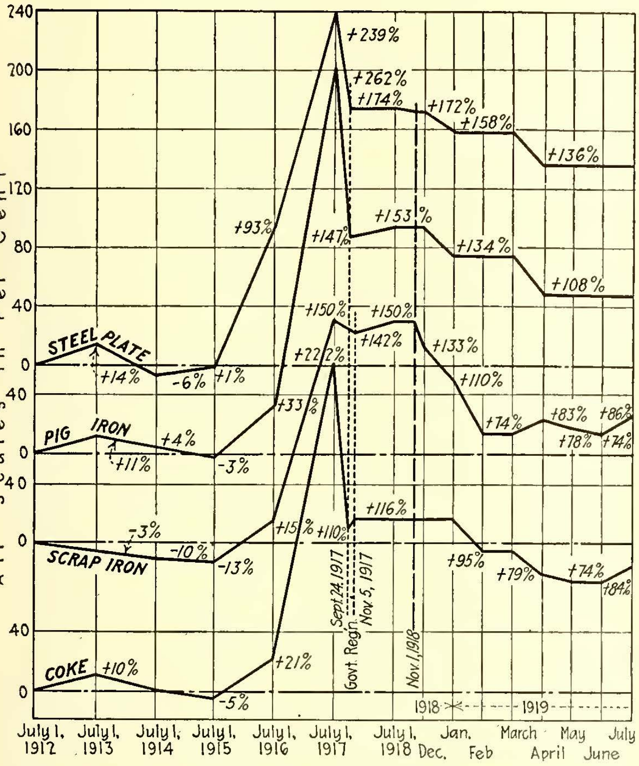


CHART SHOWING INCREASES IN COSTS OF SEVERAL RAW MATERIALS

costs of materials. From that date, however, up to and including July 1, 1917, the costs increased rapidly, and the peak of all raw material prices was reached upon that date or within a few months thereafter, when the government established maximum prices for the materials we use, and the chart therefore shows declines to the government prices. From this date until the signing of the armistice in November, 1918, the prices remained the same or increased slightly, due to additional charges for transportation and—in the instance of coke—to increase in the government price.

"After the armistice was signed, prices remained comparatively steady for a brief period, excepting for scrap iron, and then declines occurred in all materials until June, 1919, when the prices of scrap iron and coke increased, so that on July 1, 1919, there had been an increase of 12 per cent in scrap iron over the June 1 purchases and 10 per cent in coke. The chart shows that the increases in the prices of raw materials on July 1, 1919, over those of July 1, 1912, were as follows:

	Per Cent.
Steel plate	136
Pig iron	108
Scrap iron	86
Coke	84

"It may be added that since July 1, 1919, until this date—July 18—there has been further increases in the price of scrap iron, amounting to about 7 per cent, and it is expected that additional advances in steel plate, pig iron, scrap iron and coke are imminent."

Mr. Warren then introduced the following letter in regard to the extent of interests in electric railway securities of life insurance companies:

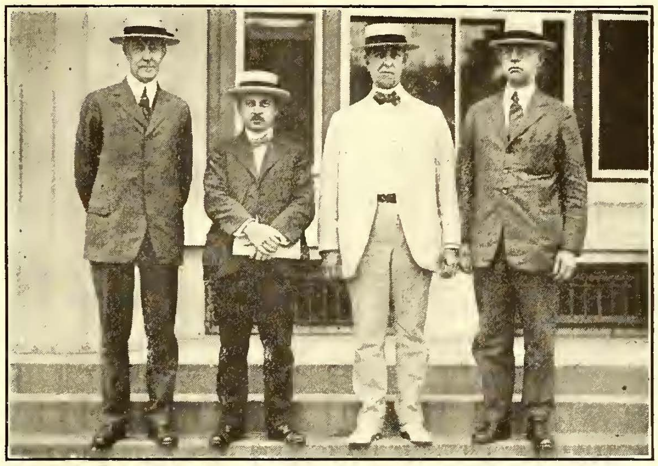
LETTER FROM GEORGE W. SMITH, ACTUARY OF ASSOCIATION OF LIFE INSURANCE COMPANIES OF NEW YORK

The investments of twenty-six life insurance companies in electric railway bonds and stocks—these twenty-six companies representing every company in this country having $500,000 or more invested in public utilities—amount in bonds to $109,624,550.77 and in stocks to $6,968,120.17. This large investment represents policyholders' money held in trust, and is the property of individual policyholders, numbering over thirty-four million, scattered all over the United States. With this in view, it would seem wise to emphasize particularly, that it is to the individual's interest to have such investment protected, as any depreciation in these funds, due to a decrease in the value of such investments, reverts at once, in a detrimental way, to the interest of each individual.

TESTIMONY OF MR. STORRS

L. S. Storrs, president Connecticut Company, was the next witness and presented two statements, one on the competition of motor vehicles and one on other reasons for the condition of the industry. Abstracts will be found elsewhere in this issue.

In answer to questions Mr. Storrs said that between October, 1917, and October, 1918, the first year during which his fare was 6 cents instead of 5 cents, the increase in revenue was about 10 per cent, but with a reversion to more normal conditions there had been further increase. He thought it doubtful if any one could predict the increase in revenue from a fare increase.



FROM LEFT TO RIGHT: COUNSEL BENTLEY W. WARREN, WALTER A. DRAPER, W. C. CULKINS AND L. R. NASH

He believed the jitney and motor truck should be subject to the same regulation as the electric railways and that public service commissions should pass on the advisability of the construction of new roads. When asked to name the fundamental needs of the electric railways he summed them up as:

1. Recognition of need for a reasonable rate of fare;
2. Relief from imposts not connected with transportation; and
3. Regulation of competition.

He described several sections of line abandoned by the Berkshire Street Railway. There was little opposition to this in the winter, but with warmer weather people along the line had petitioned the Massachusetts Commission to see what could be done. Undoubtedly, he said, the people were inconvenienced by these abandonments and property values suffered.

He then spoke highly of the frequent service car in operation in several cities in Connecticut. On request of the commission he agreed to compile figures on package freight business conducted by his company.

The first witness at the Monday afternoon session was L. R. Nash, Stone & Webster, who explained that the service-at-cost idea had antedated that of commission regulation in the states where it had been tried. If the state of public service regulation had been farther advanced, there would not have been the same field for service-at-cost plans. The same principle was followed in both so far as rate regulation is concerned, namely: A determination of the valuation, rate of return, provision for depreciation and reasonable allowance for expenses and taxes. The commission then fixes the fare for individual cases while the service-at-cost plan fixes it for all time with such flexibility as may be introduced. One advantage which the service-at-cost plan has is that the rate of fare changes automatically so that delays are avoided. Under the service-at-cost plan either a municipal commissioner or the state public service commission could take supervision.

In this connection he brought out the fact that in the proposed Philadelphia service-at-cost plan the commission would have been given the supervision of operation, and that in Montreal the local board is really the agent for the provincial public service commission.

Mr. Nash then outlined the various service-at-cost-plans in use, along somewhat the same lines as were contained in the article by him in the issue of this paper

LEFT TO RIGHT: A. S. HILLS OF WASHINGTON, JOSEPH ALEXANDER OF CLEVELAND, CHAIRMAN ELMQUIST OF THE COMMISSION, JOHN J. STANLEY OF CLEVELAND AND S. L. TONE OF PITTSBURGH

for Jan. 4, 1919, emphasizing particularly the features of the indeterminate term, absence of franchise taxes and need of flexibility in fare schedules.

Mr. Nash then gave place to W. C. Culkins, street railroad commissioner at Cincinnati, who gave the history of the service-at-cost plan in that city. He said that the original fifty-year franchise of the company was subject to review at the end of twenty years and that it was at the time of this review that the present plan was adopted after several others had been considered. He then described the operation of the plan with whose general principles he expressed himself in favor. He thought the present loss of traffic would not be permanent. He said people had acquired the idea the nickel was the proper rate of fare, but when they understand the situation they will feel differently. In conclusion he emphasized the necessity of considering each city individually in connection with the proper rate of fare. A city with long lines, and long hauls, like Cincinnati, for instance, could not have the same fare as one with shorter hauls and high traffic density.

Walter A. Draper, vice-president Cincinnati Traction Company, then presented a statement on the need for an incentive for economical operation under service-at-cost franchises, the subject which had been especially assigned to him. This statement will be found in abstract on another page. In answer to questions he said that the plan would naturally come up again for consideration in 1931. Until that time no change could be made in it except by mutual agreement. For instance, this plan would have to be followed if expenses went so high that a uniform fare, such as is provided by the plan, would be so large as to be prohibitive. The common stock participates only if the fare goes to 6 cents, and at present there is no such participation.

When asked for any criticisms of the plan Mr. Draper said that in his opinion there should be some consideration for the company, no matter what the rate of fare is. He also mentioned the budget provision and the difficulty of determining far ahead what the expenses were to be, and also the limited term of the franchise, but said that the Ohio law would not allow a change from a limited to an indeterminate franchise.

The hearing then adjourned until Tuesday morning.

Tuesday's Sessions

L. D. Pellissier, president of the Holyoke (Mass.) Street Railway, was the first witness on Tuesday morning. He said that the Massachusetts commission has absolute power over rates. In Northampton and Holyoke the rate had been raised from 5 to 7 cents. On most of the suburban section the 5-cent rate has been retained but the zones shortened so as to be about 2 miles in length each. In Northampton the 40 per cent increase in rate had resulted in about 25 to 30 per cent increase in revenue since Jan. 1, 1919. All the stock of the company had been issued at par or at a premium. Mr. Pellissier thought that in congested territory the company had lost some short haul passengers. About 5 per cent of these had gone to the jitneys. He believed, that an increase in fare would increase revenue and that traffic will adjust itself to the new fare.

Job E. Hedges, receiver New York Railways, the next witness, said that it was taking part of the capital of that company to keep its lines in operation. It was paying no rentals to its leased lines and one subsidiary had already been severed from the system. The Public Service Commissioner had authorized a charge of 2 cents for transfers to begin Aug. 1, but the city had attacked this order. The high-water mark in traffic on the surface lines was reached in 1913, and the company was now approaching this figure and, in Mr. Hedges' opinion, would not exceed it. While some protest will naturally be raised when fares are increased the speaker did not think there would be serious objection when the people understood the necessity for the increase. He considered municipal operation would be much less efficient and was rather inclined to believe that prices in general would decrease in the future rather than remain at their present level. He said "If rates don't go up, the roads will." He believed that if the Commission should issue a statement that the present policy of terating the railways was tantamount to taking property without compensation, it would attract attention and help greatly.

Views of a New York Banker

The next witness was S. R. Bertron, of Bertron, Griscom & Company, bankers, New York. He said that his firm had handled many street railway securities.

For a long time it was thought that selective securities of steam and street railways were choice investments, because these properties supplied a public necessity. In consequence they were sold on a low interest bearing basis and held by many insurance companies, estates, etc. When the war came it was understood that the companies were doing war service; in fact, this statement was made by the highest officials in the country, yet the street railways were the only industry which was not able to pass the burden on to its customers. The problem was said to be a local one, although it was nation-wide. Only a few local authorities responded promptly, and a still smaller number afforded sufficient relief. When the problem was put up to these local authorities the sentiment seemed to be that the company could get on somehow. It is practically impossible now to sell street railway securities to investors and no money could be raised unless credit was re-established. Temporary relief would help, but a permanent solution is necessary. The speaker said he was not so averse to municipal ownership as some others. He did not think the management would be necessarily political, and credit would be restored promptly.

In answer to questions he said that most of the larger issues of securities have come to New York for flotation. Few cities will absorb their own securities of this kind certainly on an initial issue. The cost of handling bonds was from 2 to 5 per cent. Recently the interest has been so high that companies could not afford to finance. He thought that companies operating on a service-at-cost basis could issue securities successfully if the terms of the agreement were considered satisfactory to the lawyers passing upon them.

New Orleans Banker Urges New System

J. K. Newman, banker, New Orleans, explained that in the early days railways were considered very profitable and franchise values had been capitalized. Many companies had not included the cost of replacements and renewals in their operating expenses, though St. Louis, which had done this for a number of years, was now in the hands of receivers. In his opinion it would be necessary to set up a completely new financial arrangement. He did not consider municipal ownership imminent because politicians knew that fares would have to be raised under municipal ownership and would not like to advocate such a measure. He considered the service-at-cost plan desirable. This would permit the cities to specify the kind of service they desired, whether in seatless or luxurious cars.

At the afternoon hearing, Mr. Newman continued his testimony on renewals and replacements, desiring to emphasize the great mistake which has been made in capitalizing these expenditures rather than paying them out of operating revenues. While the industry was growing by leaps and bounds in the early days, the traffic growth caused an appreciation of the properties which, it was thought, offset the effect of capitalizing the renewal and replacement costs, but with the passing of the flowery days, this procedure has brought about an overhead charge so great that most of the companies are burdened almost beyond solvency. He looked upon this practice as one of the principal contributory causes of the present state of the industry and pointed out that the remedy lay in a complete new financing system. Mr. Newman was certain that the success of any cost-of-service or other plan of future operation must be predicated on the payment of all the depreciation charges out of operating revenue and that the public authorities could very properly have control of the determination of the rate for such charge. He was also firm in the conviction that if the public was once shown to its satisfaction that the fare charged for a ride represented the actual cost of the service plus a fair return on the legitimate investment, and that no part of it went toward dividends on watered stock, it would willingly pay whatever fare was necessary commensurate with the service given, yet he believed the public might be inclined to discredit the statement of the facts if made by the company, and that the federal commission would do a great deal toward convincing the public, if it saw fit to corroborate this as a general finding.

Another interesting point of Mr. Newman's testimony and one on which he was closely questioned by the commissioners, was that in a general financial reorganization, when it follows insolvency, a great part of the common stock must be wiped out of existence. The old securities must be cancelled and new issued to

FOUR MEN ACTIVE IN THE PRESENTATION OF THE RAILWAYS' CASE IN WASHINGTON: J. W. WELSH, E. B. BURRITT, L. S. STORRS AND JOSEPH K. CHOATE

represent sound value as invested in the property. In this process, it was unfortunate, but the holders of the lower grade stocks would have to be losers, for the most part. In connection with such a plan, however, he pointed out that it was not always necessary to treat the senior securities at their full par value, since their present-worth value was often much less than that, and that it was often proper in a reorganization for holders of the junior securities to retain some equity. Questioned as to the degree of assistance which might be realized from a zone fare system or the use of one-man safety cars, Mr. Newman thought that either would be a help but not a sufficient help to allay the present march toward bankruptcy. They do not offer a solution to the present situation. He said there were several places on the properties he represented where safety cars ought to be used but that the companies were unable to finance the purchase of these cars.

Contrary to the feeling of most electric railway men, Mr. Newman preferred to continue the costs of paving, street sprinkling, snow removing, etc., as part of the obligations of the street railways. His thought was that it would complicate the issue in securing the consent of the public, to go to it for both a reduction of these burdens and an increase of fare. It would be simpler to retain these burdens and go after a fare increase ample to provide for these items of expense.

Experience of a Shipbuilder

Homer L. Ferguson, president of the United States Chamber of Commerce, president of the Newport News Shipbuilding & Dry Dock Company and a director of the electric railway system operating in that vicinity was the next witness heard. He told of the appointment of a committee of the Chamber of Commerce to investigate the electric railway situation and informed the commission that this committee would have its report ready in the very near future. Asked if the business men of the country were aware of the difficulties of the electric railways, he said they were and that they realized the condition to be critical and demanding immediate relief. He said it seemed strange that it was necessary to discuss the necessity of higher fares, since it was so obvious with everything increased in cost, that the same old fare could not continue to cover the cost of the car ride, for the electric railway men had no power of working a miracle any more than any other business men.

Mr. Ferguson became interested in his local street railway because it had lost its credit, with the result that the property became so run down that his shipyard employees could not get to and from work. The consultants called in to prescribe for the company had induced several local men to purchase enough stock to become directors of the company as an effective means of restoring the company in the good graces of the community. Mr. Ferguson became a director at this time. By virtue of the restored credit, the company was able greatly to improve the service and to earn a fair return on a fare slightly lower than the old company had charged. A great increase in population in the community has netted a good return so that his company was now in an exceptionally favorable financial condition as compared with other companies.

He cited how the Emergency Fleet Corporation had financed the building of a new line for the company and had specified a higher rate of fare than that charged elsewhere on the company's lines, thereby recognizing the necessity to take into account the higher costs of construction now involved. Incidentally, he commented that this line had been built to serve a new town of 500 homes, each provided with ground for a garden, built by the Shipping Board, and suggested that that was a most effective way of answering the arguments of bolshevism—induce every man to become a home owner.

Upon questioning by the commissioners, Mr. Ferguson gave figures to show the increase in wages in the ship yards, which by comparison made the trainmen's wages look not so bad. He also stated that he could see no indication of a downward trend in wages and if there was any trend at all, it was upward. He thought it was a matter not of months but years before any lowering of wages might be expected.

Mr. Stanley Testifies

John J. Stanley, president Cleveland Railway, next took the stand. Upon request of Counsel Warren, he outlined briefly the service-at-cost franchise in operation in Cleveland. Subsequent questioning brought out that the rate of fare had been first increased in 1917 and then several times during the last year so that it has changed from an original 3-cent fare to the present rate of 5 cents and 1 cent for a transfer. He doubted if it would be possible to continue the present rate if the scale of wages should exceed the present 60 cents. The operating expenses in March, 1910, were 11.5 cents per car mile, while they were now 23.5 cents.

Asked as to the effect of the fare increases on the number of riders, Mr. Stanley said that there had probably been a falling off of about 8 or 9 per cent, although some of this might be accounted for by the general decrease in the rate of increase of the number of car riders over the country.

Mr. Stanley stated that the company was building five new extensions this year comprising 5 to 7 miles and entailing an expenditure of $50,000 to $60,000 a mile, for which new stock was sold at par. Asked how he was able to sell at par, he said that the real secret of it was coöperation between the city and company, and he quoted a statement of Mayor Baker of Cleveland in which the interests of the people and the railway were set forth as one and the same. Then he cited some of the things the city does for the railway, mentioning the use of eight city bridges without rental or assessment, the freedom from paying charges, the payment of extensions ordered by the Council from taxes assessed against the adjoining real estate, the relief from street sprinkling charges which formerly cost the company from $30,000 to $40,000 a year and instead the payment of $15,000 to $20,000 a year to the company for flushing the streets. Mr. Stanley attributed the low fare in Cleveland to the freedom from such imposts and obligations, and to the reduction of the capital at the time the Tayler grant became effective. The only suggestion he could make for improving upon the Cleveland franchise was that there should be no maximum or minimum fare specified.

R. T. SULLIVAN OF YOUNGSTOWN

The commissioners asked numerous other questions as to the extent of control and supervision vested in and exercised by the city. In this connection it was brought out that the cost of conducting the street railway commissioner's office was from $40,000 to $60,000 a year, and that a force of about twenty-five employees was maintained. This cost comes out of the railway earnings.

On Tuesday the practice of holding evening sessions was begun. The session began at 8 o'clock and Counsel Warren first read a long telegram from Paul Shoup, president Pacific Electric Railway of Los Angeles. It indicated that conditions on the Pacific slope were no better than the East and that while some companies had been able to raise fares, the increases were not adequate.

The next witness was Charles A. Fagan, receiver Pittsburgh Railways, who said that of the annual operating revenue of about $15,000,000 received by his company between 65 and 70 per cent was being spent in wages. The company is not attempting now to pay any bond interest nor rentals of leased lines, nor even any municipal charges. Of the latter there are many in Pittsburgh, including tolls over bridges which are free to other users of the highway, pole taxes, etc. Shortly after he had been appointed receiver of the company, representatives of the War and Navy departments, who were interested in securing reliable transportation for the war workers in the Pittsburgh district, conferred with the receivers and with representatives of the city's Chamber of Commerce in an effort to secure more reliable transportation. In consequence of their insistence all revenues above operating expenses were then, and still are, being put into service improvements and the rehabilitation of property rather than into the payment of the capital charges and municipal charges mentioned.

Mr. Fagan then described the original 5-cent-7-cent zone system as introduced by the company during 1918 and said that while the riding had fallen off about 14 per cent the revenue had increased about $600,000 for the year. This amount, however, is not adequate, especially as the employees are asking for increased wages and the case is now before the National War Labor Board. If granted, this will make four increases since December, 1917. Mr. Fagan then described the proposed increase in fares, demand for increased wages and other matters discussed by Mr. George, his co-receiver, and printed on page 165 of this issue. In conclusion, when asked for a suggestion for improving the electric railway status, he said that the same public body should pass on both wages and fares.

Dallas Franchises Described

W. E. Head, vice president of the Dallas Railway, described the service-at-cost franchise adopted in that city about two years ago and patterned somewhat after the Cleveland franchise. Under a state law all cities of 5000 population or more in the state have practically all the powers of regulation which a legislature would have except for certain state regulations. As these include a paving obligation, one is contained in the company's franchise. Some of the chief differences between the Cleveland franchise and the Dallas franchise, as mentioned by Mr. Head, are as follows:

In Dallas the city does not exercise any control over the securities issued by the company except that the company is not allowed to issue bonds for more than 85 per cent of the property value. Every dollar which goes into the property is supervised and no allowance is made for the cost of obtaining money. The "property value" is made up of the original agreed valuation, plus any additional capital charges which are approved by the city.

Monthly reports are issued by the city's representative on the earnings of the company and on any changes in the property value. The rate of return permitted with a 5-cent fare is 7 per cent on the property value, but there is a sliding scale under which a higher return is permitted if the fares are lowered. Thus, 7½ per cent is allowed if six tickets are sold for 25 cents. The upper and lower limits of the surplus reserve are percentages of the property value instead of fixed sums, as in Cleveland. The greatest defect in the franchise, in the speaker's opinion is that fares have a top limit, which is 5 cents.

The lighting franchise in Dallas, owned by a separate company, has a similar limit in it, but it affects only the maximum rate, so does not seriously interfere with operation. The effect on the railway has been to limit the return earned to far less than that commonly secured in Dallas in other commercial enterprises, so that the company has not made any extensions, indeed they cannot be required by the city if the company is not making its full 7 per cent return. If financial conditions had continued as they were in 1913 and 1914 the property would be earning about 8 per cent on its property value in the writer's opinion. Other than for this point the franchises seem to work very well and had resulted in hearty coöperation between the city and the company.

One of the clauses in the contract was that jitney competition was to be stopped. This was finally done about June 1, 1918, by the exclusion of jitneys by ordinance from the central zone. This ordinance has been adjudicated and sustained. The effect of this elimination on the traffic was shown by the receipts during May, 1919, which were 48.3 per cent above those during May, 1918, May of last year being the last month during which jitneys were operated. The increase of June, 1919, over June, 1918, was about 10 per cent.

Wednesday's Sessions

Charles J. Bullock, professor of economics, Harvard University, who has recently been making a study of electric railway taxation, was the first witness called before the commission on Wednesday morning. He presented a written statement of the results of his study, an abstract of which appears elsewhere in this issue. The questioning which followed was addressed towards bringing out the injustices of the present taxation policies and establishing what ought to be paid in the way of taxation now during the emergency and in normal times.

Taxation Problems Heard

Taxation remission as a means of relief was believed to be too slow to supply the immediate relief needed, but Professor Bullock thought the commission ought to include in its findings a recommendation looking towards the working out of a basis of taxation equitable to the electric railways and other businesses and towards the abolishing of all taxes which cannot properly be considered as contributing to the service. As to the advisability of a total remission of taxes, the professor said that we shall probably have to come to that as a temporary measure to sustain the companies, for this is simply a question of giving a subsidy to an essential industry which faces ruin.

"In other words," Commissioner Sweet put in, "instead of fowls to be plucked, the electric railways are really to be fed, or at least given consideration, if we are to continue to have transportation." To this simile of the situation, Professor Bullock agreed. It was also brought out that the two outstanding considerations in fixing taxes are to produce the necessary funds and then properly to distribute these requirements over all sources. With this in mind it was obviously wrong to assess the electric railway company with taxes on paving which it does not aid in wearing out, for that apportions a tax on the street car riders which they should not be obliged to carry. The same argument applies to other unjustified taxes.

Professor Bullock suggested that he believed a recommendation for higher rates would have more weight if it were accompanied by a recommendation for lower taxes, particularly the abolition of those promiscuous special taxes on the transportation industry which are outside the law of equality of tax. He would have the car rider pay the full cost of the service rendered, but with the unjust taxation removed from this cost. He thought the service-at-cost plan works admirably as a means of educating the people in the real problems and conditions of the industry. The objection to a 10-cent fare in Boston had been negligible compared to what it would have been in the absence of a service-at-cost plan. In fact he knew of no better plan of presenting to the public the idea that it must pay for the cost of the service than through the operation of a franchise of that type. He could see no economic defect in the service-at-cost contract.

Questioned as to whether the 10-cent fare in Boston would return the necessary revenue, the professor replied that, taking into account the wage award which settled the recent strike, it was his guess that it would not. As to whether municipally owned railways should be taxed, he was strongly of the opinion that the same principles of taxation should be applied to such properties as to privately owned properties. He said there was an absolute limit to the amount of property that could be removed from taxation, so that if there was a general removal of the ownership of electric railways from private to municipal holders, this question would come seriously to the fore.

Asked if it would not be better to adopt the principle of taxation of net income as a permanent policy, a suggestion he had made in his written statement as a temporary policy, he replied that it would be, except that this cannot be done on real estate which is an element of street railway tax. Real estate should not be exempted from tax under any consideration.

SERVICE-AT-COST CONTRACTS EXPLAINED

L. R. Nash, of the Stone & Webster organization, was next summoned to the witness stand to continue his testimony which had been interrupted on Monday. He presented a printed pamphlet which was a reprint from the ELECTRIC RAILWAY JOURNAL for Jan. 4, 1919, of an article written by him dealing at some length with the history and working out of the various service-at-cost plans in operation over the country. The commission took particular interest in his ideas of allowances for depreciation and of the question of rate of return on the investment. It was his opinion that it was impossible to set aside a sufficient fund to provide fully for depreciation, obsolescence, supersession, etc. The expected renewals should be provided for but not the theoretical or unforeseen obsolescence and supersession. He believed that any contract should provide a minimum percentage of the gross earnings which should be set aside in a depreciation reserve or spent each year in order properly to maintain the value of a property and protect the investors. Moreover it is impossible to provide for the full depreciation because, to begin with, we do not know the life of railway property. Mr. Nash had never seen any railway plant worn out. But obsolescence has been a real factor, and no one can predict how important a factor this will be in the future. He believed that replacements should largely be paid for by the car riders who benefit directly from the improvement rather than to make present car riders pay for the improvements anticipated for the future. In other words he preferred not to amortize for the benefit of future riders, but to charge the cost of the service rendered at the time, plus the cost of amortizing for the expected renewals.

As to the rate of return on the investment which should be provided for in a service-at-cost franchise, Mr. Nash thought that there should be no maximum or minimum rate specified, nor should there be any maximum or minimum rate of fare specified. He affirmed Commissioner Gadsden's statement that the rate of return which would have to be allowed would vary and would be determined by the investors, for if they did not get a satisfactory return from electric railway securities, they would put their money elsewhere. In reply to a leading question by Commissioner Beall Mr. Nash agreed that there could never be a contract provision for a lowering of the rate of return allowed with the coming of an easier money market, for neither bonds nor stocks could ever be sold with such a possibility. A bond with a rate of interest subject to lowering had never been known, and the purchaser of stocks buys always with the expectation that the dividend will not decrease and will probably increase. Mr. Nash stated in answer to a question as to what the rate of return ought to be, that if living expenses went up 50 per cent, then the earning power of money ought to go up an equal amount.

On the question of the incentive for efficient management with the service-at-cost plan, and answering a question on this aspect of the Cincinnati plan, Mr. Nash said that the principle in the plan of that city was correct but that the figures forming the basis of the reward were such that the incentive was only fictitious—that the conditions for reward could never be reached. He said it was practically impossible to forecast what the normal rate of fare which should serve as the basis of a sliding scale reward would be. Or if a variable basis were provided for, then he knew of no way that it could be adjusted fairly to changing conditions. For this would require absolute unvarying fairness on the part of the commission which controlled the basis, and there is always a tendency to crowd such an allowance down if something is made one year. Or if the company were able to make something, having a fair commission, then someone would charge collusion between the company and commission.

The questioning brought out that the principal results of the service-at-cost plan were, first, the assurance to the investor of a fixed fair return on the investment, and second, the assurance to the public that it is having to pay only the cost of the service which is rendered.

Asked what measures he would use to deal with the Pittsburgh situation, Mr. Nash said that first he would quickly inform the public of the actual conditions so that it would know that its feeling that the company could live off the fat of earlier prosperity is a myth. Second, he would endeavor to advise the public of the justice of a higher fare, both from the standpoint of the investors and of the public, for the two interests are not conflicting but are the same in the long run. Third, he would endeavor to secure a service-at-cost franchise as the best means of restoring credit.

Mr. Nash's testimony carried over into Wednesday afternoon. He was followed by Charles L. Henry, president Indianapolis & Cincinnati Traction Company, with whose testimony next week's account of the proceedings will begin.

Formal Statements at Washington

Abstracts Are Given of Written Testimony Presented by Several Witnesses at the Hearings Before the Federal Electric Railway Commission

IN the running report of the Washington hearings before the Federal Electric Railway Commission an account is given of the informal testimony presented. A number of the witnesses read formal statements and of these several are abstracted on this and the following pages.

Reasons for Railways' Present Condition

By L. S. Storrs
President The Connecticut Company, New Haven, Conn.

THE problem confronting the street railway to-day has risen by virtue of many causes. One of the most vital causes, which cannot fail to be readily understood by the public generally, is the increased value given to the patrons and communities served in the form of extensions of lines and improved facilities, the operation of which could not possibly be made to produce an increased revenue.

In the early days of the electric railway industry the optimism of the promoters and investors was such that it was thought an electric railway could, by operating at so much higher speed than any other form of street conveyance, show a profit hitherto unknown in the transportation field. There are few companies to-day which are not suffering as a result of that belief. Increase of speed was the excuse for extending many lines shortly after electrificaton of the horse railways and as two or three times the distance could be covered in a trolley car as by the horse car in the same space of time, many companies made extensions of lines into territory which it took no longer to cover by this improved method of transportation than it took to cover a much more restricted area by the old. Thus a fifteen-minute ride cost no more to the rider under the new system than formerly, notwithstanding the distance traveled may have been three times as great. No one would deny to-day that these unprofitable extensions were a mistaken policy from the standpoint of the railway treasury, but from the standpoint of the public at large they were a blessing to many a rural community.

Electric Railways Increased Real Estate Values

For years the patrons have secured more than they paid for, and the lines could not have continued in operation without support from the short haul business of the more populous centers, the revenue from which has in recent years been materially diminished through increased use of motor vehicles and increase in cost of operation, all of which makes more precarious the continued operation of these extensions.

Not only were extensions into unprofitable territory made upon the initiative of the railways but due to the seductions of the real estate promoter who wanted but a mere quarter of a mile longer ride for his prospective purchasers, many managers felt it not only good business judgment but expedient as well to build a slight extension for this purpose, always of course without additional fare.

The value to these patrons has been for years reflected by the low cost of the ride and a decided unearned increment to the adjacent property, yet it is with reluctance that persons who have so benefited are willing to concede one iota to the company which has given more than value received ever since the extension was built. Real estate promoters even to-day advertise their wares more upon the basis of the cost of reaching the territory by trolley than by the particular attractiveness of the land itself.

The railways and real estate men are not alone to blame for many unprofitable extensions, but much of this extravagance in building in later years was due to political bodies and commissions without any or sufficient investigation of the surrounding conditions from a traffic viewpoint. It is well known that a street railway company could ill afford to incur the enmity of a political body which created the franchises, the possession of which was necessary to the life of the corporation. Irrespective of the reason why extentensions were built into unprofitable territory, we know to-day that many of these companies have failed to survive and those which were consolidated into a larger system have been carried along for years at the expense of other portions of the system.

Comparison With British Cities

The fundamental theory upon which the electric lines in England have developed is entirely opposed to that of expansion as used in the United States, for there each extension is expected to produce sufficient income to make it a paying venture when considered alone.

The result of this basis is clearly shown by the following consideration: It has been pointed out that if the electric railway facilities of Columbus, Ohio, had been developed in no greater degree than those of Glasgow, Scotland, Columbus would have attained but 15 per cent of its present area, all of the present population being forced into the territory thus restricted. Bridgeport, Conn., would have less than one-quarter of its present street railway trackage had it no better facilities than those of Aberdeen, Scotland.

As showing the difference in the facilities afforded to American and European cities by electric railways, the following tabulation of statistics for cities in Great Britain having a total population of 965,000 and cities in New England having a total population of 1,085,000 is of interest:

Item	Great Britain	New England
Population	965,000	1,085,000
Miles of track	156	695
Population per mile of track	6,187	1,560
Revenue per mile of track	$16,767	$13,314

Perhaps the most significant item of this comparison, showing as it does the absolute lack of accommodation for that portion of the British communities living

*Abstract of statement presented at hearing of Federal Electric Railway Commission, Washington, July 21, 1919.

in the thinly settled territory, are the figures which give the population per mile of track. In England it is 6187, in New England 1560.

Inauguration and Extension of the Transfer System

The value to the patrons and the communities through the inauguration and extension of the free transfer system, while generally realized, if considered at all, nevertheless is something taken for granted by the public. In the early days of the industry there were in some cities as many as ten or twenty different street railway lines each chartered to perform a public service upon certain specified routes. Each company charged its own fare, generally in excess of 5 cents. Upon the electrification the fares were gradually reduced to a nickel, but even so, each company collected its own nickel and gave no right to transfer to the lines of any other company. Later, however, traffic arrangements were entered into by the several companies for the purpose of encouraging traffic, but more often because of conditions and limitations in franchises providing that free transfers be given from one point to another in the various cities. Upon the consolidation of companies into one, which took place in practically all the cities, a general system of free transfers was either granted by or imposed upon the consolidated company, and as a result the patron has received an added value to the service received by him.

To show the extent of the benefit and value to the car rider one has only to cite the case of a man who was given a nickel by Ex-President Brush of the Boston Elevated Railway System, told to ride as far as he could on that system for the nickel, and who rode 54 miles and then gave up, not because he had completed the maximum ride possible for a single fare, but because the rider was exhausted. While this example may be somewhat uncommon, it is a fact that a person can ride, by means of a free transfer, a much greater distance than any company can afford to carry him.

Improvement in Character of Track and Equipment

The improvements and comforts demanded of electric railways by the public since electric cars began operating have added tremendously to the value of the service given.

The old horse car cost from $800 to $1,000, was heated by straw and "animal heat" of passengers, lighted by kerosene and propelled at a pace not much faster than a walk. It was hardly more than a good-sized box mounted on four wheels. The first electric cars cost about $4,000, some heated by stoves and some by electricity. The difference between these first cars and the modern street railway car, that costs to-day as high as $17,000, is indicative of the increased value of service given to the public from the standpoint of equipment alone. Everything in the nature of an improvement looking toward comfort, speed and convenience is demanded by the patrons, and in the past seldom refused by the railway.

With the development of equipment there has been an attendant increase in the cost of track. The original track designed to carry cars weighing but eight tons was considered amply secure if laid with rails weighing 48 lb. per yard without any preliminary preparation other than sufficient ties to hold the rails in place. Such track cost an average of $10,000 per mile of single track. The development of cars weighing as much as thirty tons and the requirement of heavy permanent pavements have necessitated the use of rail weighing from 91 lb. to 125 lb. per yard, with an accompanying requirement of heavy ballast and concrete foundation preparation. Such track costs approximately $85,000 per mile of single track at present.

In connection with this increased cost of equipment and track there came the necessity for larger carhouses, with more costly facilities for keeping the equipment in repair; iron poles to support the trolley wires where wooden ones previously had been satisfactory. Where there had been single tracks, it became necessary to lay two tracks, because of the demands of the public for speedier, more frequent, and more comfortable service. The enormous expense entailed by these improvements represents another great increase in the value of the service given to the public.

Directly related to the development of the equipment and the tracks is the demand of the public for better pavement between the rails and in the streets through which the car lines operated. In the horse car days, streets were paved with gravel, cobblestones or water-bound macadam. To-day, because of the rapid development of automobile traffic, the public demands the most costly kind of pavement, necessitating the laying of heavy concrete foundations upon which must be placed asphalt, wood block, cut-granite block or some bituminous mixture. Many times municipalities require that new pavement be laid before the rails have outlived their usefulness, so that frequently rails which still have a number of years of life must be torn up and scrapped, causing a great loss to the railways. This new pavement has directly increased the value of service to the public in several ways, but without the slightest attendant increased revenue to the railway company for the investment.

Heavy Imposts Levied by Communities

Under the present laws in most states, street railway companies are required to pay the cost of new pavements and the maintenance of same on all highways in both city and country to a width of 9 ft. for single track and 19 ft. for double track. In many instances this means frequently the pavement for one-half of the paving of the street in addition to the cost of laying expensive foundations and new and heavier rails, yet the trolley car can run satisfactorily and give service to its patrons whether a street is paved or not.

There seems to be very little accord between the various communities as to what proportion of the cost of a bridge shall be borne by the railway company but the proportion has generally increased with the increase in size and ornateness of the structure, so that in many states as high as 33⅓ per cent of the cost must be borne by the railway company.

In Connecticut there are many highway bridges crossing navigable waters, and the electric railways were originally granted the right to construct tracks over such bridges with the requirement to pay for any strengthening necessitated by reason of car operation. With the increased growth of highway travel and the greater weights of motor trucks as compared with the old drays and farm wagons, there has been a need for more substantial structures. In an attempt to reduce the cost of such reconstruction to the towns and state, a demand was made upon the Legislature to pass a portion of the burden on to the utilities, and this was done by requiring the railway to pay one-third of such cost regardless of the fact that such new structure did not in the least add to the value of the property as a public utility, nor to the convenience of the car riders who must in the ultimate analysis pay the bill. One such bridge now under construction is to cost about $1,200,000, making the assessment upon the electric railway approximately $400,000, or representing the entire appropriation of over 6,000,000 trolley fares on a line that carries a total of but 1,500,000 passengers per year.

The usual franchise tax is considered as a payment for exclusive rights to operate a profitable undertaking, or as a proper charge because of the installation of certain fixtures in the public highways. These taxes have taken many forms, sometimes a fee per year per car operated, per mile of track or per pole, or percentage of gross earnings or in some cases a lump sum. Very few of these taxes have been decreased in later years, but on the contrary, there has been an increase in many communities, especially with regard to a tax upon gross earnings. This tax is exacted even though the railway may be in receivership and fail to earn its operating expenses. Any tax or impost of this nature, while it returns a value to the community in the shape of a lower rate of taxation, can only result in a poorer grade of service to the patrons and, therefore, the resultant value is at least problematical from the standpoint of the community at large.

Where mutuality of interest is recognized, it has been possible to serve the public to the best advantage. In Cleveland the electric railway is relieved of paving construction, snow removal, bridge maintenance and similar burdens borne by railways elsewhere, and the right of the investors to a return upon their investment is recognized by the provision in the agreement between the company and the people that the return shall be considered part of the cost of giving the service.

Need for Incentive for Economical Operation Under Service-at-Cost Franchises*

By Walter A. Draper
Vice-President Cincinnati (Ohio) Traction Company

ONE of the fundamentals of the service-at-cost plan is to arrive at some figure that will represent the return to the company on capital invested. This is reached by ascertaining the present value of the property or the actual cost of the property and allowing a certain rate of return on such value. The rigid application of this rule, however, pays little or no attention to the fact that a return on mere present value or historical value does not include any consideration for the risk originally undertaken or for the care, attention, labor and efficiency bestowed by the company on the development of the property.

The advocate of a fixed and rigid return will say that by the very certainty of its being earned, which is often erroneously called a guarantee, the company is sufficiently rewarded and needs no other recommenpense for its years of effort and endeavor. It is nowadays rather easily forgotten that the property was built and developed by capital that was attracted to it by the anticipated opportunity of making more than a bare legal interest on the investment. In fact, the investor himself has almost forgotten the happy days when he looked forward to the increasing value of his property with the development of the city or country it served; and as increasing costs have left an ever-decreasing margin between income and operation, it is considered the height of kindness and generosity on the part of the municipal or other government to allow a legal rate of interest on the bare bones. Ought not in all fairness an opportunity be given the investor to get a little more by efficient operation out of his money that he has risked in the development of his community than he could have gotten if he had locked it up in bonds or turned money broker?

In settlements of traction problems fixing a valuation and a return the rate is generally made as low as the lowest legal rate of interest. Six per cent is most frequently used. The original investor certainly expected more when he risked his money, and money for utilities cannot be borrowed at that rate very easily now; and if a low rate is fixed in the franchise to define the minimum return, the investors should be encouraged to careful and economical operation by an opportunity of receiving something more if they can earn it.

So much for the ethical side of the question. What of the practical? It is true that a service-at-cost franchise offering an almost certain return makes it more easy, or at least possible, to borrow money. But bankers have always taken into consideration not the question whether a concern can just live—just manage to make ends meet—but rather how much margin, how much over the bare living it can make. And this question of banking and getting new money is a vital one. Not only has the question to be solved as to how street railroads are to make their operating expenses, but how are they to pay interest on borrowed money in the shape of permanent investment or bank loans. Actual experience under the Cincinnati franchise has demonstrated that the banker begins to take more interest when he is shown that in addition to a fixed low interest rate that is practically assured, the company can do even a little better by careful and attentive management. When it comes to marketing securities, those paying a fixed return of 6 per cent will not sell so well as those that have at least some show of paying a fixed return of 6 per cent and then something more. But 6 per cent is not now a sufficiently high return. If 6 per cent must be written in the franchise then let there also be written therein that an additional 1 or 2 per cent can be earned by hard work. If the fixed return is just enough to meet the dividend or interest on a senior security, let the possible additional return go to the common stockholder, who under a service-at-cost franchise is pretty apt to be left at the dock when the boat pulls out, because there is no room for him. And don't forget that the common stockholder has played his part, if not the important part, in the development of street railroad enterprises. The senior security holder is the banker. The common stockholder is, or was, the prospector, the pioneer, the builder, the man with the vision.

Those who operate street railroads have not lost, and it is to be hoped never will lose, their ambition to operate as economically and efficiently as possible; and yet, because we are all still human, there is needed in addition to the desire to make a showing, the spur of real financial benefit. Under a rigid service-at-cost franchise the company really becomes a sort of clearing

*Abstract of statement presented at hearing of Federal Electric Railway Commission, Washington, July 21, 1919.

house for the money it takes in. It pays the employees, then the tax gatherers, and then the senior security holders. This takes it all. Justice and good business sense dictate that there should be at least a small commission paid for all this work. It will add zest to an otherwise flat existence. Operating under a service-at-cost franchise without some added incentive would be a good deal like asking an old gambler to play poker for fun and not for money.

It has sometimes been said that a service-at-cost franchise with a purchase clause therein and complete city control has all the good features of municipal ownership and none of its bad ones. This becomes true if there is an incentive to careful management in an additional and contingent return.

The Cincinnati franchise provides that when the fare is 5 cents the surplus remaining after all requirements are met shall be divided 55 per cent to the reserve fund and 45 per cent to the company. When the fare is 5½ cents the division shall be 70 per cent to the surplus fund and 30 per cent to the company, and when the fare is 6 cents the division shall be 80 and 20 per cent respectively. When the fare is over 6 cents the company gets nothing. This plan falls short of providing a proper incentive because if the fare goes above 6 cents there is no additional return to the company beyond the fixed minimum. A more efficacious plan would be to allow some additional return at all times, larger as the operating expense is kept down, smaller as the operating expense increases. Even as it stands the company has an incentive to operate efficiently and economically, since by keeping the fares down it will receive a bonus, which can be given the company's common stockholders, who otherwise are cut off under the franchise like a disinherited child.

There is another potent argument for providing this incentive and that is the tendency of the public to feel that if the company is practically guaranteed a certain return and can get no more, it will be indifferent to how high operating costs and fares may go and will readily "pass the buck" to the city in matters of higher wages or any other element likely to affect fares on the very comfortable theory of "Why should we care? Let the men get higher wages, so long as the car rider pays."

In a recent discussion of the wage question with our employees, the main interest the public took in the matter was whether we wouldn't give in without much pressure because it would all go into the rate of fare. In fact some people declared that we were in league with our men to get the rate of fare up and hold it there through their asking for higher wages and our quickly granting the demand. When they were informed that it was to our interest to keep fares below 6 cents as we would then receive an additional allowance they saw things differently.

An added incentive such as that which has been suggested, could be provided in many ways, either by dividing a surplus over requirements as in the Cincinnati franchise, or an addition of 1 or 2 per cent to the fixed minimum return. In all cases, however, it should be made to depend upon the company, not how well it is liked or the degree of Christian fortitude with which the officials bear public criticism, but upon actual tangible results obtained in successful operation. The best test would be provided by fixing the added return inversely on the rate of fare, but allowing something no matter what the fare may be.

Street Railway Credit and Cost of Capital*

By F. H. Sisson
Vice-President Guaranty Trust Company, New York City

THE cost of money is affected by conditions which affect all other costs. The law of supply and demand affects it primarily. The degree of safety and future promise are also instrumental in determining it. There is every reason to believe that, with the tremendous destruction of wealth which has taken place in the world, both through its physical loss and the diversion of vast numbers of men from productive industry, there will be a long period of tight money in which the demand for capital will exceed its supply. The rehabilitation of Europe, the conversion of industry, labor unrest, the re-establishment of trade and the instruments of commerce will all make large drafts upon the available capital of the world, which must inevitably be reflected in higher charges.

As long as wealth remains in private hands, subject to private disposition, it will seek the most profitable fields of investment. It cannot be coerced into situations that do not promise reasonable protection and return, and the present public attitude toward public utilities, whether inspired by political considerations or selfish ignorance, has inevitably diverted capital from such channels into others not subject to these limitations.

Public Ownership Will Not Solve the Problem

This is not a question of the bankers' attitude toward the subject, as the bankers are, for the most part, but middlemen in the handling of securities of this character. The ultimate investor fixes the conditions upon which he will purchase securities and the question of rate is simply that at which the security will pass to the buyer. It is certain that, unless there is a widespread change in the public attitude toward public utilities, the security buyer will not hazard his money in such ventures and the bankers have no choice but to follow his decision. Furthermore, it is certain that no satisfactory alternative is left in public ownership, as there is nothing in the record of public ownership on the whole to warrant the hope that this may offer a solution of the problem.

Stripped of all complications, the question seems to be whether or not the American public are willing to pay for service rendered. The alternatives are simple —either the service will not be rendered and the growth of our communities and the comfort of our people will be denied, or the cost must be met, either directly, through fares, or indirectly, through taxes. As to which of these alternatives is economically sound, I assume there can be no doubt. The open question is whether the traveling public will continue to deny to its utilities the basis of charges which it accepts in every other line of business.

Can Not Sell Nickel's Worth of Transportation for Half Price

With the average purchasing power of the dollar decreased generally about 50 per cent since 1914, it is impossible for 2½ cents to buy 5 cents' worth of transportation; that is the sum and substance of the whole situation.

The impairment of the street railway credit struc-

*Abstract of statement presented at hearing of Federal Electric Railway Commission, Washington, July 18, 1919.

ture has been brought about through increased operating costs coupled with a fixed unit of fare. Prices of some of the most important material used in the maintenance of street railway property have increased 38 per cent to 126 per cent over those in 1914. Increases in wages and fuel, the largest items in the cost of operation, in some localities are as high as 100 per cent over prices prevailing in 1914. In recent testimony before the Congressional committee on appropriations, it has been estimated that the cost of labor and materials over pre-war prices was 85 per cent.

In times of lower costs the profit from the short haul carried the long-haul passengers for the same fare. When the margin of profit from short-haul business was wiped out by increased cost of operation, the economic unsoundness of the traction business became critical. In many cases this condition was aggravated by local difficulties, such as cheap motor car competition, franchise litigation and excessive burdens imposed by regulating bodies. As a result net earnings of the traction companies fell off. Where relief was granted it usually did not come until the companies were already in a weakened financial condition.

Financial Conditions Increase Cost of Money

Finding it difficult, if not impossible, to obtain new capital through the issue of stock, the street railways have had to resort to financing by means of fixed charge obligations. As the margin of safety over interest requirements diminished and the risks attending investments in street railway securites increased, the companies have had to offer greater and greater inducements to attract the necessary new capital. Capital had to be secured to take care of maturing obligations at interest rates, in many instances, higher than the fixed rate of return, allowed on the investment by franchises and other regulations, and with the temporary sacrifice in many cases of a large part of the equity value. Such costly financing increased the companies' burdens, resulting in still further impairment of credit.

In the following table a comparison is made of the yields on various standard street railway bonds in July, 1909, and July, 1919. This indicates roughly how much more the street railways must pay for capital to-day than they did ten years ago.

		Price July, 1909 To Yield	Price July, 1919 To Yield
Detroit United, first con. 4½s	1932	5.90	7.55
New Orleans Railway & Light, con. 4½s	1935	5.48	9 64
United Railways of St. Louis, first 4s	1934	5.01	9.98*
Chicago City Railways, 5s	1927	4.68	9.75
Metropolitan West Side Elevated, first 4s	1938	4.68	9.40
South Side Elevated, 4½s	1924	4.95	9.71
West End Railway Company, debenture 4s	1932	3.84	6.00
Philadelphia Rapid Transit, col. trust 5s	1957	4.85	5.85
Aurora, Elgin & Chicago, first 5s	1941	4.94	9.30
Chicago Railway, first 5s	1927	4.90	9.80
Duluth Street Railway, first 5s	1930	5.00	7.82
Los Angeles, first 5s	1938	4.68	6.42
Louisville Railway, con. mort. 5s	1930	4.45	5.74
Denver City Tramway, first and refunding 5s	1933	5.22	13.25
Brooklyn Rapid Transit, con. 5s	1945	4.60	8.40
Brooklyn Rapid Transit, first refunding conv. 4s	2002	4.63	8.70†
Conn. Railway and Light, first and refunding 4½s	1951	4.40	5.95
Interborough Rapid Transit, first and refunding 5s	1966	5.05	6.95

* Interest delayed. † Stock yield.

A striking contrast is afforded by a comparison of yield on a few standard industrial bonds for the same period:

American Tobacco, 4s	1951	5.15	5.30
American Tobacco, 6s	1944	5.25	5.15
Bethlehem Steel, first extension sinking fund 5s	1926	6.05	5.60
United States Steel, sinking fund 5s	1963	4.70	4.95
Virginia-Carolina Chemical, 5s	1923	5.15	5.65

Under these deplorable conditions, electric railway security owners have seen their holdings precipitately and alarmingly depreciate in value. With the opportunities offered to the investing public during the last few years to purchase the securities of industrial companies which have shown extraordinary earnings, electric railway securities have found few buyers. With the war-time demands upon capital, these securities have sold at prices which have been so low that the electric railway companies have had the utmost difficulty in obtaining, and, in some cases have been absolutely unable to arrange, long-term financing. Under the ordinary operation of economic law the electric railway companies have been compelled to pay high rates for the capital they did get and this has further reduced the return on their securities.

War Labor Board Awards Have Been the Last Straw

Another factor, however, which has contributed largely to the difficulties of the situation, has been the wage awards of the National War Labor Board. Yet the general chairman of this board has held that the financial condition of the companies could not affect the issue at stake. Such rulings, however, are only in keeping with the general public's attitude toward the electric railways, which has compelled these companies to operate under two distinct, and in some respects, diametrically opposed kinds of law—legal and economic. The seriousness of this handicap is apparent when it is realized that probably one-half of the gross operating expenses of a railroad consists of direct labor costs, which are constantly increasing while the abnormally low rates for the service rendered by electric railways, were, in many cases, fixed years ago by special laws or by provisions contained in ordinances or franchises. The rate of fare, in effect, was a part of the consideration for granting franchises.

Franchise Fare Fixing Does Not Meet Present-Day Conditions

But the franchise method of fixing rates is too rigid to meet present-day conditions. The franchise, while holding down the charges for the service does not hold down costs; consequently costs have rapidly been overtaking gross revenues and have reduced to the danger point the margin between the two.

The commission form of regulation was developed largely with a view to remedying the evils of the rigid franchise method, but even the commission form of regulation is losing esteem among the thinking people because of the attitude many commissions have assumed toward the public utility corporations.

Transportation cannot be rendered at less than cost without the money to make up the deficit coming either from the security holders or the taxpayers, or both. It should be obvious to all that the cost of transportation ought to be borne by the users of transportation, and that some plan should be worked out by which such provision is made.

There can be no possible justification for imposing such burdens as are being inflicted upon security holders and tax payers to-day in any attempt to give something for nothing by allowing the users of transporation lines to enjoy the conveniences provided them at less than cost. The crux of the whole problem is that fares should be fixed on an equitable basis that will assure earnings sufficient to meet operating expense and pay a fair return on invested capital.

The electric railway security holders do not seek exorbitant increases in fares; quite the contrary. They are fully cognizant of the fact that it is to their interest, as well as to that of the public, to keep rates for service as low as possible, for low fares benefit the companies through stimulating business.

In facing this situation public authorities should not forget that they are holding in their hands the credit of their cities, savings banks, life insurance companies, and other investment institutions, and a large portion of the invested wealth of the country. The problem in not merely local or political, but of nation-wide business importance, and if it is not fairly met, is capable of having a widespread and disastrous effect on business—an effect which every business interest directly or indirectly, but inevitably, must share.

Industry Needs More Than Normal Amount of Capital

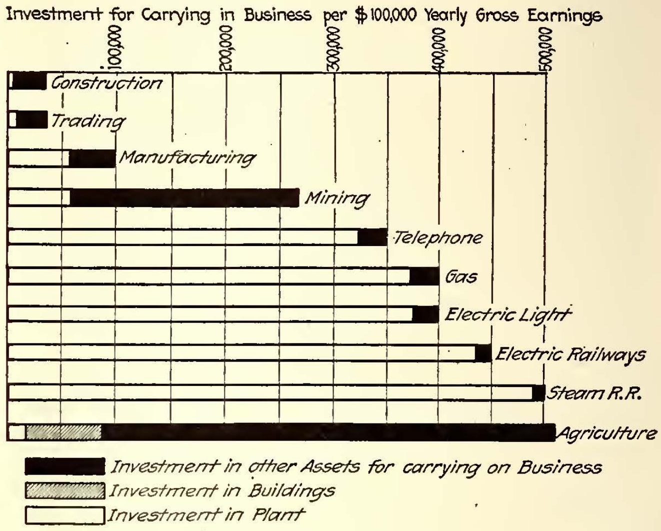
THAT the electric railway industry needs a continuous supply of new capital and that the capital turnover is slow as compared with other businesses were clearly shown by Henry G. Bradlee, of the firm of Stone & Webster in his testimony before the Federal Electric Railway Commission last week. By means of a chart from which the accompanying illustration has been reproduced, Mr. Bradlee showed that with the exception of agriculture the investment necessary for carrying on business is much greater for public utility companies than for other well-known businesses. By means of a color scheme the investment in the several businesses was divided into plant, buildings and other assets. In the illustration suitable cross-hatchings have been used to indicate these separations.

By means of another chart Mr. Bradlee showed that the new capital needed each year is about four times the yearly increase in gross earnings; the chart in question showing that a graph of the plant account accumulated since Feb. 28, 1902, for a given electric railway property closely coincides with a graph for the same property which shows four times the increase in twelve months' gross earnings over the gross earnings for the year ended in February, 1902. Similar graphs showed that this relation was true for power and lighting companies as well.

The following table shows the approximate gross earnings and approximate expenditures for construction of the Stone & Webster companies for the years 1902 to 1918, inclusive:

Year	Gross Earnings	Construction Expenditures
1902	$3,585,000.00	$2,750,000.00
1903	6,338,000.00	3,62 ,000.00
1904	8,482,000.00	2,414,000.00
1905	9,504,000.00	2,900,000.00
1906	12,212,000.00	5,000,000.00
1907	13,776,000.00	8,500,000.00
1908	16,357,000.00	6,962,000.00
1909	19,133,000.00	5,703,000.00
1910	20,747,000.00	7,286,000.00
1911	21,389,000.00	9,077,000.00
1912	23,925,000.00	5,467,000.00
1913	26,305,000.00	7,531,000.00
1914	28,881,000.00	6,840,000.00
1915	27,044,000.00	3,371,000.00
1916	29,456,000.00	3,736,000.00
1917	31,029,000.00	5,001,000.00
1918	36,322,000.00	5,691,000.00
Total	$334,485,000.00	$91,852,000.00

The figures from 1902 to 1907 cover a "considerable number of companies. In discussing this table, Mr. Bradlee explained that the cost of constructing the new railway lines and power developments of the company in the West and South within recent years, as well as all intangible costs, had not been included in the table. This is true also of the earnings of a couple of power companies which for one reason or other could not properly be included.



COMPARISON OF INVESTMENT IN ELECTRIC RAILWAY AND OTHER INDUSTRIES

The table presented below shows the annual increase in gross earnings in per cent and the annual expenditure for construction per $100 of gross earnings. As shown, the average per cent increase in gross earnings for the whole period is 10.7 per cent and the average annual expenditures for construction is $27 per $100 of gross earnings. The corresponding averages up to the year 1914 were 12.1 per cent and $37 respectively. These figures show conclusively that the amount spent for new construction has been subnormal for several years. If service is to be maintained in an adequate manner

Year	Percentage Increase in Gross Earnings	Amount Spent on Construction per $100 of Gross Earnings, Dollars
1902	20.0	76.00
1903	16.0	57.00
1904	10.0	28.00
1905	12.5	31.00
1906	18.0	42.00
1907	19 0	62.00
1908	5.0	43.00
1909	16.0	30.00
1910	5.0	35.00
1911	3.8	42.00
1912	10.0	23.00
1913	10 0	29.00
1914	2.1	24.00
1915	*6.3	12.00
1916	8.9	13.00
1917	13.4	11.00
1918	18.7	11.00
Average	10.7	27.00

* Decrease.

these deficiencies will have to be made good thus increasing the demand for new capital to a figure which is considerably above normal. At present the company is calling on its power plants to do more than they were intended to do and its cars and track to last longer and do more than in normal times. It is taking chances on breakdowns and service interruptions. Mr. Bradlee attributed the decreased earnings during the earlier part of the war period to poor business conditions and the ravages of the jitney bus.

Data of the Industry

Data showing the present state of the industry were presented by J. W. Welsh, special engineer American Electric Railway Association. The information was arranged in about forty groups, each group consisting of a table, a chart drafted therefrom and a description of the data. The data in the main were derived from the census reports, with estimates for 1918 based upon replies to questionnaires sent out by the association. Representative charts and tables presented by Mr. Welsh, with descriptions, are reproduced.

Fig. 1—This chart illustrates the retardation of the growth of electric railways in recent years. The principal elements of physical property, such as the number of passenger cars and the miles of single track, are plotted as well as the number of employees. The 1918 values have been estimated by comparison with a group of 345 companies for which data were available in both the 1917 census and that for 1918.

The rate of growth is indicated by the upward slant of the lines. It is noticeable that this rate shows a decided falling-off since 1907 except for the number of employees, and in all cases since 1912.

Table I—This is based on the reports submitted to the American Electric Railway Association by 345 companies for the calendar years 1917 and 1918. These companies represent more than 80 per cent of the gross earnings of all electric railways in the United States and are therefore believed to be representative.

This is demonstrated by a comparison of the income accounts of this group of companies with the returns of the 1917 census, as the two groups of figures check very closely. For example, the operating ratio of this group is 65.14 per cent, while the operating ratio for the 1917 census is 64.8 per cent.

A most striking element in the comparison of the 1918 accounts with the 1917 is a diminution in net income amounting to more than 74 per cent. This is largely due to an increase in operating expenses of 18 per cent and an increase in taxes of more than 8 per cent, while the operating revenues have increased only about 6 per cent.

Fig. 2—The trend of net operating revenue compared with deductions from income and net income is here illustrated, and the falling off in these items in 1917 and 1918 is very striking.

The values for 1918 bring out most forcibly the critical condition of the industry as represented by a decrease in net operating revenue from approximately $229,000,000 to $193,000,000 and a decrease in net income from approximately $56,000,000 to approximately $20,000,000. Taxes, however, have continued to rise not only in amount but in rate of increase.

An interesting comparison may be made between the trend of the curve for net operating revenue, which represents railway operations, and the curve for net revenue from auxiliary operations, which includes other activities than street railways, such as inclined-plane service, ferryboats, etc. The latter net revenues have continued to increase as contrasted with the decrease in the former.

Fig. 3—This chart shows the distribution of net income from all operating electric railways in the United States. A rapid growth is indicated until 1912, after which there has been an equally rapid decline until 1917. From this time to 1918 the slump became disastrous, the net income decreasing from $56,000,000 to $20,000,000.

The rate of return has been estimated by applying the dividends as shown by the census reports to the total capital stock. Thus it is seen that the rate of return has never approached 3 per cent even when conditions were best before 1912. Since that time it has declined and in 1918 fell below 1 per cent.

The surplus, on the other hand, was approximately constant until 1912. It declined rapidly in 1912, and in 1918 fell to a deficit of approximately $25,000,000, far in excess of any previous surplus.

The apparent anomaly of dividends and a deficit in the same year is accounted for by the fact that the deficit of those companies operating at a loss far exceeded the surplus of those companies which were able to declare some dividends.

Fig. 4—The expenses of conducting the various operating departments is shown on this chart. The most noticeable increase for 1917 over 1912 comes in the item of "conducting transportation," in which the principal element of expense is "trainmen's wages."

The increased cost of labor and material, however, is reflected in the other items with particular reference to "power," which shows the next most rapid increase. Here the cost of coal has undoubtedly been the principal factor. This is shown by the increased slope of the curve embracing the cost of power.

The tremendous increase in operating expenses in 1918 as compared with former years is the most important condition illustrated on this chart. The distribution of this expense between the different departments shows that "conducting transportation" has been the principal element in the increase, in which the item of "wages" is the controlling factor. There has also been an unusual increase in all items of expense.

Fig. 5—With 1906 as a basis, the percentage increase in trainmen's wages is shown for each year to 1919. The abnormal rise from 47½ per cent to 87½ per cent over 1906 between 1918 and 1919 is due largely to the decisions of the National War Labor Board.

This chart is based on the average hourly rates paid to employees longest in service and represents approximately sixty companies whose individual track mileage is more than 100 miles.

The following summary shows the awards affecting trainmen granted by the War Labor Board:

Maximum Rate per Hour, (Cents)	Number of Increases Awarded	Maximum Rate per Hour (Cents)	Number of Increases Awarded
40	7	46	3
42	18	46½	1
42½	1	47	3
43	4	48	13
44	1	50	5
44½	1	54	1
45	26	65	1

Total number of awards, 66. In some of these cases, several rates were made in one award.

Maximum increase, 71.4 per cent. Minimum increase, 7.5 per cent.

Fig. 6—The total amount of wages and salaries has been plotted, with the percentage of this to railway operating expenses. The approximately level line representing this percentage indicates that the cost of labor has been an almost constant factor in the increase in railway operating expenses. In other words, the total expense has gone up in almost exactly the same ratio as wages and salaries.

TABLE I—COMPARATIVE INCOME STATEMENT OF 345 ELECTRIC RAILWAYS FOR CALENDAR YEARS 1917 AND 1918

	1918	1917	Amount	Increase, Per Cent
Railwa operating revenues	$590,710,837	$554,674,718	$36,036,119	6.50
Railway operating expense	426,082,146	361,315,721	64,766,425	17 93
Net operating revenue	$164,628,691	$193,358,997	$28,730,306*	14.86*
Net revenue from auxiliary operations	16,917,673	15,563,861	1,353,812	8.70
Taxes on railway operations	38,669,011	35,750,567	2,918,444	8.16
Operating income	$142,877,353	$173,172,291	$30,294,938*	17.49*
Non-operating income	14,487,720	11,001,832	3,485,888	31.68
Gross income	$157,365,073	$184,174,123	$26,809,050*	14.56*
Deductions from gross income	146,652,347	142,373,728	4,278,619	3.01
Net income	$10,712,726	$41,800,395	$31,087,669*	74.37*
Total car mileage operated	1,654,319,023	1,722,369,093	68,050,070*	3.95*
Total passengers carried	11,969,256,764	12,187,434,043	218,177,279*	1.79*
Total miles of single track	32,570.21	32,476.64	93.57	0.29
Operating ratio (per cent)	72.13	65.14	....	......

* Decrease

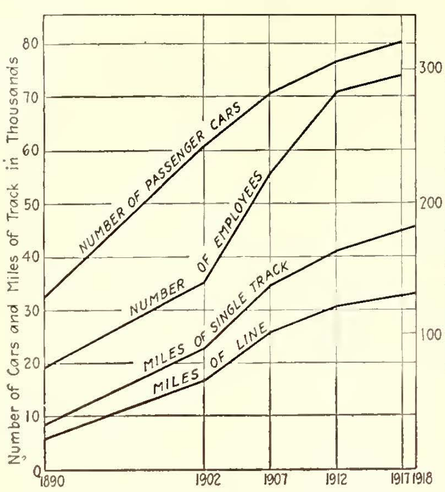


Fig. 1

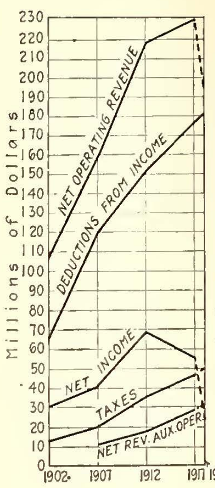


Fig. 2

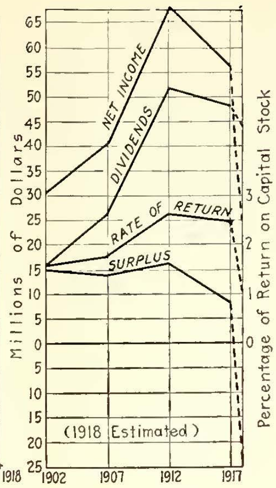


Fig. 3

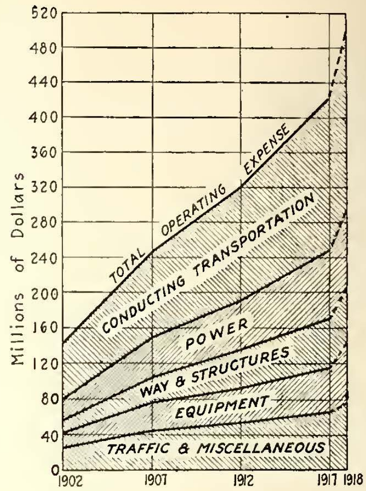


Fig. 4

Fig. 1—Retardation of growth of electric railways in recent years.
Fig. 2—Trend of net operating revenue and deductions from income and net income.

Fig. 3—Distribution of net income.
Fig. 4—Distribution of operating expense.

The sharp rise in the cost of labor for the year 1918 is also indicated very clearly on the chart. At the same time there has been a corresponding increase in the total railway operating expenses. This increase in the cost of labor is, of course, due largely to the increased rates of wages awarded by the National War Labor Board.

Fig. 7—The total taxes in dollars and in per cent of operating expenses indicate a rise both in amount and in rate of increase. The acceleration is most noticeable between 1917 and 1918. Taxes are also segregated for the census years between taxes on earnings and capitalization, etc., and taxes on real and personal property.

Fig. 8—This chart is based on a questionnaire sent out by the American Electric Railway Association to determine the amount expended annually by the electric railway companies on paving, cleaning and sprinkling the streets, transportation of municipal employees and tolls and maintenance of otherwise public bridges, etc. In addition to this the amount of direct taxes have also been plotted, and in each case the percentage of the gross earnings has been shown.

It is evident that in the period up to the beginning of the European War the paving and other indirect taxes were at the maximum, amounting to more than $21,000,000 and 3½ per cent of the gross earnings. There has been a curtailment in such expenditures as a result of the war situation. Taxes, however, have continued to increase, and they range from 6 per cent to about 6½ per cent of the gross earnings.

The total burdens of this character, including taxes, paving and other imposts, amount to approximately 10 per cent of the gross earnings. This represents in average fares paid by passengers an amount equal to one-half of a cent per passenger. In other words, if these taxes and other imposts were rescinded, the fare could be reduced by one-half of a cent.

Fig. 9—This chart illustrates in a very striking fashion the relative earning power of four classes of electric railway property, as indicated by the ratios of the operating expenses to the operating revenues.

The elevated and subway lines have the lowest operating ratio and therefore have the largest proportionate amount of net revenue available for capital charges. It is obvious, however, that this must be the case, since the investment in this class of property is much greater than in surface lines.

The larger companies, as indicated by class "A" with annual receipts of $1,000,000 or more, have the next lowest operating ratio, while class "B" ($250,000-$1,000,000) and

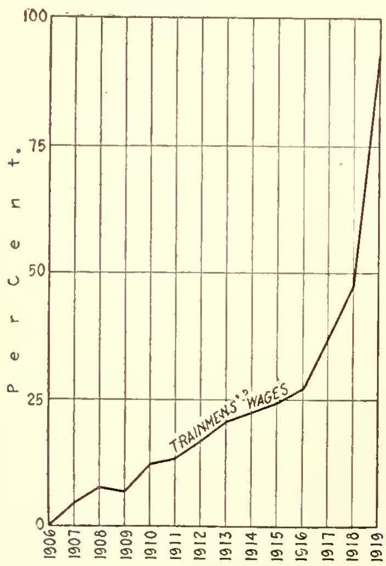


Fig. 5

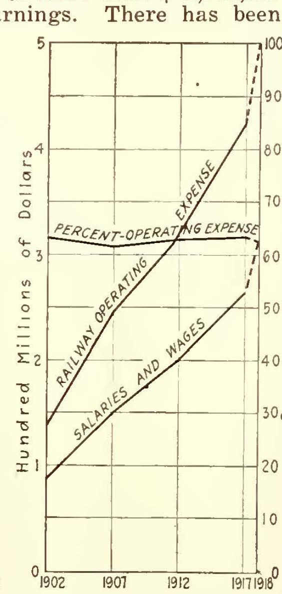


Fig. 6

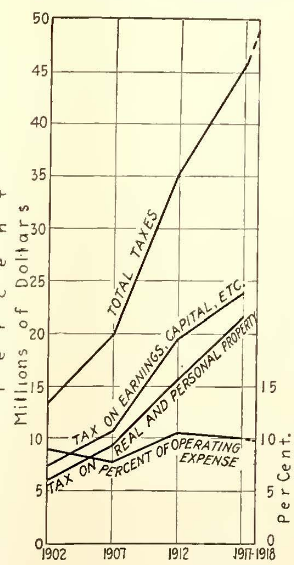


Fig. 7

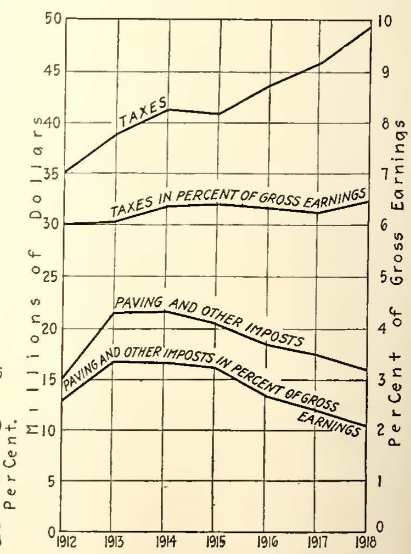


Fig. 8

Fig. 5—Per cent increase over 1906 average scale in trainmen's wages.
Fig. 6—Ratio of salaries and wages to railway operating expenses.

Fig. 7—Total taxes and ratio of these to operating expenses.
Fig. 8—Paving expense and other imposts and taxes.

TYPICAL DIAGRAMS PRESENTED AT WASHINGTON HEARING

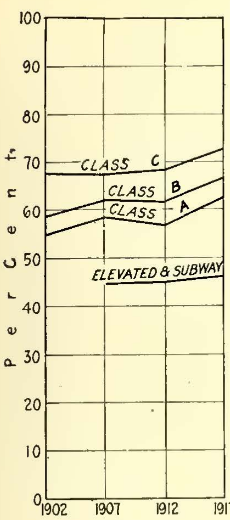


Fig. 9

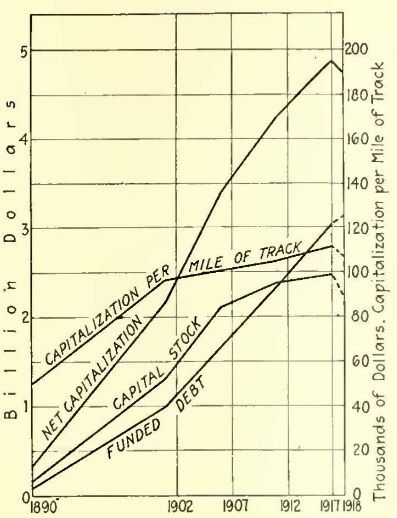


Fig. 10

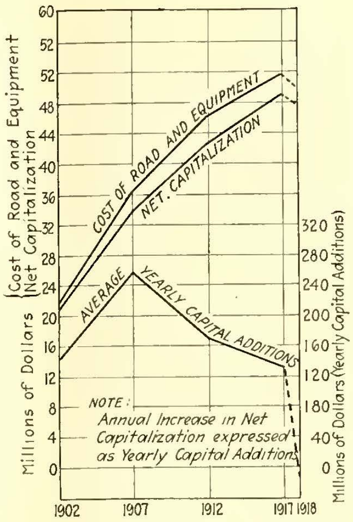


Fig. 11

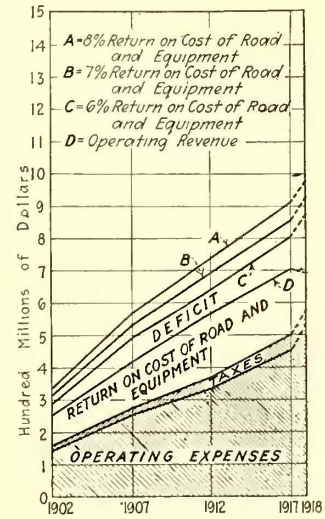


Fig. 12

Fig. 9—Ratio of operating expense to operating revenue for (A) larger companies, (B) medium, (C) smaller companies. Rapid transit lines are also shown.
Fig. 10—Net capitaliation, outstanding capital stock and funded debt.

Fig. 11—Cost of construction, equipment and real estate compared to net capitalization—decline in yearly capital additions.
Fig. 12—Total cost of service compared to operating expenses.

class "C" (under $250,000) follow in order respectively. Investment in class "A" property is undoubtedly greater in proportion than in classes "B" and "C." It is noteworthy that in all cases the operating ratio in 1917 shows an increase over that in 1912.

Fig. 10—The net capitalization, outstanding capital stock and funded debt of operating and lessor companies are shown in this chart. Net capitalization includes the outstanding capital stock and funded debt of electric railways, exclusive of any duplications such as obligations of lessor companies and stocks and bonds of other business. It therefore represents as nearly as possible the true investment in property and plant devoted to electric railways.

The changing relationship between capital stock and funded debt is clearly brought out. Funded debt has been increasing at approximately the same rate since 1902, while capital stock has been increasing at a diminishing rate. While the capital stock exceeded the funded debt until 1912, at this point they were practically equal, and in 1917 funded debt amounted in round numbers to $153,000,000 and capital stock to $123,000,000.

Fig. 11—The cost of road and equipment is the amount shown in the census reports for the total cost of construction, equipment and real estate. A comparison is also made between these values and the net capitalization.

From the increase in net capitalization of each census year over the prior year a figure is obtained from which is determined the average yearly capital additions. This is believed to be a measure of the annual requirements of electric railway companies for new capital. That it is not a true measure, however, is indicated by the decreasing amount of these capital additions from 1907 to 1917, this being due to the impossibility of securing additional funds for electric railway properties.

Fig. 12—The total cost of service is composed of operating and maintenance expenses and taxes plus a suitable return on the fair value of the property.

This results in an amount as shown for each of the census years in excess of the operating revenues, resulting therefore in a net deficit. The rate of return has been assumed as ranging from 6 per cent to 8 per cent, and in each case a deficit is shown, increasing in amount from 1902 to 1917.

This return has been figured on the cost of construction of road and equipment shown in the census reports, as representing as nearly as possible the total investment in electric railway property and plant.

Fig. 13—The traffic of electric railways is measured to a large extent by passengers carried and the car-miles operated. These quantities, plotted on the accompanying

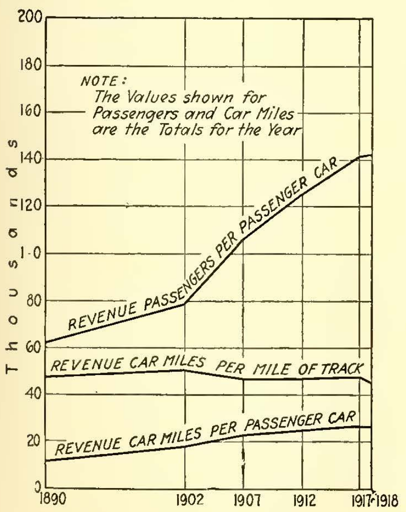


Fig. 13

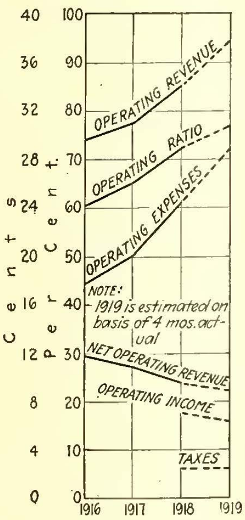


Fig 14.

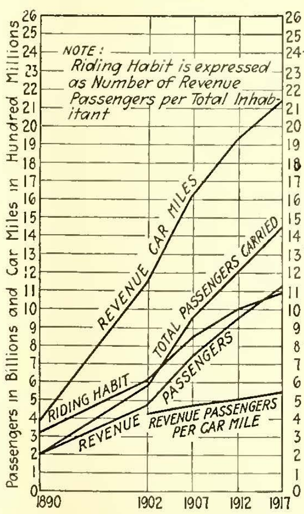


Fig. 15

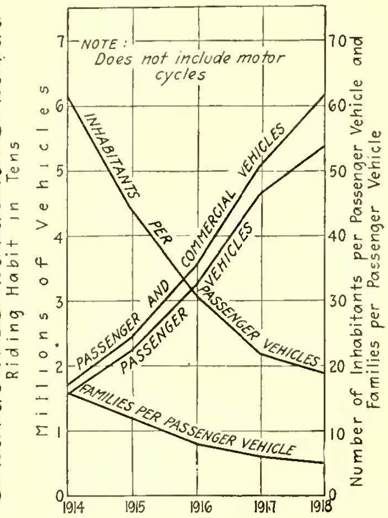


Fig. 16

Fig. 13—Extent to which railways have used their facilities.
Fig. 14—Operating expenses, operating revenue and ratio of the two—net operating revenue and income.

Fig. 15—Curves showing measure of traffic handled.
Fig. 16—Growth of the automobile industry.

TYPICAL DIAGRAMS PRESENTED AT WASHINGTON HEARING chart, also show a falling off in the rate of increase since the period between 1902 and 1907.

The riding habit is a most useful measure of growth in the electric railway business. This is determined by dividing the annual revenue passengers carried by the total population of the country and therefore represents the average number of rides per year for each inhabitant.

The chart indicates an increase in the riding habit in every case, but the rate of increase has been falling off since 1907, as indicated by the decreasing slope of the curve since that date. The increase in riding habit was twenty-four rides per inhabitant between 1902 and 1907; sixteen between 1907 and 1912; and only nine between 1912 and 1917.

A measure partly of the density of traffic and partly of the average length of haul are the revenue passengers per car-mile. This figure shows a gradual increase from one census period to the next, there being but little change from the average value of five revenue passengers per car-mile. This increase indicates either a greater density of traffic or a decrease in the length of average ride per passenger, or both. The car-mile unit, however, has also increased in size during this period so that the actual increase has been greater than shown.

Table II—In order to take account of the growth in electric railway operations, the accounts have been calculated on the car-mile basis. This is the most common measure of the extent of electric railway operations. From this it is seen that the relationship previously established on a gross-amount basis are still maintained.

TABLE II—REVENUES AND EXPENSES OF ELECTRIC RAILWAYS IN CENTS PER CAR MILE

	1902	1907	1912	1917	1918
Railway operating revenue	21.63	24.78	27.89	30.39	33.69
	a	a and b	a and b	b and c	f
Railway operating expense	12.25	15.15	16.51	19.69	24.28
	a and c	a and d	a and d	d and c	f
Net operating revenue	9.38	9.63	11.30	10.70	9.39
	a and c	a, b, d	a, b, d	b, d, c	f
Taxes	1.20	1.22	1.82	2.14	2.41
	a and b	a and b	a and b	b and c	f

NOTE—The above figures are based on the following sources:
(a) United States Census 1912, page 186, Table 5.
(b) Advanee Report, Table 5.
(e) United States Census 1912, page 311, Table 162.
(d) Advance Report, Table 162.
(e) United States Census, Typed Advanee Summary released April 21, 1919.
(f) Estimate of 1918 cnsus for 345 companies.

Fig. 14—This information is based on the monthly reports submitted to the American Electric Railroad Association and covers a sufficiently large group to be typical of the situation generally.

This chart shows the operating revenue, operating expenses, net operating revenue and operating ratio for a number of companies, for the calendar years 1916, 1917 and 1918, and an estimate for 1919 based on the first four months.

The 1919 values are of interest in bearing out the trend of increase for the items operating revenues, operating expenses and operation ratio. The net operating revenue continued to decline in 1919 as during the previous years.

Fig. 15—In order to show the extent to which electric railways have made use of the facilities at their disposal, there have been plotted upon this chart the principal elements of traffic statistics on a unit basis, such as the number of revenue passengers and the number of car-miles.

The unit chosen in the case of the passengers carried is the annual revenue passengers per passenger car. This interesting curve shows a decidedly upward trend, indicating a constantly increasing use of the car equipment. As this is on an annual basis it is, of course, impossible to say how much of this represents increased crowding of cars in the rush hours and how much is due to the improved load factor due to the growth of traffic during the mid-day and after-supper periods.

Of course the increased number of revenue passengers per passenger car is also in part accounted for by the increase in the size of the cars in later years, but on the average there has not been such a proportionate increase in the size of cars as to account for the increase shown by this curve.

Another factor which is undoubtedly represented by this curve is the increased use of passenger car equipment resulting from improved methods of scheduling, such as turn-back service, etc. This permits a greater use to be made of each car in service. This latter point is further illustrated in the curve entitled "revenue car-miles per passenger car." This shows an upward trend and indicates a greater service performed by each passenger car for each succeeding census year.

The revenue car-miles per mile of track are a measure of the average frequency of service and to some extent the density of traffic. With the growth that has been made since 1902, the revenue car-miles have not kept pace with the track extensions. This is partly due to the use of larger cars, which are permitting a reduced mileage for the same service and partly, no doubt, to there being no necessity for the corresponding service in outer districts where these extension have generally occured.

Fig. 16—The startling growth in the use of automobiles is well illustrated on this chart, which shows the situation from 1914 to 1918 inclusive. There is also plotted the number of inhabitants per passenger vehicle and the number of families per passenger vehicle. The tremendous growth of the automobile industry in 1918 is shown by the six millions of vehicles in use, equivalent to one automobile for about every five families or about every twenty individuals. The source of this information is the report of the National Automobile Chamber of Commerce for 1919, and it is based upon the number of licenses issued by the various states.

Competition of Motor Vehicles*

By L. S. Storrs

President The Connecticut Company, New Haven, Conn.

THE rapid increase in the privately owned automobiles has had a most disastrous effect upon the gross revenues of the various electric railway properties. In the early years of the automobile the high first cost and uncertainty of operation limited their ownership to those fortunate individuals who before that had used horses. Now, however, the low cost of new cars and still lower cost of used cars has placed the automobile within the reach of all but the most unfortunate, and the limitation of their use seems to be solely one of the traffic possibilities in the large cities. It is a common thing nowadays to see lines of automobiles parked outside some industrial plant, all owned by the workers in that industry, each car being used to capacity by the neighbors of its owner working in the same plant. It is customary now to send the chauffeur down town on any errand that heretofore was the occasion for paying the street railway two or more fares. To obtain an even greater distribution of this relatively new type of conveyance the leaders of the automobile industry have adopted a new slogan "The World Owes You a Car," the particular advertising under the caption being intended to create dissatisfaction in the minds of those individuals not fortunate enough to possess already such a means of conveyance.

As showing the rapid increase in private cars it might be said that in Massachusetts there has been an increase in pleasure cars from 3241 to 160,486 in fifteen years. This is exclusive of motor trucks and motor cycles. The effect of this increase is reflected by the railway situation in the state. Statistics for the country, for the last four years of persons per pleasure car show a decrease from 62 in 1914 to 19 in 1918. During last year 5,352,350 pleasure cars were registered in a population of 105,253,300. This means a car for practically every five families. The popularity of this form of transportation within the cities at least is due entirely to the great increase in smooth permanent pavements, a very large proportion of which have been paid for by the electric railways.

Figures are not available giving the exact annual cost to the railways of paving alone, but this item taken together with all other imposts exclusive of

*Abstract of statement presented at hearing of Federal Electric Railway Commission, Washington, July 21, 1919.

taxes amounts to about $16,000,000. In the State of Connecticut the car riders have been called upon to make a contribution of $2,500,000 in the past eight years for permanent pavements to provide comfortable roadways for those more fortunate individuals who can ride in automobiles. It is of record that in Portland, Oregon, the electric railway has had to invest $2,000,000 in permanent pavements. According to the Census enumeration there has been made available for permanent pavements in the cities and improved highways throughout the country a grand total of $255,836,000, all to be furnished by the taxpayers in general for the convenience of those owning automobiles. This amount represents a per capita contribution of slightly less than $2 during 1917.

With the great amount of smooth permanent pavements in the cities and the low price of small automobiles, there has sprung up a measure of competition with the electric railways that in certain parts of the country has had serious effects upon the revenues of the transportation utility. And as a development a large jitney bus has been developed and is gradually replacing the smaller car in a large measure.

In those states where the essential nature of transportation has been fully recognized laws have been enacted placing upon this competitor burdens similar to those imposed upon the railways, in other words, requiring the jitneys to operate over defined routes and upon regular schedules which extend over a great portion of the day, also holding them liable for accidents and requiring a tax somewhat equivalent to that paid by the electric railway. This method of regulation recognizes the requirements of the public for regulated transportation. The following are the apparent reasons for the existance of this form of service:

The weather for the greater portion of the year is such as to render this work more congenial to the average man than any form of industrial occupation and as it requires such a small investment it offers an attractive field for the operator to become his own boss. Failing to appreciate the necessity for adequately providing for depreciation, the operator seems to be earning good money, although the work requires about fourteen hours or more per day instead of eight. The excellence of the city pavements (paid for in a large measure by the transportation utilities) makes easy riding and lower upkeep charge than would otherwise be the case, and without exception jitney routes are confined to the well paved streets.

From the standpoint of the public this service appeals for various reasons (1) The ordinary workman prefers to ride in a jitney because of the sensation of riding in an automobile rather than in a street car. (2) The speed of the service is a distinct attraction. (3) The frequency of the service affords a means of transportation whenever most convenient.

In New Jersey there is no effective regulation, and the growth of this form of competition has been directly apparent upon the attempts of the electric railway to obtain an increase in revenues. With the introduction of the penny charge for a transfer and the 7-cent fare, the business of the jitney took an enormous spurt. In May, 1918, in all the cities covered by the operations of the Public Service Railway, 601 cars were licensed and reporting earnings equivalent to $1,608,167 per annum, while in April 1919, 1040 cars were reported to be in operation reporting earnings for the month at the rate of $3,255,763 per annum, an increase of 73 per cent in the number of cars and 102.4 per cent in actual earnings. The tremendous growth of the jitney under the 7-cent fare is especially significant, but of almost equal importance is the lesson of the extent to which the jitneys increased in importance under the New Jersey Law when both carriers were operating on a 5-cent basis. The five cent fare plus the provision of the State law were not sufficient to curb the jitney.

No serious attempts has been made in Connecticut to regulate the jitney, with the result that the greatest development of this form of competition in the United States is to be found in Bridgeport where the jitneys are operating in parallel service with the electric railways throughout the city. The following tabulation of the relative use of these two forms of service shows the service effect upon the utility revenues:

COMPARISON OF NUMBER OF PASSENGERS CARRIED BY STREET RAILWAYS AND JITNEYS, CLASSIFIED BY LENGTH OF RIDE.

In Both Directions	On the Railway	On the Jitney	Total	Per Cent. Taking Jitney
Riding within 1½ miles radius of center of city........	5,432,947	5,561,451	10,994,398	50.58
Riding more than 1½ miles but less than 2 miles from center of city............	4,805,761	10,620,347	15,426,108	68.85
Riding more than 2 miles but less than 2¾ miles from center of city............	3,395,431	2,758,041	6,153,472	44.82
Riding more than 2¾ miles but less than 3½ miles from center of city............	239,724		239,724	
Riding more than 3½ miles but less than 4½ miles from center of city............	860,048		860,048	
Total................	14,733,911	18,939,839	33,673,750	56.245

The possibility of originating severe jitney competition with any change in the rate of the fare makes any such attempts of doubtful value, especially as the radius of jitney activity is confined to the most populous portions of the communities where the most profitable (short haul) street railway service is operated. It is useless to assume that this form of conveyance can replace the established transportation utility, for the jitney cannot be forced to operate except under the most favorable conditions and only at such times as there is a profitable load offering. A stormy day will drive most of the cars off the streets and a heavy snow storm will cause a complete cessation of service.

A careful survey has been made in one of the New England cities having a population of 180,000 from which it has been determined that if the motor bus with a seating capacity of 20 passengers were to be the sole medium of the city transportation it would require the entrance to the central business area of relatively few blocks of 6½ cars per minute during the rush hours of the day to provide transportation for intending passengers, a perfectly impossible requirement with any city plan now in existence.

The advent of the motor truck has made great inroads into the revenues of the electric railways. It is a common thing to see large trucks provided with makeshift seats filled with parties of pleasure seekers bound on picnics or other forms of recreation, all business that was formerly done by the street railways.

A by-product of the street railways that has been found to be very profitable has been the transportation of goods, usually in small packages, or by express. The growth of the motor truck service has in some places entirely absorbed the business previously done by the railway and elsewhere has made serious inroads in it.

The Taxation of Electric Railways*

By Charles J. Bullock
Professor of Economics, Harvard University

IN THIS statement the taxation of electric railways will be considered under the following heads: The existing methods of taxing electric railways; the amount of the taxes and other public contributions paid by electric railways; the principles which ought to govern the taxation of electric railways; and the measures which ought to be adopted to relieve electric railways in the present crisis. Data on the first subject may be found in the U. S. Census Report on the Taxation and Revenue Systems of State and Local Governments, 1914; the Report of the U. S. Commissioner of Corporations on the Taxation of Corporations, 1909-1915; and the Report of the Special Commission on the Taxation of Corporations, of the State of Connecticut, 1913, Appendix. Statistics concerning the amount of taxes paid by electric railways may be found in the various census reports on electric railways.

Existing Methods of Taxation

Payments which electric railways are required to make to the various governmental authorities, federal, state, and local, may be conveniently divided into two classes, taxes proper, and other public contributions. The former include property, income, business, license, franchise, and other taxes, which electric railways pay in common with other corporations and, in many cases, with individual taxpayers.

The latter include a great variety of charges such as payment for street paving and other work in or on the streets, free transportation for public employees and other similar services rendered governmental authorities, payments, frequently of a contractual character, for the privilege of using the streets, and miscellaneous minor items. Concerning these payments it is impossible to make any summary statement because they differ so widely in character.

The taxes which electric railways pay may conveniently be summarized as follows:

Property Taxes. In forty-three states and the District of Columbia, electric railways come under the general property tax. In twenty-two of these states (Alabama, Georgia, Idaho, Indiana, Kansas, Maryland, Missouri, Nevada, New Hampshire, New Mexico, North Carolina, North Dakota, Ohio, Oregon, Tennessee, Utah, Virginia, Vermont, Oklahoma, Washington, West Virginia, Wisconsin) either all the property of such railways or all of what is known as their "operating" property is valued by some state official or board. It is possible that Wyoming should be added to this group of states, but I have been unable to determine this point and shall therefore omit Wyoming from consideration in this statement. In a few of these states, such as Wisconsin and Vermont, the taxes levied are imposed by and payable to the state government, but in most cases the valuation fixed by state authorities is certified back to the local taxing districts for taxation at the local rate.

In fifteen states (Arizona., Arkansas, Delaware, Florida, Iowa, Louisiana, Michigan, Minnesota, Mississippi, Montana, Nebraska, New Jersey, South Carolina, South Dakota, Texas) the property of electric railways is locally assessed and taxed exactly like any other property. In five states the assessment of the electric railways is divided between state and local authorities. In Massachusetts some or all of the tangible property is subject to local taxation, while a state tax is imposed upon the franchise. Colorado has state assessment of electric railways operating in more than one county and local assessment of railways operating in only one county. Illinois has state assessment for railways incorporated under the general railroad act, while for other railways it prescribes local assessment of the tangible property and state assessment of the franchises. In Rhode Island and the District of Columbia property taxation is confined, respectively, to tangible property and real estate, while the intangible property is reached by gross receipts taxes and is not subject to taxation as property. In Rhode Island the assessment of the tangible property is made by the local assessors.

Gross Receipts Taxes. In three states (California, Connecticut and Maine) the "operating" property of electric railways is exempt from taxation, and, in lieu thereof taxes are levied by the state governments upon gross receipts. Real estate not used for "operating" purposes is subject to local taxation, like other real estate.

A considerable number of the other states (Alabama, Massachusetts, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, South Carolina, Texas, Virginia) levy taxes upon gross receipts of electric railways, usually as additional taxes or in lieu of taxes upon franchises or intangible property. In Massachusetts, however, the gross receipts tax is in lieu of other contributions which the railways were formerly required to make in connection with their right to use the streets.

Taxes on Dividends. At least two states, Massachusetts and New York, provide for taxes on dividends in excess of 8 per cent. It does not appear, however, that occasion has ever arisen for the imposition of such taxes in either state.

Taxes on Capital Stock. In addition to other taxes, at least 14 states (Arkansas, California, Georgia, Idaho, Nevada, North Carolina, Oregon, Pennsylvania, Tennessee, Texas, Utah, Vermont, Virginia, West Virginia) impose taxes on the capital stock of electric railways. Usually these taxes are comparatively light, but in times like the present they are not a negligible factor. In Pennsylvania the capital stock tax is levied at the rate of 5 mills upon the dollar and is (except in Philadelphia and Pittsburgh) in lieu of a tax upon the operating property of electric railways. This tax is supplemented by a tax levied at the rate of 4 mills on the dollar upon corporate loans, which tax is deducted by the corporations from the interest paid to the bondholder, except in cases where companies have assumed liability for the tax.

In addition to these state taxes electric railways have been subject in recent years to a federal tax upon their capital stock.

License Taxes. A considerable number of states impose either state or local, sometimes both, license taxes which take various forms. The aggregate amount of such charges is sometimes considerable and since they are always levied in addition to other taxes they are a factor of no small importance.

Federal Income Tax. Since 1909 electric railways have been subject to a federal tax on their net income, at first an excise imposed on corporations and since

*Abstract of statement presented at hearing of Federal Electric Railway Commission, Washington, July 23, 1919.

1913 a part of a general income tax, which is at the present time a substantial burden. This it is entirely in the power of the federal government to remove, if it desires to co-operate with the state and local governments in rehabilitating the electric railway industry.

Federal Excess Profits Tax. The Federal Excess Profits Tax must also be mentioned even though most electric railways have shown so small a return as to exempt them from the payment of any tax under this head.

Taxes and Public Contributions Paid by the Electric Railways

In the year 1917, according to the U. S. Census, the electric railways of the United States paid taxes and other contributions amounting to $63,279,000 which may be classified as follows:

Taxes on real and personal property	$21,804,000
Taxes on earnings and capital and other bases	23,952,000
Total taxes	$45,756,000
Other public contributions	17,522,000
	$63,279,000

The total payments for taxes and other contributions amounted in this year to 8.67 per cent of the gross earnings of the electric railways. This percentage would be moderate in the case of a business where the gross receipts, or annual turnover, amounted to two or three times the capital investment; but it is exceedingly heavy in an industry where there is a capital investment amounting to several dollars for every dollar of annual gross receipts.

Although net operating revenue has actually decreased in recent years, the taxes and other public contributions of the street railways appear, at least down to the year 1918, to have increased. In 1912 the total taxes and other contributions, according to data compiled by the American Electric Railway Association from Census Reports and from replies from 214 companies, amounted to $50,086,000. In 1916 these charges had increased to $62,106,000, while in 1918 they had risen to $65,561,000. The total of these payments for 1912 amounted to 8.55 per cent of the gross earnings of the railways. In 1918, they amounted to 8.57 per cent.

The most striking commentary upon the present situation of the electric railways with reference to taxation, is the fact that in the year 1918, when the revenue remaining after defraying operating expenses decreased from $228,898,999 to $192,615,000, the taxes paid by electric railways actually increased from $45,756,000 to $49,496,000. Even more striking is the comparison of the amount paid in taxation with the net income of electric railway companies after making deduction for all charges. This net income in 1917, was $56,450,000, after the payment of taxes amounting to $45,756,000. In 1918, however, the net income fell to $20,183,000 after paying taxes amounting to $49,496,000. These statistics have been taken from the tables compiled by the American Electric Railway Association for the information of this commission. The figures for 1918 are in part estimated.

The Principles Which Ought to Govern the Taxation of Electric Railways

There are three theories which have been advanced at different times concerning the taxation of street railways and other public service corporations. The first of these is the theory that public service corporations should be subject to taxation much heavier than that imposed upon other classes of business or property because they hold and enjoy special franchises of great value. A generation ago, before our federal and state governments had undertaken to regulate effectively the service and charges of public service corporations, this theory provided a natural and logical remedy for some of the conditions which existed in the days of unregulated monopoly. Taxes upon the property or business of unregulated monopolies tend to fall upon the profits of the monopolists, and by their agency the government secures a share of the profits resulting from the possession of valuable public franchises. But the situation was radically changed when public service corporations were brought under effective regulation. Under the latter condition, regulation of rates and service must proceed upon the theory that the corporations have a right to earn a reasonable return upon their investment. Special taxes upon regulated monopolies increase the expense of providing the service and therefore increase the rates necessary to yield a reasonable return or diminish the resources available for extending and improving the service. Effective regulation of public utilities not only removes the evils which in former times led to the demand for special taxation, but also alters the incidence of such taxation. Since we are now committed to the policy of regulation of public service corporations we should re-adjust our theories of taxation to present-day facts and conditions.

Utility Taxes Should Be Governed by Rule of Equality

The second theory takes effective regulation of public utilities for granted, and holds that such regulation makes it unnecessary to consider whether the taxation of public service corporations is heavier or lighter than that imposed on other business or property. Such corporations, it is said, might even be exempted from all taxation provided that their charges were reduced or their service improved in a measure corresponding to the benefits they derive from such exemption. And, on the other hand, it is argued that taxes upon such corporations may properly be increased to any desired extent provided that rates are increased in a corresponding degree. In the former case the public will secure untaxed service and in the latter the government will employ the corporations as an agency for collecting special taxes. In neither case is the interest of the corporations affected, either favorably or adversely.

This theory upon examination will be found to ignore the effect of taxation upon the real parties at interest, namely, the taxpayers and those who use the services of public service corporations. Between these two classes of people there is no necessary identity of interest.

There remains the third theory, that the taxation of public service corporations should be governed by the general rule of equality, which should be the controlling principle in governmental affairs. By equality is not meant absolute uniformity of treatment irrespective of all differences in the nature or condition of the objects upon which taxation is imposed. Differences in the form and method of taxation are perfectly consistent with the principle of equality provided they are justified by the circumstances of the case and result in a substantial equality of burden. Under normal conditions public service corporations should be taxed neither more nor less than other classes of business concerns. If they are taxed more, consumers are burdened for the benefit of the taxpayers who would otherwise have to contribute the amount of revenue raised by special taxation of public utilities; if they are taxed less, then the consumers receive a subsidy which must be made up by additional charges exacted from taxpayers. This theory has received very general approval in recent years and may safely be accepted as our point of departure in the present case.

But this theory of equal taxation for public service corporations, like any other general theory of taxation, has its necessary qualifications. A great financial emergency would justify a government in employing such corporations as agents for collecting heavy emergency taxes from those who use these services. And, upon the other hand, exceptional circumstances may justify a reduction or total abolition of taxes of particular companies or particular classes of public service corporations. To secure the construction of a new railroad, exemption from taxation for a period of years may be properly offered as an inducement to a company willing to construct a road that is not likely to prove immediately profitable. In general it may be said that whenever special circumstances exist which justify the government's levying special taxes upon consumers or offering a bounty for some necessary public service, it is possible to justify a departure from the general principle of equal taxation.

Electric Railways Pay Heavy Special Contributions

The application of this theory of equal taxation to the case of the electric railways gives the following result:

Under ordinary conditions the property and business of such companies should be taxed like other property or business. Nothing but fiscal emergency can justify the imposition of special taxation and nothing but an emergency seriously impairing the earning powers of such railways can justify either a direct or an indirect subsidy. The only practical difficulty in applying the principle arises from the fact that the occupation of the street by railway companies seems to occasion some extra expense for upkeep which the companies should fairly be called upon to meet. This extra expense is difficult, and perhaps impossible, to estimate with even approximate accuracy. It seems to justify in normal times the payment of an extra contribution by such companies, but it has sometimes been made an excuse for imposing special taxes which considerably or even greatly exceed the figure which would be justified.

Under the federal income excess profit taxes there has been no discrimination against electric railways, and if times were normal there would be no ground of complaint. The taxes levied by the state and local governments upon the property of such railways are in principle perfectly justified and give no occasion for complaint except in cases where valuations have been placed at a higher proportion of the true value than is generally applied to the property of individual taxpayers. But the numerous additional taxes imposed upon franchises, earnings, and capital stock have frequently resulted in the imposition of a total amount of taxation considerably exceeding that which could be justified under the principle of equality. The same is true of the payments, contractual or other, which have been required as a condition of laying tracks in the streets. In 1917 electric railways of the United States, in addition to all taxes, which were undoubtedly very heavy, paid $17,522,000 in other contributions, a sum which undoubtedly exceeded the amount which they would have had to pay if the theory of equal taxation had been followed.

Measures to be Adopted to Relieve the Electric Railways in the Present Crisis

The financial crisis which at present confronts the electric railways is so evident and so urgent that argument is not needed to demonstrate that, along with other measures of relief, a substantial reduction should be made in the amount of taxes which they are required to pay. How far this reduction should go must depend in considerable degree upon the relief afforded in other directions. The following suggestions are offered for the consideration of the commission:

1. The special contributions now required for the use of the streets ought immediately to be reduced to an amount that will no more than cover the extra cost of maintenance occasioned by the presence of car tracks.

2. The other special taxes levied by state and local governments in excess of those imposed on ordinary business enterprises ought also to be reduced or abolished, as the case may require.

3. Relief from the ordinary taxes imposed upon property can be justified only upon the ground of extreme emergency, and such an emergency can not be held to exist until the companies have been relieved of taxes that violate the principle of equality and have also been permitted to increase their rates of fare as far as may be expedient and practicable.

4. If other measures fail to give adequate relief and it seems necessary to relieve the electric railways from the property tax, the best procedure would probably be to exempt them from taxation on their property for a limited term of years, and then to impose a tax upon their net income.

5. If the federal government is to recommend measures of relief, which the states are expected to adopt, it would obviously be appropriate for it to lead the way by relieving electric railways, at least for a limited term of years, from some of the federal taxation that is now imposed upon them.

Training Ivy to Cover a Pole

IVY COVERED POLE

The poles of a trolley line cannot always be made "things of beauty," but in some residential districts a little co-operation with property owners may assist in interesting them in keeping conditions more attractive. The accompanying illustration, which was taken on the lines of the Santa Cruz Electric Railway at Santa Cruz, Cal., shows how easily ivy takes to poles in that city.

News of the Electric Railways

FINANCIAL AND CORPORATE • TRAFFIC AND TRANSPORTATION

PERSONAL MENTION

Chicago Situation Clearing

Wage Compromise Now Seems Likely With Surface and Elevated Men —Increased Fares an Issue

With practically unanimous indorsement of a strike to enforce the demands of trainmen of the surface and elevated roads, Chicago spent an anxious week while awaiting developments. It was practically certain, however, at the time of going to press that there would be a compromise in the wage settlement and that an increase in rates of fare would be forthcoming from the Public Utilities Commission of Illinois.

85-Cent Rate Demanded

The men had asked for an 85-cent maximum wage on the surface lines and 87 cents on the elevated. The companies had replied that no increase over the War Labor Board scale would be possible without more revenues. On July 18 the members of both unions voted on the strike proposition and there were few dissenters, the time for going out being left, however, for future consideration.

The following day Mayor Thompson appointed a mediation committee composed of himself, four aldermen, and one representative from each of the companies and each of the unions. The employees did not seem impressed with the aldermanic selections, although three out of the four were former union men.

On the same day Governor Lowden directed the Public Utilities Commission to investigate all phases of the controversy and report personally to him how the State could best act to prevent a transportation tie-up. The Governor asserted that such a suspension would constitute a menace to Chicago and to the entire State. This action by the Governor tended to restore confidence at once.

Insist Upon Eight-Hour Day

Union representatives had a long session with the utility commissioners on July 21, but the result of the conference was kept secret. After the adjournment of that meeting the union officials joined Presidents Busby and Budd at an open hearing with the Mayor's committee. The Mayor stated that the purpose of the conference was to prevent a strike and he wanted to impress on employers and employees that a settlement must be reached eventually and he hoped it could be arrived at without inconveniencing the public. At his mention of arbitration, the union representatives said there were two questions which could not be arbitrated. They would insist first on a concession of an eight-hour day and time and a half for overtime.

President Busby stated that inasmuch as the men had not yet called on him he did not think they should take too positive a stand without further discussion. The outcome of this session was to arrange for further negotiations with the companies. The following day the company officials had a private conference with the utility commissioners. It was expected that before the end of the week the commissioners would have complete information from both sides for their report to the Governor, with the possibility of an open hearing then being called to fix rates of fare. Earlier in the week the elevated roads had filed a new petition with the commission, asking for a reopening of the rate cases.

Employees of the Aurora, Elgin & Chicago and the Chicago & West Towns Railway companies are insisting on a wage scale similar to that which may be fixed for Chicago. The latter company has filed a petition with the State authorities asking for a 2-cent increase over the rate schedule allowed last November.

The Chicago City Council refused to heed the proposal of an alderman that the 55 per cent allowance to the city from the railways under the 1907 settlement be used for wage increases.

Increase in Wages in Indianapolis

A general wage increase of 3 cents an hour has been granted the motormen and conductors of the Indianapolis (Ind.) Street Railway, effective on July 15. The new schedule ranges from 37 to 42 cents an hour and replaces the schedule of 34 to 39 cents an hour which was established last fall. This wage increase was voluntary on the part of the company. A statement was issued by the board of directors of the company explaining that it was decided that an advance in wages should be made to the men on account of the continued high cost of living.

It is estimated that the increase in wages will amount to $125,000 annually. The statement of the directors intimates that it will be necessary for the company to appeal to the public authorities for an increase in fare beyond the 5-cent flat rate granted by the Public Service Commission last fall, in order to meet the added burden of increased operating expenses and wage increases just granted. It is reported that the company may petition the Public Service Commission for a 1-cent charge for transfers.

Subway Proposal to Voters

Proposal for $15,000,000 of Bonds in Cleveland May Be Submitted to Referendum This Fall

The Street Railway Commissioners of Cleveland, Ohio, will decide within a short time whether it is best to submit a bond issue of $15,000,000 to the voters this fall and secure funds sufficient for the construction of the subway units recommended by the engineers, Barclay Parsons & Klapp, or for a smaller sum that will cover the cost of the two units that are most urgently needed at the present time.

In order to eliminate the well to the short underground entrance to the Superior-Detroit bridge, the commission will probably recommend that the subway to the west side of the city be the first one undertaken; or this and the Ontario Street section or unit might be built at the same time, as the Ontario Street unit will in all probability hold second place. Euclid Avenue will come third and Superior Avenue fourth.

Should the commission be able to make an arrangement with the Union Terminals Company to handle the Ontario Street cars and bring them directly into the proposed new union station, about $1,000,000 in the cost of construction of this section would be saved. It is possible that the plans for the Ontario Street unit will depend somewhat upon the date of beginning construction of the new station.

It is believed that the authorization of only a portion of the proposed $15,000,000 bond issue at a time, as needed, might handicap the commission in case it should be found necessary to change the plans and develop some other portions with those first contemplated. If the entire issue is authorized at one time, it would then be possible to follow any course that seemed best in carrying out the construction work.

Toronto Offers to Sell

R. J. Fleming, manager of the Toronto (Ont.) Railway, in a letter to the Mayor offering to sell out to the city, says: "I have been asked if the company would be willing to sell to the city the property now upon the terms and conditions provided for sale in September, 1921. In my opinion the directors would entertain such a proposition favorably, provided the city would agree to take until September, 1921, the power required in operating the property, upon the conditions named in the contract made in 1903 between the Toronto & Niagara Power Company and the officials of the Toronto Railway."

Boston Elevated Strike Ends

Eight-Hour Day and Wage Increase Estimated at $1,500,000 a Year for Carmen Alone

Car service was resumed on all lines of the Boston (Mass.) Elevated Railway at 4 a.m. on July 21, following a total shut-down of ninety-six hours resulting from the strike of union employees declared on July 17. The men returned to work upon being awarded increases in pay, estimated at a total of $1,500,000 a year for blue uniform men, and the eight-hour day.

Henry B. Endicott, Boston, served as chairman of the arbitration board. H. Ware Barnum, counsel, represented the company, and J. H. Vahey was the union member of the board. It is estimated that the direct loss in revenue to the company caused by the strike is about $200,000, and that the loss in wages suffered by the employees is $160,000.

The maximum pay under the award is 62 cents an hour. The former maximum was 48 cents. The award is retroactive to May 1, 1919. The men demanded 73½ cents. It is declared that the new wage scale and eight-hour day represent the most advanced combination of compensation and working conditions thus far achieved by the employees of any electric railway in the country, from the standpoint of the men.

Public sentiment was strongly against the men because of the violation of their agreement to await the finding of the War Labor Board and their unwillingness to await a retroactive award promised not later than Aug. 2 by Chairman Taft.

The new wage scale for all the motormen and conductors of the Boston Elevated Railway is shown by the following list:

Period	Wage
Surface Line Employees:	
First three months of service	.50
Next nine months of service	.55
Thereafter	.60
Rapid Transit Lines, Motormen:	
First three months	.52
Next nine months	.57
Thereafter	.62
Rapid Transit Lines, Guards:	
First three months	.50
Next nine months	.51
Thereafter	.55.5
Rapid Transit Lines, Brakemen:	
First three months	.47
Next nine months	.50
Thereafter	.53.5

The former scale for surface line motormen and conductors was 43, 46 and 48 cents an hour; for rapid transit motormen, 45, 48 and 50 cents.

The representatives of the union and of the company agreed upon Mr. Endicott as the third member of the arbitration board on the evening of July 20, and sessions were opened at the State House on the morning of July 21. The board adjourned after about an hour to the Hotel Touraine, and Mr. Endicott announced the award to a mass meeting of employees on Boston Common late in the afternoon of that day.

In presenting the finding he stated that as soon as possible hearings will be held to determine the wages in detail of miscellaneous union employees of the company. Continuing, he expressed the following views regarding the strike for higher wages and the justice of a 10-cent fare:

I realize that through no fault of the trustees the elevated railroad is not in a position to take on extra burdens, but they cannot expect, owing to the high cost of living, to avoid paying their help good, fair wages. Now, while I greatly regret the hasty and unjustifiable action that led to this strike, I cannot but feel that there is a lesson here which will prevent a similar occurrence. You have lost by following ill-judged advice four days' pay, as I feel sure that the award we make would have been made by any fair-minded board. . . .

CRITICISM OF THE 10-CENT FARE UNJUST

The criticism of the trustees of the Bos- Elevated Railway about the 10-cent fare, in our opinion, is entirely unwarranted and unjustified, and we do not believe that the riding public has any right, with private ownership and with the increased cost of everything in the way of material and the necessary advance in wages by reason of the increased cost of living, to expect to be transported for less than the present amount of fare. It was the plain duty of the trustees under the law to advance the fare to 10 cents. They could have done nothing else, and no one has any right to criticise them for doing so.

Local transportation in the Boston district was handled during the strike by a greatly increased steam railroad service on all lines radiating from the city, by private automobiles, jitneys and horse-drawn vehicles. Although prices were considerably in excess of the Boston Elevated fare for most of the automobile service, comparatively little complaint was heard as to profiteering.

For example, a standard automobile fare of 15 cents was charged between the South Station and Harvard Square, Cambridge, the running time being about fifteen minutes as compared with ten minutes and 10-cent fare on the electric railway system. The congestion on the streets and at the steam railroad terminals, however, was extremely severe during the rush hours.


TYPICAL SCENES AT DUVEY SQUARE, BOSTON, DURING STRIKE OF ELEVATED EMPLOYEES

EIGHT-HOUR DAY MODIFIES SCHEDULED RUNS

The award provides that in order to construct schedules with an eight-hour platform day and to meet the requirements of the traffic without largely increasing the force and creating more irregular work in the form of details for the men, a variation in the ratio of runs to be completed within a spread of certain hours is required.

It has been ascertained that when a variation is made which permits three-fifths of scheduled runs within eleven outside hours and two-fifths between eleven and fourteen outside hours, a schedule can be constructed with an eight-hour platform day which: (1) Increases the total schedule runs; (2) increases the number of runs under eleven hours; (3) provides many runs under ten hours; and (4) decreases the irregular work to be done by the employees on details.

Terms of Toronto Strike Settlement

Review of Twelve-Day Strike During Which Provincial Railway Board Took Over the Property

The strike of the employees of the Toronto (Ont.) Railway has been settled and service has been resumed. The strike was unique in that it was the first time in history that the Ontario Railway Board took control of an electric railway on account of default being made by a company in operation.

HISTORY OF CONTROVERSY

Early in June the employees of the Toronto Railway requested an increase in wages from 37 cents to 55 cents an hour. The company replied that it was quite impossible to pay such a large increase and operate the railway, and applied at once for a Board of Conciliation under the terms of the federal act covering industrial disputes. The Minister of Labor for the Dominion agreed to the application of the company, which meantime appointed as its representative F. H. Phippen, K.C., while W. J. Hevey of the Trades & Labor Council was appointed as the representative of the men. Judge Barron was chosen as the third member and chairman.

The railway employees, however, refused to wait until the board had reached a decision and on June 21 voted almost unanimously to go on strike at once. Cars were stopped on the next day (Sunday) at 5.30 a.m. A jitney service was started by automobiles on Sunday, which was greatly augmented by Monday.

On Monday, June 23, the Board of Control for the city of Toronto applied to the Ontario Railway Board for an order directing the Toronto Railway to give a service to the citizens. The order was issued at noon directing the company to proceed forthwith to furnish a service. The police were instructed to protect, but the company did not attempt to operate the cars. Meantime the Conciliation Board began its sittings.

On Thursday, June 26, the Ontario Railway Board took control of the company's plant and equipment on the ground that the company had failed to give a service on the three previous days. The board appointed R. C. Harris, works commissioner for the city corporation and manager of the Toronto Civic Railway, as manager of the Toronto Railway under the direction of the Ontario Railway Board.

MANAGER OFFERS COMPROMISE

Manager Harris called a meeting of the employees on Friday and offered them a wage increase to 48 cents, which was refused. On the following day the Mayor asked the Board of Conciliation tc make an interim report to the Minister of Labor. The strike meantime continued with about 6,000 motor cars used as jitneys together with about 100,000 private motor cars, trucks, etc.

On Monday, June 30, the Board of Conciliation adjourned the hearing in order to make an interim report covering the question of wages, and suggested 50 to 55 cents with an eight-hour day, but with an increase in fares to the citizens to a straight 5 cents. The suggestion of a 5-cent fare met with strong opposition from the citizens of Toronto.

On July 3 the railway employees accepted the report of the Board of Conciliation, but insisted upon guarantees that the increased wages would be paid.

The report of the Board of Conciliation as accepted by the men follows:

(1) The board is unable to agree as to wages under present conditions; (2) the company states that the present operating revenue is not sufficient to enable it to keep up its property, give an effective service, and pay an increase of wages to the men.

Recommendations: That there be an investigation of the company's books by Mr. Bradshaw or Mr. Clarkson, or some other selected accountant, for the purpose of ascertaining the correctness of the company's claims. If it be found that the company's operating revenue is insufficient to meet the situation, that the fare be raised to a straight 5-cent fare, except for children's tickets, which shall remain as at present, the whole of the increase to be available to pay the increase in the men's wages, and not to be subject to any percentage payment to the city, which payment is to be based on the present average fare. In the event of this being done, we jointly recommend:

That the men's wages be increased to 50 cents an hour for the first three months; to 52½ cents an hour for the succeeding nine months, and to 55 cents an hour thereafter.

An eight-hour day, straight time, to the fullest extent practicable, with a leeway of one-half hour to complete the schedule, for 66 2-3 per cent of the crews, the remainder to work ends and spares.

Time and a half for overtime, which is to commence after eight and a half hours work.

All Sunday work to be paid for at the rate of time and a quarter.

New Year's Day, Good Friday, May 24, Dominion Day, Civic Holiday, Thanksgiving Day, Labor Day and Christmas Day to be paid for at the rate of time and a half for all work.

Motor and track repair men to be paid the same rate as the trainmen.

Shed men and men who work in the compressing and fender rooms to be paid an increase of 16 cents per hour over the present rate, and extra time as above.

It is estimated that the twelve-day strike cost the Toronto Railway in loss of fares the sum of $240,000, while the employees lost in wages $72,000; the city corporation lost in its percentage of receipts from the company about $48,000, while it is estimated the citizens paid in extra fares to jitneys about $192,000, making a gross revenue to jitney owners of about $432,000.

Several days after the settlement the Ontario Railway Board, at the request of the Toronto Railway, relinquished control of the road, and the company resumed ownership and direction of the operation of the cars.

Rhode Island Service Suspended

All Lines in State Tied Up by Strike of Rhode Island Company Trainmen

The employees of the Rhode Island Company, Providence, R. I., went on strike at midnight on July 18 to enforce their demands for increased wages and better working conditions, after several attempts at a compromise had proved unsuccessful. Efforts made since the strike was declared to effect an agreement have likewise been fruitless.

10.5 PER CENT INCREASE OFFERED

According to a statement issued by the receivers of the company at the conferences with the union officers on July 18, prior to the strike, an offer was made by them granting a wage of 53 cents an hour, representing an increase of 10½ per cent, the new wage to take effect on July 21, the men to continue working under the 1917 agreement. This offer was refused by the union men, a counter proposal being made for a wage of 55 cents an hour, retroactive to June 1, the date of expiration of the 1917 agreement, conditioned absolutely on a new agreement. This proposal the receivers rejected and the strike went into effect at midnight. The receivers have made no effort to provide service.

Despite the fact that the first day of the strike witnessed a heavy downpour of rain which continued until noon, the manufacturers reported that their full complement of employees was at work. Many of the plants had arranged to transport their employees by truck while the advent of scores of "jitneys" made it possible for workers to reach their place of employment without being forced to walk. The Police Commission of Providence announced that during the emergency the regulations requiring operators of "jitneys" to take out licenses before commencing business would be suspended. The result was an outpouring of cars of every description which served most effectually to provide transportation from every section of Providence.

MEN MAKE COUNTER PROPOSAL

On July 21, the third day of the strike, the receivers sent a proposal to the union officers offering to pay the maximum wage of 55 cents an hour with a continuation of the 1917 agreement, but the settlement of the Boston car strike with the award of 62½ cents an hour interjected a new issue into the conflict, and the union men at a mass meeting rejected the receivers' offer and countered with a demand, based on the Boston award, of 60 cents an hour, retroactive to June 1 and for an eight-hour day.

The receivers in turn rejected this proposal and also refused to submit the matter to arbitration, declaring that as they were instructed by the Superior Court to fix proper wages, they felt they had no authority to delegate this power to others. The receivers declared that no schedule of fares could be put into operation which would yield the necessary revenue even with all State and municipal taxes removed.

Wage Case Reopened

On the ground that changed conditions make higher compensation necessary the conductors and motormen and other union employees of the Bay State Street Railway, Boston, Mass., will have their wage case reopened by the National War Labor Board. It was announced that examiner Charlton Ogburn, representing the board, would hold a hearing in Boston on July 26, to listen to testimony and take whatever other evidence was offered and then report to the War Labor Board.

On Dec. 3, 1918, by a retroactive decree of the War Labor Board, the maximum wage of conductors and motormen was increased as of Oct. 22, 1918, from 40 cents to 45 cents an hour, and a proportionate increase was also granted to miscellaneous union employees, whose minimum wage was established at 42½ cents an hour.

The public trustees of the company and the employees have agreed to abide by the decision of the board.

James L. Doherty, Springfield, Mass., has been agreed upon by Samuel H. Pillsbury, representing the company, and James H. Vahey, counsel for the carmen's union, as the third arbitrator in the dispute between the Eastern Massachusetts Street Railway, the successor to the Bay State Street Railway, and its employees relative to the dispute over the collection of fares on open cars.

It is anticipated that the arbitration proceedings in regard to this matter will begin immediately.

Wages Raised by Indiana Interurban

A uniform increase of 4 cents an hour in the wages of motormen and conductors of all the interurban electric railways entering Indianapolis has been made. The increase became effective on July 16 and was ordered by the companies because of the high cost of living. The increase was made without requests from the men or conferences with them.

The interurban railways entering Indianapolis are the Terre Haute, Indianapolis & Eastern Traction Company, the Union Traction Company of Indiana, the Indianapolis & Cincinnati Traction Company, and the Interstate Public Service Company. The old and new scales of wages for motormen and conductors, in cents per hour, are as follows:

	Old rate	New rate
First year	35	39
Second year	36	40
Third year	37	41
Fourth year	38	42
Fifth year	39	43
After fifth year	..	44

The Union Traction Company of Indiana, which owns the Broad Ripple line, has granted an increase to motormen and conductors on that line, the new rate being 35 cents an hour for the first year, 36 for the second, 37 for the third, 38 for the fourth, 39 for the fifth and 40 after the fifth year of service.

Other electric railways of the State also have increased wages. The Evansville & Newburg Railway announced an increase for motormen and conductors during the week ended July 26. The Fort Wayne & Northern Indiana Traction Company made an increase of 3 cents an hour on its city lines and 4 cents an hour on its interurban lines.

These companies and the interurban companies entering Indianapolis also have granted increases to some employees who are not motormen or conductors. These increases are not uniform.

Toledo's Day of Reckoning Near

The plan to substitute buses for the service furnished by the Toledo Railways & Light Company, Toledo, Ohio, on the retirement of that company from the streets on July 30 has fallen through. William Cowell, who stood as sponsor for this service, said the backers had abandoned the project because of the inability of Council to grant a franchise without first submitting it to a referendum. They wanted immediate protection of their investment. Mr. Cowell stated, however, that should the railway suspend operations on July 30, the individuals who had proposed to back the buses would be able to put from fifty to 100 buses into operation without any agreement.

Many citizens believe that some agreement will yet be reached between the city and the railway that will make unnecessary the suspension of operation. It was pointed out, though, if the company does actually stop operation in accordance with the ouster resolution adopted by Council, it may be some time before the cars can be put into operation again. Much time, it is said, will be consumed in preparing and adopting a franchise and submitting it to a referendum vote.

On July 17 members of the Council stated that the ouster resolution will not be recalled.

Extra Session on Traction Matters

Relief for the acute financial situation of Massachusetts electric railways was urged by Governor Coolidge in a special message to the Legislature on July 23. The Governor recommends the appointment of a commission of seven members to report to a special session of the Legislature planned for November.

The time has arrived, the Governor believes, for active measures of relief to be taken to sustain the service required by the public and to revive the credit of the electric roads by measures which will place them again upon a sound financial footing.

It is expected that all pending electric railway legislation will be referred to the special commission. Debate on electric railway measures under consideration ceased in the Senate on July 23.

Wheeling Wages Announced

All differences between the electric railways of Wheeling, W. Va., and the local amalgamated union were settled on July 1 when the three members of the arbitration board affixed their signatures to the wage scales. Thus has been brought to a close the disagreement which prompted the strike in the Wheeling district for one day on April 1. The agreement signed dates back to May 1 last. It affects directly several hundred men, employed by the Wheeling Traction Company, the West Virginia Traction & Electric Company and the City Railway, and all men and women employed in the various carhouses and in other similar capacities.

The wage scale agreement is for the period from May 1, 1919, to April 30, 1920. Under it the employees receive an increase which averages 18½ per cent, with better working conditions and more convenient working hours.

The differences between the companies and the men arose early last spring before the wage contract then in effect had expired.

Following a number of conferences held between the representatives of both factions no agreement could be reached and the strike was declared on the morning of April 1. That night a public meeting was held under the auspices of the Chamber of Commerce of Wheeling to attempt to adjust the differences. An agreement was reached after several hours debating, by the differences being submitted to a board of arbitrators. The companies named W. R. Powers, Huntington, manager of the Ohio Valley Electric and the Consolidated Light, Heat & Power Company, as their representative. The union selected William Roy, Bellaire, an official of the Ohio Miners' Union. Some weeks were spent before an agreement was reached under which T. Harvey Pollock, of the insurance firm of Pollock & Campbell, was named as the third member.

Considers Municipal Ownership

The City Commissioners of St. Petersburg, Fla., have sent Director of Finance Guy Shepard and City Attorney Bayard Cook to Philadelphia to confer with the owners of the St. Petersburg & Gulf Railway, to obtain from them an option on the system. In case the price is considered satisfactory the question of the city buying the lines would be presented at an election on an issue of bonds to pay for the property. The city officials are also instructed to obtain information regarding the status of the company. This information is desired before the commission acts on the ordinance, offered by the company's attorney, advancing fares to 8 cents instead of the present 5 cents. Judge Pierce, attorney for the owners, on June 29 wired to the Philadelphia men owning the company asking for definite instructions regarding operation of cars in case the city declined to grant an increase in fares. Previous instructions were to stop cars.

News Notes

Wages Adjusted in Reno.—Differences between the management and the employees of the Reno (Nev.) Traction Company over the matter of wages have been adjusted. The men formerly were paid 27 cents to start and 35 cents after two years. The new scale is 40 cents an hour for the first three months, 43 cents for the next three months, 45 cents for the next six months and 50 cents after that.

Change of Venue in Ouster Suit.—The suit to oust the Wheeling (W. Va.) Traction Company from the streets of Bridgeport, filed in Belmont County courts by Herman Schaefer, city solicitor of Bridgeport, has been transferred to the Federal Court at Columbus on request of the railway. The petition alleges the railway is maintaining tracks and wires and operating cars on Bridgeport streets without a franchise or permission by ordinance from the Council of Bridgeport.

Address Draws Editorial Comment.—Charles S. Banghart, general manager of the Augusta-Aiken Railway & Electric Corporation, Augusta, Ga., recently delivered an address before the local Rotary Club on the public utility situation, which drew editorial comment from the Augusta *Herald*. Mr. Banghart declared that if a municipality desired better transit facilities, it should co-operate with rather than oppose the efforts of the public service corporation. The *Herald* advised its readers to give careful consideration to Mr. Banghart's analysis of conditions.

Municipal Ownership Bill Vetoed.—Governor Sproul of Pennsylvania has vetoed the Stadtlander bill, passed by the last Legislature, which would have granted municipalities the right to own and operate street railway systems beyond their municipal limits. In his message accompanying the veto Governor Sproul observed that the bill was bad in principle. The right to own and operate a railway outside its own boundaries would enable a municipality to exert powers within the boundaries of another municipality, clearly an injustice, and a condition that would lead to undesirable results, he pointed out.

Terms of Award in Doubt.—Employees of the Scranton (Pa.) Railway have threatened to walk out unless Charlton Ogburn, representative of the War Labor Board, personally returns to Scranton to interpret the terms of an award made by him some time ago granting the carhouse men and trackmen increased pay for overtime. The men allege that for a short time they were paid according to what they thought were the terms of the award, but that the company after a few weeks returned to the former rate. Mr. Ogburn has refused their request that he revisit Scranton.

Wage Agreement Reported Reached.—Nearly 500 employees of the Monongahela Valley Traction Company in the Clarksburg and Fairmont districts in West Virginia are to receive an increase in wages. Several meetings have been held by officials of the company and the union, and a report of the action taken and the proposition as a whole is now in the hands of the directors of railway. It is expected that an announcement will be made at a meeting to be held in Fairmont in the near future. Thirty-eight to forty-five cents an hour is the scale of wages now being paid employees. The unions are seeking an advance to 45 and 56 cents an hour.

Wider Powers for Alabama Commission.—Abolition of the present Public Service Commission of Alabama and substitution in its stead of a body to be called the Alabama Railroad & Public Utilities Commission having increased power, are proposed in a bill recently introduced in the State Legislature. The new commission would have jurisdiction over all public utility corporations operating in the State with respect to rates, facilities, practice rules and service, franchises, licenses and contracts, financing and issuance of securities; construction of new common carriers and agencies to operate public utilities. All power or authority of the city councils or other municipal governing bodies would be taken away and vested in the newly formed State commission.

Increase for San Francisco Men.—Platform men employed by the United Railroads, San Francisco, Cal., received a further increase of 4 cents an hour on July 13, the fourth voluntary raise granted since the strike of August, 1917. Under the latest wage scale, beginners will receive 46 cents an hour, advancing to 48 cents an hour after six months service, then to 50 cents an hour after employment of a year, and a further increase at the end of the second year to 52 cents an hour, the maximum pay for platform men. The former scale ranging from 42 to 48 cents an hour was granted last April. In July, 1918, the wage was fixed at a minimum of 37 cents an hour, increasing to 45 cents an hour, the maximum wage. More than 2,300 employed by the company are affected by the new conditions.

Youngstown Grant Described.—Lee, Higginson & Company, Boston, Mass., who participated in financing the Mahoning & Shenango Railway & Light Company, Youngstown, Ohio, have issued a statement descriptive of the new ordinance under which that company is now operating in Youngstown. This grant has been described previously in detail in the ELECTRIC RAILWAY JOURNAL. In connection with their statement, Lee, Higginson & Company quote an officer of the company as announcing that the company has just obtained twenty-five-year renewals of its railway franchises in the cities of East Youngstown and Struthers, Ohio, permitting the company automatically to raise or lower its fare from time to time to the same fare which is in force in the city of Youngstown at the time of change.

Franchise Renewal Discussed. — Recommendation that the agitation over the 5-cent fare issue be eliminated from negotiations for the renewal of the franchise of the East St. Louis & Suburban Railway, East St. Louis, Ill., was made in a report submitted to the Commercial Club of East St. Louis by its legislative committee recently. The question of increased fares between the Public Square, East St. Louis, and Edgemont, Ill., arose when the company applied for a renewal of its franchise. The legislative committee recommended that the railway be called upon to extend its services to Scott Field, Ill., and to other outlying points. The committee also recommended that the railway be required to pay into the city treasury of East St. Louis a stipulated per cent of the net receipts of the road.

Fares and Wages Coupled.—J. B. Wiley, business agent of the union of railway employees at Des Moines, Ia., has announced that the union men will recommend an increase in fares and will make an active campaign before the people for this increase if the demands made by the men are agreed to by the board of arbitration which will hear the case. Mr. Wiley is the arbiter chosen by the men. The Des Moines City Railway has named F. W. Sargent, a Des Moines attorney. The third man is to be named by the other two. The wage increase asked by the men is to 55. 60 and 65 cents an hour. Mr. Wiley figures that a 6-cent fare would increase the company's income $340,000 a year and that the wage demands would require $277,000 annually. As the increase will be retroactive to March 1, if allowed, this would mean an additional $135,000 to be expended by the company.

Demands Made by Omaha Men.—Officials of the union of employees of the Omaha & Council Bluffs Street Railway, Omaha, Neb., on July 21 presented to R. A. Leussler, assistant general manager of the railway, written demands, the most important of which was for a wage increase. In view of the absence of Frank T. Hamilton, president of the company, it was agreed to hold the matter open until his return to Omaha. Neither side announced the amount of the wage increase, but unofficially it was given out that the carmen want an increase from a scale of 41-45 cents an hour to one of 65-75 cents. Indications are that the railway officials will look to the city and the State Railway Commission for relief, as they contend that the prevailing 5-cent rate of fare barely covers operating expenses as they exist at present.

Financial and Corporate

$2,300,000 of Receiver's Certificates

Court Orders Liquidation of Indebtedness of United Railways, St. Louis, to War Finance Corporation

Special Master Henry Lamm in the receivership suit of the United Railways, St. Louis, Mo., entered an order in the Federal Court on July 18 recommending that the United States District Court empower Receiver Rolla Wells to issue receiver's certificates for $2,300,000 to liquidate the company's indebtedness to the War Finance Corporation, which holds the 6 per cent bonds of the Union Depot Railway, St. Louis, as collateral.

Bondholders Confer

The step was taken by Judge Lamm after a conference with attorneys representing the various interests. Two factions of bondholders, representing between them more than the necessary 5 per cent of outstanding obligations, had indicated their intention of starting foreclosure proceedings against the United Railways, following failure of the company to pay interest. The two factions announced Oct. 6 as the date of foreclosure proceedings.

The receiver's certificates contemplated by Judge Lamm would be a first lien on the property of the Union Depot Lines and a lien on all property of the United Railways ahead of the St. Louis Transit 5 per cent bonds and the general 4's but junior to various divisional bonds.

It developed at the hearing held before Judge Lamm entered his order that the company owes the War Finance Corporation approximately $2,400,000. It is the receiver's intention to add to the certificates a sufficient sum from the reserve fund of the company to make up the amount.

Mr. Warner Explains Valuation

In court Robert L. Warner, vice-president of the United Railways, testified as to the value of the Union Depot lines property, which is collateral for the War Finance Corporation loan. He said that the property had been appraised as low as $4,000,000 and as high as $8,000,000. He declared the property was ample security for the loan. Mr. Warner said he feared August would be a bad month in which to try to float the receiver's certificates proposed. He thought it would take at least two months to sell the certificates.

In answer to a question from Judge Lamm as to the chances of selling the certificates, Mr. Warner asserted that they would have to be sold at a high rate. He thought a rate as low as 4 per cent could be obtained if the issue was started with St. Louis bankers.

Interesting testimony as to the receipts and expenditures of the company was given by officials. C. E. Smith, chief engineer, said the reconstruction and rehabilitation of tracks would require about $750,000. Col. Albert T. Perkins, newly appointed general manager, and James Adkins, treasurer, were examined as to earnings. Mr. Adkins said the gross operating income from April 12 of this year, when the receiver took charge, to May 31 was $2,166,368. He estimated the receipts from May 31 to Dec. 31 at $8,918,997. This estimate, he explained, was based on last year's receipts, plus a 2 per cent increase. After deducting operating expenses from April 12 to May 31, Mr. Adkins fixed the net operating income at $461,638. After deducting interest on bonds, notes and fixed charges this was further reduced to $133,615.

Meeting Looking Toward Foreclosure Put Off

Creditors of the Grafton Light & Power Company and the Grafton (W. Va.) Traction Company met at the office of O. E. Wyckoff, referee in bankruptcy, on June 30. It was hoped that an agreement might be reached among the creditors of the two concerns for a sale of the properties as prayed for by Dr. T. F. Lanham, the trustee, in a petition recently filed by him in the Federal Court of the Northern District of West Virginia.

This meeting failed of its object, however, for the time being, for the following reason: It was known that Francis P. Garvin, New York, was the holder of bonds of the Grafton Light & Power Company to the extent of $300,000, to secure a loan made by the Central Trust Company, New York, to the Grafton concern in the amount of $150,000. Both Mr. Garvin and the trust company were served with notice of the meeting, but it appears that Mr. Garvin had assigned the bonds to his father-in-law, Nicholas F. Brady, New York.

Of this transfer Referee Wyckoff had no knowledge until the appearance of C. M. Thorne, representing the Brady interests, who stated that this was the first notice his client had received of the proceedings then pending. He asked for further time to look into the matter before taking any part in the proceedings. Under the circumstances the referee, upon the attorney entering a formal appearance for Mr. Brady, felt it incumbent upon him to postpone further action in the matter for the present.

M. & K. Interurban Refunding Authorized

Commission Allows Increase in Interest Rate So As To Attract Capital

The Kansas Public Utilities Commission has permitted the Missouri & Kansas Interurban Railway, the Strang Line, to refund about $650,000 of bonded and other indebtedness, raising interest from 5 per cent to 6 per cent, in order that the company may obtain about $150,000 of new money for rehabilitation and improvements.

Low Interest Return a Deterrent

This is perhaps the first instance in the Trans-Mississippi territory wherein the low returns on utility investments already made are recognized as a deterrent to further investment, and concessions made to such investors, to influence them towards putting more money into projects to serve the public.

The Kansas commission does not go as far as utilities might hope, in its recognition of the facts that have hampered electric railway financing. The following paragraph indicates the limitations it places, now, upon the inferences that might be drawn from its recent action:

> That while the commission should not be bound by such issue of bonds for rate-making purposes, or the interest thereon allowed in future applications for rates as fixed charges, the commission does find that the refunding of said bonds and indebtedness can probably at this time be accomplished in no other way.

The Strang Line needed additional capital so that installations might be made to care for business offered and in sight. The money could not be secured from the usual sources, which were getting only 5 per cent on their present investments. Bowersock & Fizzell, attorneys for the company, presented these facts to the commission, making it especially clear that the predicament of the electric railways was due to two factors, with others: first, the low level of returns on bonds now issued, which discouraged investors from putting any more money into the properties; second, the necessity of improving properties and increasing their usefulness for the public interest. It was made clear that the best means of again attracting the attention of the investors to utilities was to increase their revenue from bonds now held in such properties.

Improvements Planned

The Strang Line has about $650,000 outstanding in 5 per cent bonds and in notes. The commission issued an order on July 11 for the complete refunding of this indebtedness, most of which has thirteen years yet to run. An issue of $500,000 of first mortgage 6 per cent bonds was authorized, all of which will take up 5 per cent bonds. An issue of $300,000 of second mortgage bonds was authorized; part of this will take up 5 per cent bonds, part will secure the notes of the company issued for rehabilitation, and part will be for future issue. There will be held for issue later, on order of the commission, $73,500 of the second mortgage bonds.

Two immediate items of improvements will be the installation of a transmission line, probably underground, for service of farmers along the route of the interurban; and the enlargement and improvement of facilities of the freight station of the company in the south suburbs of Kansas City.

Census Figures Show Distress

Government Bureau Substantiates the Charges Made of Pending Calamity

As the United States Census reports on electric railways for the year 1917 are made public, evidence accumulates slowly but surely to show the retarded progress of this important industry. Such conditions were reflected again in the section of the report abstracted in the ELECTRIC RAILWAY JOURNAL for July 12. Therein were set forth data as to the capitalization and traffic of these utilities.

It was shown, for instance, that the total capitalization of all companies, urban and interurban, for the year 1917 was $5,525,025,923, an increase of 17.3 per cent in five years. For the previous five years the gain was 24.7 per cent, and for a similar period preceding that 63.5 per cent. Going back to the earliest period covered—1890 to 1902—the increase was 414 per cent, or at the rate of 172.5 per cent for a five-year period. While this unusual showing was to be expected for the period when electric railways were developing abnormally, the lessening increase in each succeeding period might safely be attributed to the obstacles set up to discourage investors.

Turning next to the traffic figures, we find that from 1902 to 1907 revenue passengers increased 55.9 per cent, while transfer passengers increased 87.8 per cent. From 1907 to 1912 the respective gains were 28.3 and 21.5 per cent, and from 1912 to 1917 they were 18.4 and 24.6 per cent. Free passengers increased 72.2 per cent from 1907 to 1912 and only 9.2 in the following period. Here is indicated one of the few beneficial turns in the history of electric railroading—the checking of free transportation, largely due to the enactment of public service regulations. The growth of the transfer habit, however, is too plainly evidenced.

The plan which has been adopted for presenting the case of the electric railways before the President's commission includes the introduction of census reports as indicating the present state of the industry. Unfortunately, these figures are some eighteen months old and fail to cover the most distressing period of these utilities, but the story told by the census bureau will no doubt have considerable weight.

New Haven Lines Suffer

Electric Railways Affiliated With New Haven Railroad See Expenses Eat Up Revenues

The annual report of the New York, New Haven & Hartford Railroad for the year ended Dec. 31, 1918, contains income statements for its various affiliated electric lines, as shown in detail in the accompanying statement. The time in which, under federal decree, the railroad must sell its investments in these lines has been extended until July 1, 1921.

The financial results of 1918 for the various electric lines were most unsatisfactory, it is said, owing to causes which affected all transportation lines of this character. A good idea of the heavy burden of operating costs can be secured from the fact that in three cases the operating expenses and taxes were greater than the total operating revenues. For the New York, Westchester & Boston Railway the excess of such expenses was 12.07 per cent, an increase of 6.22 per cent over 1917; for the Berkshire Street Railway it was 32.45 per cent, an increase of 36.86 per cent over 1917, and for the Westchester Street Railroad it was 24.18 per cent, a decrease of 8.36 per cent from 1917. These companies as of Dec. 31, 1918, showed the following deficits: New York, Westchester & Boston Railway, $9,919,169; Berkshire Street Railway, $1,334,019, and Westchester Street Railroad, $314,046.

OTHER LINES HAD LITTLE TO SPARE

The other three lines, though their revenues were sufficient to cover operating expenses and taxes, had in general little to spare. The operating expenses and taxes of the New York & Stamford Railway were 95.38 per cent of the revenues, an increase of 4.54 per cent over 1917, and those of the Rhode Island Company were 90.62 per cent, an increase of 4.39 per cent over 1917. The Connecticut Company made the best showing with a ratio of 87.83 per cent, an increase of 3.87 per cent over 1917. This company was the only one of the six to show a surplus for the year, and a credit to profit and loss account. This as of Dec. 31, 1918, totaled $2,770,703, while the accumulated deficits for the New York & Stamford Railway and the Rhode Island Company were $236,591 and $235,183 respectively.

The general situation is summarized in the New Haven report in the following words:

Throughout the year the trustees and managements of the various companies have worked to obtain increases in rates to offset the increases in wages and other expenses. Considerable progress has been made, and this work is being pressed diligently. Increased rates or shorter zones of travel, or both, have been obtained and are now in effect on all lines.

Steps have also been taken to adopt every reasonable economy, such as the skip stop, and to curtail service on light lines. Operation of some non-productive lines has been suspended, and in some cases communities desiring service have agreed to pay a limited sum for the continuous operation of a line.

Careful study is being made of the benefits to be derived by the public and by the

INCOME STATEMENTS OF ELECTRIC RAILWAYS AFFILIATED WITH NEW YORK, NEW HAVEN & HARTFORD RAILROAD FOR YEAR ENDED DEC. 31, 1918, WITH CHANGES FROM PRECEDING YEAR

	New York, Westchester & Boston Railway		Berkshire Street Railway		Connecticut Company		New York & Stamford Railway		Rhode Island Company		Westchester Street Railroad	
	1918	Change	1918	Change	1918	Change	1918	Change	1918	Change	1918	Change
Operating revenues	$578,531	+$23,117	†$891,832	—$201,883	$9,935,750	—$87,412	$374,392	—$19,867	$6,311,285	+$310,683	$242,829	—$3,194
Operating expenses	489,536	+30,843	1,072,960	+120,876	8,150,433	+329,428	333,997	+4,174	5,115,551	+596,548	291,768	—22,293
Net operating revenue	$88,995	—$7,726	*$181,128	—$322,759	$1,785,317	—$416,840	$40,395	—$24,041	$1,195,734	—$285,865	*$48,938	+$19,099
Taxes	158,848	+29,614	61,843	+1,937	575,888	—18,621	23,112	—5,206	604,250	—50,999	9,769	—2,243
Operating income	*$69,853	—$37,340	*$242,971	—$324,696	$1,209,428	—$398,219	$17,283	—$18,835	$591,484	—$234,865	*$58,707	+$21,342
Non-operating income	3,845	—6,887	1,076	—745	242,112	+21,190	646	—19	111,334	—4,148	342	—3
Gross income	*$66,008	—$44,227	*$241,895	—$325,441	$1,451,540	—$377,029	$17,929	—$18,854	$702,818	—$239,013	*$58,365	+$21,339
Deductions from gross income	1,662,980	+53,855	(a) 319,480	+1,572	1,250,565	+41,844	(b) 96,024	+223	(c) 1,480,342	+25,660	(d) 33,187	+5,903
Net income	*$1,728,988	—$98,082	*$561,375	—$327,013	$200,975	—$418,873	*$78,095	—$19,077	*$777,524	—$264,673	*$91,552	+$15,436

*Deficit.
†Includes $35,064 of net revenue from auxiliary operations, an increase of $77 over 1917.
(a) Deductions include $211,380 of interest accruing to the New York, New Haven & Hartford Railroad but not included in the income account of that company.
(b) See above note; amount in this case is $12,428.
(c) See above note; amount in this case is $222,546.
(d) See above note; amount in this case is $28,201.

companies through the introduction of the safety or one-man car, to be bought if found desirable, and if the necessary financial arrangements can be made.

The various communities served seem to appreciate more than ever before that if service is to be rendered by the trolley lines, compensation must be adequate to meet all expenses, taxes and to pay a return upon the property.

Hearing on Abandonment

The International Railway, Buffalo, N. Y., has sought permission from the Public Service Commission for the Second District to abandon its Gooding Street local line in Lockport. Evidence in the case was taken by Chairman Charles B. Hill at a hearing in Buffalo in which the company contended it would be better off financially if it did not have to operate the Gooding Street line as part of its Lockport system. In the course of the hearing the company presented evidence to show that during the year ending February 28, 1919, the total expenses of the Lockport-Olcott interurban division, including freight and passengers, were $123,869, while the total revenues were $103,257, showing a loss of $20,612. The company claimed it did not meet the interest of $40,000 on its Lockport-Olcott road bonds in the total sum of $800,000.

Comparative figures were also given of the number of passengers riding on the Lockport local cars in March, April and May last year under a 5-cent fare and for the same months this year under a 6-cent fare as follows: 1918, 232,698 passengers; 1919, 231,055 passengers. Revenues, however, have increased about $3,000, but it is pointed out by E. J. Dickson, vice-president of the company, that even with this increase in revenue, the company will operate the Lockport local lines at a loss of $748 this year without the payment of interest on bonds and without allowing for depreciation. New track and paving must be laid on the Gooding Street line. This, it is estimated, would cost about $43,000.

Sale of Collateral Set

The State Street Trust Company, Boston, Mass., trustee under the indenture securing the collateral trust mortgage 5 per cent bonds of the Paducah Traction & Light Company, Paducah, Ky., dated Nov. 1, 1915, gives notice that default having been made in certain covenants of the trust deed, it will sell at public auction at Boston, on July 25, the securities of the following companies pledged as collateral:

(a) Paducah Light & Power Company, $551,000 of 6 per cent thirty-year gold bonds, dated Nov. 1, 1905, due Nov. 1, 1935; $294,608 of interest-bearing demand notes dated Nov. 1, 1905; 4500 shares of capital stock, par $100.

(b) The Paducah Traction Company, $379,000 of 6 per cent thirty-year mortgage bonds, dated Nov. 1, 1905, due Nov. 1, 1935; $599,228 of interest-bearing demand notes; 3500 shares of capital stock, par $100.

(c) The Paducah City Railway, $87,000 of 5 per cent thirty-year mortgage bonds, dated July 10, 1902, due July 1, 1932.

(d) Paducah Realty Company, ten shares (total issue) of capital stock, par $100; $27,300 of interest-bearing demand notes.

Financial News Notes

Note Issue Approved.—The application of the Nova Scotia Tramways & Power Company, Halifax, N. S., to the Board of Public Utility Commissioners for leave to issue $1,000,000 of three-year gold coupon notes at 7 per cent has been granted.

Abandonment Authorized.—The Public Utilities Commission of Kansas has authorized the Iola (Kan.) Electric Railway to discontinue service and to junk all the property. The company has approximately 7 miles of track.

International Collateral Sold.—Adrian H. Muller & Son, New York, N. Y., sold at auction on July 16 to the noteholders' protective committee, for $300,000, the $1,634,000 of collateral trust 4 per cent bonds of the International Traction Company, Buffalo, N. Y., pledged as collateral to secure the 6 per cent serial notes dated April 1, 1916.

Increase in Spokane Receipts.—Owing to the 6-cent fare the Washington Water Power Company operated its railway lines in Spokane, Wash., at a profit during June, whereas for June, 1918, there was a deficit, according to a recent statement of D. L. Huntington, president. Receipts showed an increase of 21.6 per cent, or $13,000, over those of the same month for last year, largely due to the higher fare.

Increase in Business in St. Louis.—An increase of approximately 400,000 passengers is indicated in the report of the receiver of the United Railways of St. Louis, Mo., for the quarter ended June 30, as compared with the corresponding quarter of the previous year. During this quarter of 1919 the United Railways carried 62,618,484 city and county passengers, including half-fare passengers, as against 62,245,048 passengers during the same three months of 1918.

Ordered to Continue.—Operation of the Clairton Street Railway, a 1½-mile line of the Pittsburgh (Pa.) Railways, in Clairton, Pa., now shows a deficit of $2,530, the receivers of the Pittsburgh Railways have reported to the United States District Court. The court authorized the receivers to meet the deficit with funds at their disposal, upon their representation that they wish to continue operation to maintain a franchise that promises to be valuable in the future.

Texas City Property Sold. — The properties of the Texas City (Tex.) Company, on the mainland opposite Galveston, which is a sub-port of Galveston, have been sold at auction by J. H. W. Steele, receiver. These properties include the Texas City Street Railway, which is a subsidiary on the Texas City Company, and various other subsidiary companies. Augustus Peabody, of Peabody, Houghteling & Company, Chicago, Ill., bought in most of the properties, including the railway, on a bid of $150,000.

Receiver for Texas Property.—C. U. Culberson has been appointed receiver for the properties of the Corpus Christi Railway & Light Company, Corpus Christi, Tex., by United States District Judge Hutchinson in Houston, Tex. Mr. Culberson will take charge of the properties and will personally assume responsibility for their operation. The appointment of a receiver was made on application of the Merchants Union Trust Company, Philadelphia, Pa., trustee for the bondholders. The petition alleged that the company is in default of interest on its outstanding indebtedness. The property includes 10 miles of electric railway.

Northern Ohio Traction Bonds Offered.—Coffin & Burr, New York, N. Y., own and offer subject to sale at 80 and interest, yielding 6.15 per cent, first consolidated mortgage 4 per cent gold bonds of the Northern Ohio Traction & Light Company, Akron, Ohio, due Jan. 1, 1933. The bankers explain that through the retirement last month of an issue of divisional bonds, the first consolidated mortgage bonds are now secured in the opinion of counsel by a first mortgage on the entire electric light and power property of the company, together with the most important and profitable portions of the company's system of electric railway transportation.

Indianapolis-Louisville Link Purchased.—The Interstate Public Service Company, a subsidiary of the Middle West Utilities Company, Chicago, Ill., has bought the link in the electric railway chain extending from Louisville to Indianapolis owned by the Indianapolis & Louisville Traction Company for $325,000 and has assumed a mortgage for $846,000. The line extends from Sellersburg to Seymour, Ind., and was built at a cost of $1,500,000 in 1907. The company has $600,000 of common stock and a like amount of preferred stock. The purchasers control the links at both ends of the line from Sellersburg to Louisville and from Seymour to Indianapolis.

Outer Belt Sale Authorized.—The property of the Kansas City & Outer Belt Railway, Kansas City, Mo., which has been in receivership for the last six years, has been ordered sold at Kansas City to the highest bidder on Sept. 16. The order authorizing the sale was entered by Judge Pollock. It requires that the property shall be sold for not less than $131,000. As was explained in the ELECTRIC RAILWAY JOURNAL for Jan. 25, page 202, Judge Pollock early in January declined to agree not to sell the property of the company within a year, his leniency heretofore being due to the fact that the bondholders are largely British, with time otherwise occupied during the last few years on account of war conditions.

Traffic and Transportation

Seven Cents in Athens

Pennsylvania Commission Announced Important General Policy Governing Fare Increases

The Public Service Commission of Pennsylvania, in an opinion prepared by Chairman Ainey, has authorized the Waverly, Sayre & Athens Traction Company, Waverly, N. Y., operating in Pennsylvania and New York, to charge a 7-cent rate of fare in order to meet the increased costs of labor and material and to enable the company to render public service.

Other Increases Previously

The company made increases from 5 cents to 6 cents, and then to 7 cents, and against these increases complaints were filed. At the hearing held by the commission it was developed that the revenues obtained from the 7-cent fare were not sufficient to pay operating costs and provide a fund for the maintenance of the property in a good condition to render adequate public service. The stockholders have never received any dividends on their stock and the president of the company, who owns 24 per cent of the bonds, has yearly cancelled his coupons without payment and turned them into the treasury of the company because of the lack of revenues to pay them. The testimony offered by the respondent was not controverted by the complainant.

The Interstate Commerce Commission, upon the same state of affairs, has granted a 7-cent fare for interstate business on the line between Waverly, N. Y., and South Waverly, Sayre and Athens, in Pennsylvania. While the company under the New York law can charge 6-cents for purely New York business, the number of passengers and the amount of revenue derived therefrom is so small that, even if the rate for the New York service were increased to 7 cents, it would not make any material increase in gross revenue or change the conclusion in the present case.

Monthly Reports Requested

In order that the commission may keep close track of the case, it directed the company to file monthly reports of its receipts and income and has granted leave after Jan. 1, 1920, to the complainant to renew the complaints if it can then be shown that the revenues have increased or the operating expenses decreased so that a lower rate of fare would meet the company's necessities.

The commission points out that the only way that the public can have electric railway service is by affording the company revenue sufficient in amount to produce it, and Chairman Ainey makes the following important statement of general policies:

To expect public service of these carriers without permitting them sufficient revenues to produce it, is as fallacious an economic suggestion as to demand bricks without straw or to require faithful toil from the muzzled ox.

It is therefore a matter of ordinary business prudence and sagacity that the public generally should come to an appreciative understanding of what that service means to the industrial and commercial life of the State and to each locality within it, and to recognize that the terms upon which it can be continued for their use and enjoyment are that it shall receive at their hands as rate payers revenues sufficient to furnish it.

If the public are to be adequately served railways must be permitted to earn out of imposed rates of fare revenues large enough in amount to pay operating costs and a fair return, and provide for the maintenance of the property, provided always that the rates imposed are not unjust or unreasonable.

Employees May Advertise Free

With approval of Receiver Hedges, the August issue of the *New York Railway Employees' Magazine* will open its columns to the acceptance of advertisements, to be inserted free of charge, from all employees of any department of the New York Railways. The advertisement must not exceed twenty-five words in length. Advertisements will be accepted and inserted in the magazine under the following headings:

For Sale
For Rent
Help Wanted, Male
Help Wanted, Female
Houses to Let
Apartments to Let
Rooms to Let
Boarders Wanted
Positions Wanted, Male
Positions Wanted, Female
For Exchange
Miscellaneous

The headings are self-explanatory, for instance: Under the heading "For Exchange," if any employee wants to exchange a Victrola for a sewing machine, or a bedstead for a bureau, or any other article, all he has to do is to write it out and send it in. Advertisements will be received for one insertion only unless the employee otherwise requests.

It is understood that the advertiser is advertising for himself only or an immediate member of his family. To this end the name of the sender and the department in which he or she is employed must accompany the advertisement.

Hearing on East St. Louis Fares

Another hearing on the application of the East St. Louis & Suburban Railway, East St. Louis, Ill., for permission to continue indefinitely its charge of a 6-cent fare was held in East St. Louis on July 15 by the Public Utilities Commission of Illinois. D. E. Parsons, general manager of the railway, and Leroy Browning, city attorney, were the principal witnesses.

Court Sustains Fare

Pennsylvania Holds That Fare Clause Cannot Block Justifiable Rate Increase

A fare-fixing clause in an electric railway franchise cannot block a justifiable increase in rates, it was ruled in the Superior Court of Pennsylvania during the week ended July 19. The ruling was made in an opinion by Judge Troxler on the appeal of the borough of Wilkinsburg in its contest of the 1918 fare increase by the Pittsburgh Railways from 5 cents to $5\frac{1}{2}$ and 6 cents. Wilkinsburg franchises include a 5-cent fare clause.

The appellant had argued that increase of fare in the face of the 5-cent fare clause constituted a breach of the constitutional guarantee of contracts. Judge Troxler declined to admit the truth of this.

When an electric railway increases its fare in accordance with the provisions of the public service commission law, as the Pittsburgh Railways did in this instance, Judge Troxler set forth, the police power of the State has been invoked. This power cannot be abridged, and any contract in the franchise must be considered to have been entered into by the contracting parties, with a reservation in favor of it. Therefore, a change in tariff, accomplished by virtue of the State's police power, connot be considered a breach of contract within the constitutional meaning.

It is right that the police power should cover the matter of fares, the opinion explains, because of the general public's stake in the matter. Street railways are no longer local concerns supplying only one community each, but are now competitors of steam railroads carrying freight and passengers for long distances. As such it is desirable that they be controlled by the more extensive authority of the State.

In another opinion issued the same day Judge Troxler upheld the Common Pleas Court of Allegheny County in dismissing a bill brought by the city of McKeesport, which sought to prevent violation of its 5-cent fare ordinance at the same time by injunction proceedings. The lower court had dismissed the bill upon demurrer on the ground of no jurisdiction except upon appeal from the Public Service Commission, which had not yet acted on the raise. The Superior Court did not rule on this phase of the issue, merely observing that if its other opinion were correct, the 5-cent fare clause could not stand in the way of the increase anyway, and the same result would follow, even granting the lower court had jurisdiction.

Both of these opinions were handed down as applicable to several similar suits brought by Pittsburgh and a number of the surrounding boroughs as a result of the same increase. Charles K. Robinson, chief of the Pittsburgh bureau for traction litigation, has announced that the city will appeal to the Supreme Court.

Boston Now Charging Ten Cents

Boycott and Strike Follow Change in Fare—Public Opinion Very Hostile

Boston, Mass., went to a 10-cent fare on July 10. This was the program for the Boston Elevated Railway that had been announced by the public trustees as noted at length in the ELECTRIC RAILWAY JOURNAL for July 5, page 45. There followed very shortly the strike of the employees with the burden of increased costs involved in the strike settlement, the terms of which are reviewed on page 190 in this issue.

It is now reported that the trustees have been requested by the Massachusetts Legislature to establish a 5-cent fare effective until Dec. 1. By this time, it is said, remedial legislation will probably be enacted by a special session of the Legislature.

That the trustees have feared for the results under the 10-cent fare is instanced in a statement issued on July 21 by Samuel L. Powers of the board of trustees. Mr. Powers said:

TRUSTEE POWERS PLEADS FOR PUBLIC PATRONAGE

Unless the car-riding public is as liberal in its patronage of the elevated under the 10-cent fare the road will within thirty days be forced to find a substitute solution for a revenue to meet the $2,500,000 wage increase to the employees. During the first week we had the 10-cent fare we lost about 20 per cent of what we had had under the 5-cent fare. Under the 8-cent fare we were losing about 9 per cent of what we got out of the 5-cent fare. Now the question is, will this increased cost, assuming the riding will be 20 per cent less, give us enough revenue to meet the increased expenses? My answer is that I do not know. I do not think sufficient time has elapsed since the going into effect of the 10-cent fare to make a fair test. But I do believe that if the public were to ride as freely on the 10-cent fare as they did on the 8-cent fare, the revenue would be sufficient to cover the cost of service and provide a reasonable return. Patrons of the elevated will probably continue to use the strip tickets they purchased during the strike for use on the steam roads until these are exhausted.

Mr. Powers intimated that in case the 10-cent fare should fail eventually, it would not mean that the fare would be further increased. The trustees are considering the use of the zone system and there is some ground for the belief that this will soon be tried in Boston.

PATRONS BOYCOTT COMPANY

According to an estimate by H. L. Wilson, treasurer of the company, 76,300 fewer revenue passengers were carried on the road on July 21 than on July 14, the number on July 21 being 716,000. The 10-cent fare was in effect on both days. On July 7, when the 8-cent fare was in effect, the total number of revenue passengers was 927,812. The July 21 figures, however, are somewhat complicated by the fact that many persons did not see the Boston Sunday papers and realize the probability of the strike settlement on that day, and also by the outstanding commutation tickets purchased from the steam railroads and still in the hands of the public.

There is no question that the 10-cent fare has resulted in a widespread boycotting of the service in favor of other agencies of transportation and that walking has greatly increased. It is impossible to determine at this writing to what extent the lost patronage of the road will return. Extra suburban trains are still being run on the steam roads radiating from Boston, although there appears to be a decided falling off in the patronage of Boston & Maine suburban extras. Traffic on the Boston & Albany during the rush hours Tuesday morning was 16 per cent above normal.

The public trustees were prepared for protests against the new fare, but hardly, it is believed, expected the veritable flood of newspaper comment and criticism by men prominent in both business and public life, which followed the advance in fare.

While it is a fact that much of what has been said is denunciatory and not constructive, the clamor is so insistent as to command attention if not respect. Only in a few isolated instances is the voice of the press raised in behalf of the company. In this respect the Boston *Herald* warns that "too long has the public assumed that every proposed increase in wages was so much to the good." That paper says "it is quite immaterial whether we pay a high transportation cost, in the individual car fare, or indirectly in our general taxation."

ONLY THOSE RIDE WHO MUST RIDE

The *Post* is among the papers that cling to the opinion that "the 10-cent fare does not and will not provide the greatest number with satisfactory service." In its opinion "only those who must ride, or to whom the fare is of no consequence, will obtain the service." That paper regards it as a fact that "the successive increases in the fare from 5 cents to 7 cents and then to 8 cents brought the company sharply up against the law of diminishing returns."

Sharing this general opinion is the Boston *Record*. That paper says that "efforts to solve the traction problem by increasing fares has been unsuccessful because they ignore the central consideration, which is that this service must be provided at a cost supportable by the patrons." It holds "that it is this consideration which has 'no alternative.'" That paper says "it is elementary business common sense that increases in fares invariably and inevitably reduce patronage and diminish returns, and this should have been plain to those who ill-advisedly insisted upon increased fares."

The Lynn *News* suggests a return to the 5-cent fare. It says that the advancing fare proposition has gone far enough. That paper remarks facetiously that "if the railways are ultimately to serve only the rich and leave the average citizen with no means of conveyance it is about time to wind up their affairs and get everybody into training for walking."

The sentiment about the railway at a 10-cent fare being a luxury runs through much of the press comment. Thus the Newburyport *News* says that "we have enough unrest now without increasing it by adding to the burdens of the workers while the State spends money in the interest of the automobilists." The Boston *Herald* in later comment, however, sees "a disposition to pay a part of the bill out of the public treasuries and the rest in the old way." That paper "believes this solution to be inevitable, and in the present circumstances—temporarily at least—quite necessary." The Gloucester *Times* is another paper that has called attention to the "millions of dollars spent annually to keep the roads in condition for the rich man and his automobiles." In this connection it asks: "Is it unjust to ask that the State should do something to help pay expenses so that the poor man can ride in the cars to his destination at the old rate of 5 cents?" The Boston *American* counsels the installation of the zone system. That paper says however, that "if Massachusetts were wise she would take over all her street railways, own and operate them, so that there would be no suspicion that any private interests had any connection whatever with the management of the roads, and then reduce the fare to 5 cents, paying any loss during this period of high prices out of general taxation." The *American* professes to see "nothing revolutionary or unprecedented in such action."

The Rev. Edward A. Horton, chaplain of the State House, sees a social menace in the 10-cent fare. He says that it breeds Bolshevistic sentiments in the hearts of the working people. Mr. Horton sees "men and women aroused to riot and hatred and class hostility."

Perhaps the most startling comment of all was that by ex-Governor Eugene N. Foss of Massachusetts, a man of much wealth and wide business experience, at one time reported to be the largest holder of Brooklyn Rapid Transit stock after the Brady interests. According to the Boston *Globe* he sees a camouflaged quasi-public ownership in the road as at present operated. Mr. Foss says that he has reached the conclusion that "the only solution of the question is public ownership." He is quoted as follows:

Every reasonable man will have to admit that in addition to the errors of private ownership of the Boston Elevated Railway, the road has been burdened by subway charges and the rise in wages and materials. It is a deplorable situation and one that must be met. Private capital cannot meet it. There's an old saying that there is nothing so timid as $1,000,000 except $2,000,000. Capital is scared. Those who are in are in deep and they want to get out. It's the public's affair, and the public must solve it. I believe that the road should be taken over by the State. Go back to the 5-cent fare, and if there is a deficiency make it up by taxing the communities served by the system, just as they are doing it now.

Transfer Charge Authorized in New York

Two Cents Allowed to Be Charged by New York Railways and Brooklyn Rapid Transit Company

Public Service Commissioner Lewis Nixon of the First District of New York, on July 18, signed an order permitting the New York Railways, which operates the so-called green car lines in Manhattan, to charge 2 cents for transfers at ninety-nine of the 113 transfer points on its system. At the same time he authorized the Brooklyn Rapid Transit Company to charge 2 cents for transfers on practically all of its surface car lines in Brooklyn. Of 1008 transfer points on the entire system where transfers are now issued free, only thirty points are exempted from the order, besides a few points where feeder lines transfer to the trunk lines. That the commissioner would probably make such an order was announced in the issue of the ELECTRIC RAILWAY JOURNAL for July 12, page 94.

Both the New York Railways and the Brooklyn Rapid Transit Company are in the hands of receivers, and both had asked to be allowed to charge 3 cents for transfers. Both orders go into effect on Aug. 1. In the case of the New York Railways, the order continues in effect until July 7, 1920, unless the commission extends the time at some future date, while in the case of the Brooklyn Rapid Transit Company the ruling is effective until July 30, 1920.

CHARGE FOR INITIAL TRANSFER

The charge in both cases will apply only to the initial transfer issued; that is, where it has been the custom to issue transfers such retransfers will be continued and no additional charge will be made for them. Both orders contain provisions that each company shall keep careful accounts of the result of the transfer charges in reference to the income of the companies.

In the case of the Brooklyn Rapid Transit a report is to be made monthly to the Public Service Commission of the results of the order. Provision is also made in the case of the New York Railways order that if the city is dissatisfied with the valuation of its property, placed in evidence at public hearings, it shall have the right, at the end of six months, to apply to have the proceedings reopened.

Commissioner Nixon, in signing the orders, made a vigorous defense of his action, and denied emphatically that the commission was in any way favoring the railroad companies. Such a charge, he said, was not only unfair and unjust, but "wickedly false and untrue." The commission, he said, was simply trying to protect the interests of the people of the city, and that they should appreciate it and not be misled by those who are attempting to deceive them. It is understood that Commissioner Nixon referred to Mayor Hylan, among others, who has stated that he never would approve the charging for transfers. Commissioner Nixon said:

The public should have a true statement of the transit situation in this city. The New York Railways at the present time is in the hands of a receiver. That means that it is insolvent and unable to pay its debts. The New York Railways is a vast system which consists of many leased lines, such as the Eighth Avenue Railroad Company, the Ninth Avenue Railroad Company, etc. In order to obtain leases of these lines, the New York Railways is obliged to pay rent for them. If the rent is not paid these leased lines will cancel their leases. Some of these rentals may be extravagant, but they were made years ago and must be paid until they are changed.

To further the public convenience, the New York Railways was required to introduce what is called a system of free transfers between its leased lines and other railroad lines in this city. For example, if a passenger on the Madison Avenue line desired to travel up or down the west side he could obtain a free transfer at Fifty-ninth Street. This enabled him to take the Fifty-ninth Street car to either Eighth or Ninth Avenue and there transfer to the line which he desired up or down town.

Owing to the prevailing high prices for labor and material the New York Railways was unable to pay its debts, including its rents, and to protect the interests of the traveling public the Federal Court appointed a receiver. That receiver is an officer of the Federal Court and the court is practically operating this railroad. The Federal Court informed the Public Service Commission that, unless the railroad company was granted some relief, either in the way of increased fare of 6 cents or 7 or 8 cents, or permitted to charge for transfers, the court would cancel the leases.

The effect of this would be that every time a person changed from one line of cars to another he would have to pay an extra fare of 5 cents or, if he made two changes, 10 cents. What would anyone have done under the circumstances? Would they have permitted a charge of 10 or 15 cents when the same result could have been accomplished for 5 cents and a charge of 2 cents for a transfer. The charge that the commission is favoring the railroad is not only unfair and unjust, but it is also wickedly false and untrue. The commission protected the interests of the people of the city and they should appreciate it, and not be misled by those who are attempting to deceive them.

If the commission favored the railroad it would have increased the rates of fare so that every person, whether he wanted a transfer or not, would have to pay 2 or 3 cents extra. Something had to be done to protect the public service. Operating a railroad requires money, and if sufficient money be not earned the roads cannot run. What would the people living in the upper part of Manhattan or in the Bronx do if the system ceased to operate and they were obliged to walk? The preservation of this system was required by the Federal Court and the commission had no other alternative outside the utter disruption of the service but to authorize a charge of 2 cents for a transfer. The commission hopes that the public will understand and appreciate the true facts and will not be misled by unfair and unjust criticism.

The conditions under which the charge for transfers will be made have been summarized by the commission as follows:

The charge of 2 cents will apply only to the initial transfer issued. Where it has been the custom to issue transfers on transfers such retransfers will be continued and no additional charge will be made for them. The order in both cases goes into effect on Aug. 1. That relating to the New York Railways system will continue in effect until July 7, 1920, and that relating to the Brooklyn Rapid Transit system until July 30, 1920, unless further extensions are made by the commission. Both orders contain provisions that each company shall keep a careful account of the results of the transfer charge in reference to the income of the two systems. In the case of the Brooklyn Rapid Transit a report is to be made monthly to the commission of the increments in income. Provision is also made in the New York Railways order that if the city of New York is dissatisfied with the valuation of the property of the New York Railways, as placed in evidence at the hearing, the city shall have the right at the end of six months to apply to have the proceedings reopened.

Carl M. Owen, counsel for Lindley M. Garrison, as receiver of the Brooklyn Rapid Transit Company, stated on July 21 that a study of the franchises of the company was being made by George D. Yeomans, chief counsel of the company, so that the application for an increased fare could be made on the basis of the Court of Appeals decision in the Buffalo railway case.

Relief from Court in Omaha

Nebraska Tribunal Holds Railway Must Have Adequate Temporary Rate Pending Appraisal

The action of the State Supreme Court of Nebraska in connection with the application of the Omaha & Council Bluffs Street Railway before the State Railway Commission for an increased rate of fare, marks a forward stride for the railway.

The company last year applied to the Railway Commission for a 6-cent rate, and then filed an amended application for a 7-cent rate. The commission denied the application, holding that the company should file more definite statements of its financial condition and apportionment of revenues. The company appealed to the Supreme Court, which, as noted briefly in the ELECTRIC RAILWAY JOURNAL for July 19, page 145, ruled that the State Railway Commission should grant a rate that will insure the company against insolvency, pending a valuation of the property to determine a permanent rate.

The court held that a fare of 6 cents "will not be improper, but the exact rate is for the Railway Commission to determine." The court further suggested ten tickets for 55 cents. The court agreed that the commission may undertake a valuation of the company's property, as a basis for a permanent rate, but held that a temporary increase should be granted in the meantime.

R. A. Leussler, vice-president, and W. A. Smith, general manager of the railway, are firm in their contention that a 7-cent rate is necessary to enable the company to maintain its standard of service, pay adequate wages, taxes, bond interest and a moderate return to stockholders. No dividends have been paid for more than a year. Salient features of the Supreme Court opinion follow:

The fundamental inquiry in fixing rates of a public service utility always is: What rate is necessary in order to yield a reasonable average return on a fair valuation of the property for rate-making purposes—such a return as will not discourage but will attract the investment of capital in the utility.

Under the constitution and laws of this

State, the State Railway Commission has a wide discretion in these matters.

A situation due to an unexpected rise in prices and wages, which makes it altogether probable that the past and present rate is insufficient to yield a revenue which will pay that fair average return which the law requires, although not constituting what might technically be dominated an "emergency," may, when shown, be sufficient for the allowance by the commission of a temporary rate.

FAIRNESS SHALL GOVERN

One of the conclusions of the appeal brief filed by the Omaha & Council Bluffs Street Railway, from the findings and judgment of the State Railway Commission, read:

The commission should deal with the company with that spirit of fairness which will recognize it as a necessary public utility, and allow it to charge a rate adequate to maintain its high degree of efficiency and usefulness; a rate that will recognize the investment therein as entitled to a compensatory return; and not pursue a policy that will bring destruction to the property or compel receivership.

The book value of the company's property, as testified to by the Railway Commission's expert, Mr. Powell, was $20,948,038; total outstanding stock, $8,990,000; outstanding bonds, $9,619,-000.

The company contends that it is entitled to a rate which would give it a net profit over and above cost of operation and maintenance equal to at least 7 per cent upon the value of the property. It holds that a rate which would simply permit the payment of interest upon outstanding bonds, or a rate only equal to 2½ per cent upon the value of the property, would be confiscatory and void.

MAYOR FAVORS FARE INCREASE

The city of Omaha, represented by Corporation Counsel W. C. Lambert, resisted the company's application before the Railway Commission and the Supreme Court, and further resistance by the city is anticipated. Methods of valuation are disputed and other factors enter into the controversy. The city is contending that the company's financial statements for the first three months of this year indicate a "recovery," and that the company will come to the end of the year with a balance in its favor.

Mayor Edward P. Smith of Omaha on July 21 stated that he believes the 5-cent fare was inadequate and that it was time for the city officials seriously to consider the interests of the stockholders of the railway and also the employees of the company.

Fenderless Cars in Washington

Fenderless cars have been operating in Washington since June 29. Acting under authority from the Public Utilities Commission and after conferences with its officials, the Capital Traction Company removed fenders from the cars operating over one of its divisions. Not enough time has elapsed to judge whether the innovation will be an improvement over the fender cars, but authorities of the Capital Traction Company think fenderless cars will insure fewer accidents to pedestrians, motor vehicles, and also less expense to the railway. Statistics are being compiled on the relative merits of the fenderless cars, and the report will be referred to the Public Utilities Commission. It is expected the report will be filed with the commission after the new system has been tried for one month.

Opposition Organizing at Pittsburgh

Aside from the routine allegations of unreasonableness, the principal feature of the protests Pittsburgh and the surrounding smaller municipalities are filing with the Public Service Commission against the 10-cent cash and 7½-cent ticket fare the Pittsburgh Railways will institute on Aug. 1, is objection to the transfer feature.

Under the new tariff transfers, with a few exceptions, are limited to passengers boarding cars within an area of a radius of approximately 2 miles from the downtown center, and are good to points within that area only in the general direction of travel. This arrangement is characterized by the protesting municipalities as discriminatory against riders in the outside zone.

The receivers have filed their reply to the protest of the city of Pittsburgh and a hearing before the Public Service Commission is expected to be set for an early date, possibly before Aug. 1, when the new tariff is effective.

Ottumwa Company Denied Fare Injunction

A decision of the District Court of Iowa compelling the Ottumwa Railway & Light Company, Ottumwa, Ia., to return from a 6-cent to a 5-cent fare was affirmed on July 10 by a unanimous opinion of the Iowa Supreme Court. The company had applied for an injunction restraining the city of Ottumwa from repealing an ordinance of Dec. 23, 1918, permitting a charge of 6 cents required to meet increased operating costs.

The repeal of the ordinance was founded on the city's contention that the higher charge was prohibited in the franchise ordinance of 1901, which contained a clause fixing a maximum amount that might be charged for fares. The company in seeking an injunction claimed that it was compelled to carry on its business at a rate of fare which was confiscatory. The city replied that the franchise constituted a binding contract which neither party could alone modify or revoke, even though changed conditions arose.

The question to be decided by the court was whether the franchise ordinance in question was ineffective in so far as it attempted to fix rates to endure during the franchise period.

The Supreme Court decision upholds the legality of the franchise ordinance in this respect. A contract with an electric railway corporation that rates fixed shall be unchangeable during the life of the contract is permitted by the statutes as a whole, if that period is not manifestly too long, which in the present instance is denied. It is further argued that the power to fix and regulate charges carries with it the duty to do so, and therefore, that any contract that abrogates or suspends this governmental function is void unless express authority is conferred to refrain in a particular case from fixing and regulating.

The Ottumwa case was discussed in the issue of this paper for May 24, 1919, page 1026.

16,237,719 Jitney Passengers in Six Months in Newark

A report filed with Director Archibald of the Department of Revenue and Finance at Newark, N. J., by Acting City Treasurer Sugrue shows that during the first six months of this year a total of 16,237,719 passengers were carried by the jitneys, or within 882,-933 of the total for the entire year of 1918, when the records show 17,120,652 persons rode in the buses. Operating receipts show a total of $811,885 for the first half of the year, as against $856,032 for all of last year.

The Kates act, under which the jitney owners were compelled to make a 5 per cent return to the city on their gross receipts, became effective in the last six months of 1916, the year of its passage, and in that period there was a total of 2,662,863 passengers and the cash receipts were $133,043. In the twelve months of 1917 the passengers numbered 8,195,591 and the receipts were $409,774.

The returns to the city have steadily increased. The totals show: Six months of 1916, $5,556; 1917, $17,332; 1918, $36,151; and six months of 1919, $33,803.

Special Master to Inquire Into Fares

W. G. Raymond, dean of the School of Engineering of the State University of Iowa at Iowa City, has been named special master to hear all the facts in the injunction case brought by the Lincoln (Neb.) Traction Company to restrain the Railroad Commission of Nebraska from enforcing rate changes which the railway claims would be confiscatory.

Federal Judges Walter I. Smith, M. J. Wade and J. W. Woodrough, instructed Dean Raymond to report upon his findings on the following questions: the income of the company for the year 1919 from fares; the expenditures during 1919 for service; the net income for the year 1919; the reasonable price that should be charged for the electricity sold by the company; the reasonable price for service furnished during 1919 by the heating plant controlled by the company; fares which should be charged by the company upon its railway lines to insure an income of not less than 7 per cent or more than 8 per cent. The report of the special master will be advisory to the federal judges only as an aid to determine the issues involved in the case.

Transportation News Notes

One-Man Cars for Lincoln.—The State Railway Commission of Nebraska has approved the application of the Lincoln Traction Company to install fifteen safety cars on its lines.

Wants Seven Cents in Muscatine.—The Clinton, Davenport & Muscatine Railway, a subsidiary of the United Light & Railways Company, which operates the local railway in Muscatine, petitioned the City Council of Muscatine for a 7-cent fare.

Collision on New York Elevated.—A rear-end collision on the Third Avenue elevated line of the Interborough Rapid Transit Company, New York City, on July 19, resulted in the death of the motorman of one of the trains and in injury to a number of passengers. All the injured were in the first car of the second train, which telescoped the last car of the first train.

St. Louis Installs Safety Zones.—A system of safety zones where passengers can stand while waiting for cars has been placed in operation at two of the busiest corners in St. Louis, Mo. The zones, which consist of a space 6 ft. wide by 48 ft. long running parallel with the tracks, are marked by posts. If the plan works successfully at these points it will be extended to other parts of the city.

Seven Cents in Urbana and Champaign.—The Public Utilities Commission of Illinois has granted the Urbana & Champaign Railway, Gas & Electric Company, included in the Illinois Traction System, an increase in fares from 5 cents to 7 cents for city railway service, applicable in Urbana and Champaign beginning on Aug. 1. Four tickets will be sold for 25 cents. The company petitioned for an increase to a 10-cent fare.

Opposition Disappears.—Ordinances introduced in the City Council of Kansas City, Mo., which would interfere with and perhaps eliminate the use of one-man street cars, have been permanently tabled. The safety cars have not had a step accident since being put into service. These cars carried 271,000 passengers in May, and 290,000 in June. The franchise of the company requires two-man operation but places the final decision on the matter with the board of control. The board of control ordered the use of one-man cars.

Fare Order Modified.—The Public Service Commission for the Second District of New York at its regular session on July 10 passed an order revoking and cancelling part of the order to the Empire State Railroad Corporation on July 1 under its petition for authority to increase passenger fares in and between Syracuse and Oswego and intervening points. The part of the order revoked and cancelled called for the sale of coupon ticket books of 100 coupons, each of the value of 5 cents, at $3.75 a book, the books good for use of purchaser and family within three months.

Trenton Will Not Participate.—The City Commission of Trenton, N. J., has decided not to participate with the League of New Jersey Municipalities in opposing the zone fare system as proposed by the Public Service Railway. This decision was reached when it was announced at a conference with Mayor Donnelly that Trenton's assessment as a participant in connection with the case would be $11,000. It is expected that the League of New Jersey Municipalities, composed of mayors of the various towns, will spend $100,000 in connection with the presentation of its case.

Hearing Scheduled on Maynard Fares.—The Public Service Commission of Massachusetts will begin hearings soon on a new schedule of fares which the Concord, Maynard & Hudson Street Railway, Maynard, proposes to put into effect on Aug. 15. The present fare of 6 cents for a ride in any two continuous zones with charge of 3 cents for each additional zone, is raised to 5 cents within any fare zone, with a charge of 5 cents for each additional zone. The present fourteen fare zones on the main line will be lengthened and reduced to ten, while the four on the Acton branch are reduced to three.

Considering Fare Increase.—A committee made up of representatives of the Chamber of Commerce of East Liverpool, Ohio, the Trades and Labor Council and the City Council is considering a proposal to recommend a fare increase on the East Liverpool lines of the Steubenville, East Liverpool & Beaver Valley Traction Company. This committee recently recommended a 5-cent fare with a 1-cent transfer charge within city limits. The Trades and Labor Council, however, declined to approve this recommendation and suggested instead a straight 7-cent fare. The latter suggestion is now under consideration by the various interested parties.

Flat Fare Payment for Postmen.—The Kansas City (Mo.) Railways has made a new contract with the post office department, providing for a flat payment by the department of about $5 per month for each postman, the mail carriers to ride without paying fare. The former contract, at $3 per month per carrier, expired on March 1. Since that time, the carriers have been paying fare at 6 cents. It is understood that the delay in securing a contract was due to the lack of authority of the local post office officials to enter into an agreement involving an increased payment. The higher charge was authorized by the Washingtion officials.

Fare Revision on Stamford Line.—A new zone plan, intended to increase the earning power of the New York & Stamford Railway, Port Chester, N. Y., went into effect on July 11. The company's line extends from New Rochelle to Stamford, Conn. Under the new plan the city, town and village boundaries will hereafter mark the 5-cent fare limits. It formerly cost 25 cents to ride from New Rochelle to Stamford. The new fare is 30 cents. Transfers from the main line to the local lines in Port Chester, which formerly were free, cost 3 cents, and transfers to the Sound Beach, Conn., line have been eliminated. Transfers to Stamford city lines cost 1 cent. Formerly these transfers were issued free.

Philadelphia Looking Before It Leaps.—In reply to the many rumors as to the company's intention in the matter of increased fares, T. E. Mitten, president of the Philadelphia (Pa.) Rapid Transit Company, stated that no application to the Public Service Commission had been made or was contemplated in the near future. President Mitten states that it will be necessary to secure greater revenue to meet the constantly increasing cost of wages and material. In order that intelligent action may be taken when the emergency in Philadelphia arises, a careful record is being made of the results secured from the various experiments conducted by electric railways in other cities.

Fares in Colorado Springs Remain Unchanged.—Colorado Springs is a "home rule" city and under the recent decision of the Supreme Court of Colorado jurisdiction over its electric railway is lodged with the municipal authorities. Officials of the Colorado Springs & Interurban Railway say that while it would be possible for the Council of Colorado Springs to take action similar to that of the City Council of Denver they do not anticipate any such move. There is no opposition to the present 6-cent fare, which was granted three weeks ago by the Public Utilities Commission, with the approval of the city officials. Both of the daily newspapers in Colorado Springs have advised the people of the justice of a further increase if such is proved to be necessary.

Extends Six-Cent Fare Order.—Pending consolidation of the Washington Water Power Company and the Spokane & Inland Empire Railroad, Spokane, Wash., the Public Service Commission of the State of Washington on June 30 extended for a period of ninety days its order of April 9 last granting the companies a 6-cent fare. The receivership of the Inland Company has delayed the merger of the two traction systems since, as matters now stand, no one can bind the Inland. Before definite action can be taken final disposition will have to be made of the Inland's property. A return to a 5-cent fare for a given period has been proposed to enable the commission to obtain data on comparative earnings under the two plans.

Personal Mention

Changes in Eastern Massachusetts Personnel

Brief Biographies of Members of the New Organization Announced by the Public Trustees

The trustees of the Eastern Massachusetts Street Railway, the successor to the Bay State Street Railway, Boston, Mass., have announced the following new organization:

GENERAL OFFICERS

Vice-president and general manager, R. B. Stearns.

Assistant general manager, Howard F. Fritch.

General auditor, Caleb S. Jackson.

Assistant treasurer, Louis W. Wellman.

Attorney, Philip G. Carleton.

DEPARTMENT HEADS

Rolling stock, Frank D. Ward.

Power and lines, J. H. Libbey.

Tracks and buildings, Frank B. Walker.

Purchasing and stores, Walter C. Bolt.

Public relations, Fred A. Cummings.

The public trustees appointed by the Governor will have general charge of the property without a president. Among those who terminate their service with the company are President P. F. Sullivan, Vice-President Robert S. Goff and Treasurer C. R. Rockwell.

ROBERT B. STEARNS, vice-president and general manager of the company, was graduated from Purdue University in the class of 1889. After serving as civil engineer with the Columbian Exposition at Chicago in 1893 and in the United States Engineers service, he was engaged from their inception in the construction of the Northwestern Elevated Railroad, the Union Loop and the extension of the Lake Street Elevated Railway, Chicago (now the Chicago Elevated Railways), as assistant chief engineer of construction and later superintendent in charge of operation. From August, 1911, to Sept. 1, 1917, he was vice-president and general manager of the Milwaukee Electric Railway & Light Company. Under his management practically all of the Milwaukee cars were rebuilt and standardized maintenance adopted, two new car stations were designed and finished, many miles of new track laid and other improvements of service made. He inaugurated the Employees' Mutual Benefit Association and the Employees' Mutual Building and Loan Association.

Mr. Stearns was one of the pioneers in advocacy of the zone system, which has been in operation for some years in Milwaukee and vicinity. He also introduced the zone system on the Bay State lines and the idea has been strongly indorsed by the Massachusetts Public Service Commission in its printed reports. At the convention of the American Electric Railway Association in Atlantic City, in 1914, he made an address, "A Zone System of Fares in Practice." While with the railway at Milwaukee, the membership of the Employees' Mutual Benefit Association, of which Mr. Stearns was a director, increased from 1629 to 2994, and on his departure for the East the directors presented him with an embossed expression of their good wishes signed by every man on the board. Mr. Stearns also encouraged saving and building-loan associations, and brought about profit-sharing plans which made him very popular with the men.

HOWARD F. FRITCH, assistant general manager, was born on Sept. 24, 1888. He was graduated from the Worcester Polytechnic Institute, Electrical Engineering, class of 1910. In June, 1910, he entered the employ of the Boston & Northern Street Railway, the predecessor of the Bay State and of the Eastern Massachusetts. He started work with the company in the timetable department, which was then being organized. The duties of the department were enlarged to include traffic studies and statistical work in connection with labor matters and fare cases. For several years Mr. Fritch was assistant in active charge of the department. and in 1916 was placed in charge of the department as superintendent of the traffic department.

CALEB S. JACKSON, general auditor, is a native of Pennsylvania. He was graduated from Yale in 1894 with the degree of bachelor of arts. For several years he was connected with the United Electric Light & Power Company, New York, as purchasing agent and assistant treasurer. For ten years he was connected with the United Gas Improvement Company, Philadelphia. His experience has also embraced terms of service with several manufacturing enterprises. In addition he has devoted considerable time to public accounting.

LOUIS W. WELLMAN, assistant treasurer, was graduated from the Athol High School in 1893, and from the Burdett Business College in 1894. He was cashier of the Massachusetts Electric Companies from 1899 to 1917, and assistant treasurer Bay State Street Railway from Nov. 1, 1917, to the date of the reorganization under the order of the trustees of the Eastern Massachusetts Street Railway.

FRANK D. WARD, in charge of rolling stock, joined the Grand Avenue Railway, Kansas City, Mo., in 1884, with John Henry. He was connected with the Lake Street and the Northwestern Elevated companies in Chicago from 1897 to 1903 as master mechanic of the two lines and superintendent of the Lake Street property. He left Chicago for London to become identified with the Underground Electric Railways. He designed and equipped the cars for the system in London. He then worked a number of years for the American Car & Foundry Company in England and Italy. In 1911 he became superintendent of rolling stock for the Bay State Street Railway, and held that position up to the reorganization, under trustees, of the Eastern Massachusetts Street Railway.

JOSEPH H. LIBBEY, in charge of power and lines, was born on March 21, 1877, at Billerica, Mass. He was graduated from the Newton High School and the Lawrence Scientific School, Harvard University, matriculating from the latter in 1898 with the degree of S.B. In 1899 Mr. Libbey entered the employ of the Bethlehem Steel Company, engineering department. In 1900-1901 he was with Westinghouse, Church, Kerr & Company, New York. From 1903 to 1905 he was mechanical engineer on power station work for the Boston & Northern and the Old Colony Street Railway. In 1905 and 1906 he was assistant electrical engineer of the New York, New Haven & Hartford Railroad at New Haven. From 1907 to 1913 he was with the Stone & Webster Engineering Corporation on central station work, transmission lines and investigations. In 1913 he entered the service of the Bay State Street Railway as assistant electrical engineer on line construction and underground conduit work. On June 1, 1917, he was appointed electrical engineer of the Bay State Street Railway. He has since that time been in the company's employ.

FRANK B. WALKER, in charge of tracks and buildings, was graduated from the University of Minnesota in 1897 as a civil engineer. He then did special work with the class of 1901 at the Massachusetts Institute of Technology. He has been in the engineering departments of the Minneapolis & St. Louis and the Minneapolis, St. Paul & Sault Ste. Marie Railroads on construction; chemist and engineer for the Cleveland Cliffs Iron Company, Gladstone, Mich., and for about fifteen years was assistant engineer and resident engineer for the Great Northern Railroad. He had charge of construction of double-track railroad tunnel under the city of Seattle, and was in charge of design and construction of many of the larger docks and railroad terminals on the Great Northern Railroad. Mr. Walker entered the employ of the Bay State Street Railway in the roadway department in 1914, and has been with the system continuously until the present time with the exception of nine months, when he was with Fay, Spofford & Thorndike, consulting engineers, Boston Army Supply Base. He became superintendent of way and structures of the Bay State Street Railway in April, 1919.

WALTER C. BOLT, in charge of purchasing and stores, was graduated from the University of Michigan in the electrical engineering course with the class of 1911. He was assistant to rolling stock repair shop foreman of the Milwaukee Electric Railway & Light Company, and assistant to the superintendent of rolling stock of the Milwaukee company from June, 1912, to September, 1917. He has been investigating engineer of the Bay State Street Railway from September, 1917, up to the time of his recent appointment as purchasing agent.

A. JAY BOARDMAN, the new manager at Fall River, succeeds Herbert H. Read, who continues in the employ of the company in the auditing department in Fall River. Mr. Boardman has been with the Indianapolis Traction & Terminal Company and division superintendent of the Terre Haute, Indianapolis & Eastern Traction Company. He is thirty-three years of age and was graduated from Cornell University. He enlisted in the engineers corps and returned from France as captain of ordnance. He had charge of artillery repairs for all material in the Second American Army in Toul, France, when the armistice was signed last November.

FRANK I. HARDY, the new manager at Salem, succeeds Timothy A. Donahue. Mr. Hardy has been in the electric railway business since 1900. He has been connected with the Union Traction Company of Indiana and the Fort Wayne & Northern Indiana Traction Company, and was general manager of the Chicago, South Bend & Northern Indiana Railway and of the Southern Michigan Railway, succeeding with those companies Charles G. Emmons, now president United Railways & Electric Company, Baltimore, Md. Mr. Hardy was also general superintendent of railways of the Northern Ohio Traction & Light Company, Akron, Ohio.

JAMES G. NELLIS, the new manager at Quincy, succeeds Acting Manager Joseph A. Phelan. Mr. Nellis for ten years was superintendent of the Amsterdam Division of the Fonda, Johnstown & Gloversville Railway, Fonda, N. Y. He started in the electric railway business in 1893 with the Cayadutta Electric Railway. Prior to going to Amsterdam he was superintendent of the Mountain Lake line of the Fonda, Johnstown & Gloversville Railway.

JOSEPH A. PHELAN, the new manager at Gloucester, was transferred from Quincy. He succeeds John L. Niles, who continues in the employ of the company in another capacity. Mr. Phelan was graduated from the ranks in Lynn, where he was starter prior to his Quincy appointment.

C. D. Emmons Elected President of Baltimore Company

Charles D. Emmons, general manager Boston (Mass.) Elevated Railway, was elected president of the United Railways & Electric Company, Baltimore, Md., at a meeting of the board of directors July 23. Mr. Emmons succeeds Thomas A. Cross, who becomes chairman of the board. After the meeting the board issued a statement relative to the expansion of its organization so as better to meet the problem of supplying service to the community during the present period of growth, as far as permitted by available and potential revenue applicable to increased facilities.

Mr. Emmons has been general manager of the Boston company since November, 1918, prior to that having been general manager of the Boston & Worcester Street Railway and an executive in interurban railway service in the Central West. To a representative of the ELECTRIC RAILWAY JOURNAL, Mr. Emmons expressed his regret at leaving Boston, but said that he anticipated much interest in his new work in Baltimore. He has not yet decided when he will take up the duties of his new post.

R. K. Brown has been appointed superintendent and chief engineer of the Salt Lake & Utah Railroad, Salt Lake City, Utah, vice J. R. Ellis, resigned.

Harold D. Larrabee, whose appointment to the Eastern Connecticut Power Company and the Shore Line Electric Railway, with headquarters at Norwich, Conn., was reported in the ELECTRIC RAILWAY JOURNAL for July 19, on Aug. 1 assumes the position of general manager of the Eastern Connecticut Power Company, which is closely allied with the Shore Line Electric Railway, but entirely distinct from it, R. W. Perkins being president of both companies. Mr. Larrabee's time will be devoted to the management of the power stations, a steam plant on the Thames River near New London of 20,000 kw., and a hydraulic plant on the Quinnebaug River of 2500-kw. capacity and the development of a power business in eastern Connecticut. M. G. Stratton is general manager of the Shore Line Electric Railway properties, which position he has held for the last two years.

Patrick F. Sullivan, president of the Bay State Street Railway, Boston, Mass., retired from the management of that property following the organization of the Eastern Massachusetts Street Railway as the successor company and the passing of the property to the board of public trustees. Mr. Sullivan has many private interests to which it is announced he will give all his time in the future. As president of the Bay State Street Railway Mr. Sullivan headed the largest single electric railway system in the United States for a longer period than any other chief executive of an electric railway. In 1888 he was engaged by the directors of the Lowell & Dracut line and the Lowell Horse Railroad. After three years he was promoted to be general manager for these companies. He remained as general manager up to 1899 when, after several weak and independent companies had in the meantime been merged, there being two groups, Old Colony Street Railway and Boston Northern Street Railway, he was called to go to Boston and be chief executive officer of the merged lines. He thus continued in this capacity up to the present time.

Clarence Renshaw, general engineer of the railway department of the Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., has resigned his position with this company to accept one with the National Metal Moulding Company, also of Pittsburgh, Pa. Mr. Renshaw's resignation became effective on July 15. As a member of the Westinghouse staff of railway experts Mr. Renshaw has become very well known to the railway fraternity. He was graduated from the Massachusetts Institute of Technology and has been connected with the Westinghouse company in its railway department for more than twenty years. During the period of the war he served as a railway expert with the United States Fuel Administration for four months and with the Housing Bureau for two months. While with the Fuel Administration Mr. Renshaw made a very valuable study of the skip-stop plan of operation. He has contributed largely to the technical press on matters of railway equipment and operating methods.

Obituary

Edgar S. Fassett, at one time general manager of the United Traction Company, Albany, N. Y., died on July 20, at Lake George, N. Y. A native of Albany, Mr. Fassett joined the traction system, then known as the Albany Railway, in 1885 as an inspector. He was subsequently advanced to assistant division superintendent, to division superintendent, and in 1893, to superintendent of the company. When the United Traction Company was formed in 1900 Mr. Fassett was made general manager. In 1906 when control of the system passed to the Delaware & Hudson Railroad, Mr. Fassett was appointed general manager of the new company. He resigned in 1912 and since that time has represented the New York Switch & Crossing Company and has been engaged in other business in New York City. Mr. Fassett was long an active member of the Street Railway Association of the State of New York, and was president of that body in 1908.

Manufactures and the Markets

DISCUSSIONS OF MARKET AND TRADE CONDITIONS FOR THE MANUFACTURER, SALESMAN AND PURCHASING AGENT

ROLLING STOCK PURCHASES BUSINESS ANNOUNCEMENTS

Consumers Urged to Stock Coal

Better Grades of Bituminous Contracted For—Anthracite in Better Shape—Car Shortage Felt

Bituminous coal of the better grades is difficult to procure and operators are no longer entering into contracts for deliveries in the future. They feel that an increased demand is sure to come, with advances in price, and at present they are cleaning up their old orders.

There is still available some soft coal of grades not so good as the best, but this is rapidly being absorbed by contract, and consumers are being urged to lay in their stocks as soon and as fully as possible to combat the anticipated shortage.

Car Shortage Already Felt

Production of bituminous coal this year in the United States through the week ended July 12 is 230,522,000 tons, which is 77,601,000 less than that produced through that date last year.

There is now no free bituminous coal in the market. Already there is beginning to be felt a car shortage which is expected to become more serious as the year goes on. Inability to release cars from service for needed repairs has caused breakdowns in transit and longer hold-outs when they do go to shop. This has resulted in thousands of cars out for repairs and still other thousands scrapped. Besides, many cars ordered by the Railroad Administration have been refused by the railroads, because of the high price demanded for them. The necessity for moving grain will soon be an added factor to the seriousness of the car shortage.

Labor is scarce with little outlook toward bettering. Where the better grades of coal are mined, labor is refusing to work more than four days in a week.

Hard Coal Situation Better

The anthracite field, however, holds out better hope to the power plant operator who may not have contracted for all the coal necessary to carry over till next season. There is still some free steam-size coal available, but it is not expected to last long. Contracts can be made for this grade of coal, but no information is available as to the length of time this condition will continue. Full schedule prices are being somewhat shaded although in general they are holding pretty well. There is still a tendency to hold off on contracts, which is liable to be reflected in the coal pile this coming winter.

Production of anthracite coal this year through the week ended July 12 was 42,078,000 tons, while through the same period last year it was higher by 10,870,000 tons.

Steel Pole and Tower Market Better

Domestic and Foreign Fields Expanding—Galvanized Work Higher—Shipments Lengthening

Business in the steel pole market is becoming better and is showing much improvement over the volume of buying done in the spring. Combination trolley and lighting poles are in better demand in the domestic market. Orders are well scattered throughout the country, and are in better volume per order. Foreign orders are coming in in a more favorable manner and the character of the inquiries is becoming better. Several countries in Europe, the East Indies, South America and Mexico are at present in the market for steel poles.

All Shipments Lengthening

Prices on the rolled steel poles have been reported steady on account of contracts now held; steel pipe has advanced in price, so it is expected that when these contracts run out the price on the poles will advance. Pipe factories are working to capacity with the heavy ordering for the oil fields, and shipments on hollow steel poles are consequently lengthened. The shipments run from four to twelve weeks depending on how close to the time of rolling an order comes in.

Fabricated and expanded poles are on a shorter shipment schedule at this time, more in the neighborhood of two to four weeks. Increased buying of structural steel, however, is expected to lengthen time of shipments. There has been no price advance reported for this class of pole.

Steel tower business is 10 to 20 per cent of normal, according to manufacturers. The domestic orders are showing more activity as regards number of orders, but the size of the orders is still small. Companies which would normally order 2000 towers are ordering only 200. Activity is shown on the Pacific Coast, the Central States and in the East where the larger holding companies are putting through extensions to transmission lines. Orders and inquiries for foreign consumption are on the increase and much improvement is expected in that direction. Hardly a European country but has plans under way for large extensions and developments of hydro-electric properties and transmission.

Prices on these fabricated towers have increased 10 to 15 per cent with increases in the price of spelter for galvanizing and the condition of the labor market. Shipments are reasonable at this time, but are expected to become larger with the steadily increasing demand for structural steel.

Miscellaneous Material Price Advances

Wire, Bonds, Segments and Coils Are Higher—Non-Metallic Conduit Also Rises

With copper for July delivery quoted at 23.50 cents a pound, 1 cent higher than last week, there have been increases in several copper products widely used by electric railways.

Wire at the mill is up 1 cent to 25.50 cents. Rubber covered base is up 2 cents to 28 cents, and late reports predict a further advance. Weatherproof wire is being quoted on 26 to 27 cent base, a rise of 2 cents, and bare wire on 25.50 to 26 cents. This latter advance is 2½ to 3 cents.

Rail bonds have responded with another change of 5 points in the discount, the discount dropping from 20 to 15 per cent. This represents an increase in price of nearly 6 per cent.

Commutator segments, field coils and armature coils for railway motors have advanced 10 per cent in price, in keeping with the advance anticipated during the past few weeks. Controller segments and fingers have not been changed, according to latest advices, but their advance is expected soon.

Line Brass Prices Constant

Certain brass and copper manufactured products have gone up 1 cent since last week. Hot rolled copper sheet is quoted 32.50 cents, round copper rods are 29.25 cents and seamless copper tubing is 36.50 cents. High brass sheet and wire is 26.75 cents. Overhead line brass and copper material has not advanced to date, but some manufacturers' representatives expect these advances almost daily. Flexible armored conductor has advanced in price $5 per 1000 ft., and further upward changes have been predicted. Flexible non-metallic conduit has gone up about 14 per cent. Price advances on friction tape have been spotty. A report has been received giving a 5 cent per pound increase on certain brands. Some prominent manufacturers, however, have advised no increase in price, and one of these does not expect to do so during 1919 because of sufficient stocks of raw material on hand.

Japanese Wire and Cable Competition

As an instance of the competition being offered by Japanese cable in foreign markets comes a report in the London *Electrician* that at a recent meeting of manufacturers the government was urged to make a declaration of its economic policy with respect to unfair foreign competition. It was pointed out that the English cable makers, which employed some 33,000 people, had before the war exported products everywhere, including Japan. During the war, however, this was impossible, and as a result, it was stated, the Japanese built large factories and have been able to make considerable inroads upon the British trade in India and in the colonies and are today even serving the British home trade. The competition, it was held, was not fair. The labels on Japanese cables had been printed in imitation of the British CMA labels, using almost the identical words excepting with a very small "not" which might very easily have been overlooked by quick or careless buyers. It was pointed out that the British cable makers pay labor from $9 to $15 for a forty-seven-hour week and do not think it is fair to be placed in competition with Japanese cables manufactured by labor receiving a few cents an hour.

New Trade Mark Law in Honduras

Information has been received that a new trade-mark law has been enacted in Honduras and will be in force from Aug. 1, 1919. Under the new law there will be a registration fee of $50 gold for each mark, but this increased fee will not apply to applications filed before Aug. 1.

Rolling Stock

Sioux Falls (S. D.) Traction System, announces that it is considering the advisability of purchasing from three to five light-weight safety cars to replace heavier equipment.

San Francisco, Napa & Calistoga Railway, Napa, Cal., announces the purchase of a steel interurban motor coach from the Visalia Electric Railway, Exeter, Cal. This was built by the Moran Shipbuilding Company, in Seattle, Wash.

Eastern Wisconsin Electric Company, Sheboygan, Wis., announces that the fifteen new Birney safety cars for its Oshkosh division, ordered on April 10, are expected for operation the last week in July. They will replace converted one-man cars now in operation.

The Vincennes Traction Company, Vincennes, Ind., is to receive some new rolling stock. Edward C. Theobold, recently appointed receiver for the Mercantile Trust Company of St. Louis, which holds the first mortgage bonds, announced that $50,000 would be spent for new cars and other improvements providing the Federal Court would approve of the expenditure.

Track and Roadway

Chicago (Ill.) City Railway.—The Chicago City Railway is planning an extension of its Twelfth Street surface line to cost approximately $1,000,000. The expense of constructing a subway under the Illinois Central tracks will be borne by the railroad, the South Park Commission, and the city.

New Orleans Railway & Light Company, New Orleans, La.—An extension will be built by the New Orleans Railway & Light Company to the Henry Clay-Coliseum line from Henry Clay Avenue up Magazine Street to the entrance of Audubon Park.

Salisbury, Md.—It is reported that plans are being made by maunfacturers on the Eastern Shore of Maryland for the construction of a fast electric railway from Salisbury to Tolchester Beach, about 75 miles. It is aimed to make closer passenger and freight connections between the Eastern Shore and Baltimore than now exist. The route suggested for the line is from Salisbury via Sharpstown, Federalsburg, Denton, Ridgely, Price, Church Hill and Chestertown. H. H. Messenger of Federalsburg, Md., is interested.

Trenton & Mercer County Traction Corporation, Trenton, N. J.—The Trenton & Mercer County Traction Corporation has begun the work of building the extension from the Bridge Street line to the Municipal dock along the Delaware River.

Trenton & Mercer County Traction Corporation, Trenton, N. J.—The Board of Public Utility Commissioners of New Jersey has approved of the sale of 37½ acres of land in Hamilton Township by the Trenton & Mercer County Traction Corporation, Trenton, N. J., to the Pennsylvania & Newark Railroad Company. The consideration was $15,000. The latter company desires the land for the continuation of the proposed freight line across the Delaware river below Trenton to connect with the line near Raritan Bay.

North Carolina Public Service Company, Greensboro, N. C.—Improvements amounting to approximately $50,000 will be made by the North Carolina Public Service Company in the congested section of Elm Street. All of the electric light and street car poles will be replaced by iron posts. The plan also includes the laying of double tracks from the courthouse square to a point just below the intersection of North Elm, Bellemeade Avenue and Church Street.

Cape Breton Electric Company, Ltd., Sydney, N. S.—The construction of an extension from Glasgow to New Waterford is under consideration by the Cape Breton Electric Company.

Brooklyn (N. Y.) Rapid Transit Company.—Notice has been served by Transit Construction Commissioner John H. Delaney upon officials of the New York Municipal Railway Corporation (B. R. T.) that they must undertake at once to secure the necesary legal authority to permit the erection of the connecting link between the city-constructed end of the Culver line at Sheepshead Bay Road and the company's Coney Island terminal at Surf Avenue. Commissioner Delaney has instructed counsel to prepare the necessary legal papers to have the city acquire the land by condemnation if the receiver of the B. R. T. system fails to act within a brief period. In that event the city itself will undertake the construction of the 900-foot link. Until this link is in operation it has been held that the 5-cent fare to Coney Island cannot go into effect.

Power Houses, Shops and Buildings

Interstate Public Service Company, Indianapolis, Ind.—A new passenger and freight station will be built by the Interstate Public Service Railway at Franklin.

Union Traction Company of Indiana, Anderson, Ind.—The Public Service Commission of Indiana has ordered the Union Traction Company of Indiana to rehabilitate its power plant at Anderson so that adequate and regular service can be given to the cities along the line. The commission ordered the completion of repairs to the plant already undertaken at the earliest possible date and also ordered the installation of further equipment which the engineering department of the commission believed was needed.

Public Service Railway, Newark, N. J.—The Public Service Railway has purchased from the Trenton Banking Company the big marble institution situated at 16 South Warren Street, Trenton, N. J., and will turn the same into a terminal. Some time ago the City Commission of Trenton ordered the Public Service Company and the New Jersey & Pennsylvania Traction Corporation not to allow cars to stand in the streets while waiting to make the return trip. Both companies at that time said they could not purchase the necessary property for the erection of terminals. The Public Service Railway has a waiting room at 12 South Warren Street and is negotiating to buy two other adjoining properties. This would give the company a large tract in the center of the city for the erection of the terminal, where the cars on the Newark and Camden divisions could be kept and a modern waiting room established.

Cincinnati (Ohio) Traction Company.—Work will be begun at once by the Cincinnati Traction Company on the erection of a high-tension power line from the Pendleton station on Eastern Avenue to the Hyde Park carhouse for the purpose of supplying sufficient power for the operation of the Madisonville street cars.

Trade Notes

Chicago Pneumatic Tool Company, Chicago, Ill., has moved its Minneapolis office from the Metropolitan Bank Building to Fifth Avenue and Fifth Street, South.

Ford Mica Company, which is now occupying the entire building at 14 Christopher Street, New York City, announces that it has negotiations under way for the establishment of direct sales offices in London and Switzerland.

Indiana Mill & Lumber Company, 1405 Fisher Building, Chicago, has announced that it is handling a line of Southern white cedar poles in addition to its line of hardwood and pine railroad ties, piling, pine and oak timbers.

E. C. Ryan has been appointed manager of the Chicago branch of the Electric Controller & Manufacturing Company, with offices in the Monadnock Building, Chicago. Mr. Ryan was formerly connected with the New York office.

Lapp Insulator Company, Inc., Le Roy, N. Y., announces the appointment of the following representatives: Wetmore-Savage Company, Boston, for New England; and Shield Electric Company, 149 Broadway, New York, for New York City.

Independent Lamp & Wire Company, 1733 Broadway, New York City, with works at Weehawken, N. J., has acquired property on Runyon Street, Newark, N. J., 260 ft. x 580 ft., for a new four-story plant designed to give employment to about 500 persons.

Ohmer Fare Register Company, Dayton, Ohio, devotes the June 25 issue of its employers' periodical, the *Ohmer Fare Register*, to an illustrated description of the work done by the company in carrying out its war contracts for naval gun mounts and sights.

Frank C. Van Etten has resumed his position in the engineering department of the Delta-Star Electric Company, Chicago, Ill., after an absence of eighteen months in France, where he has been connected with some of the largest installations in the A. E. F. as captain in the Ordnance Department.

Holden & White, Inc., Chicago, announce that they have received an order from the Terre Haute Traction & Light Company, Terre Haute, Ind., for complete equipment with Anderson slack adjusters for installation on safety cars. They also announce the receipt of an order for safety car slack adjusters for the new cars purchased by the Kansas City Railways.

Blaw-Knox Company, Pittsburgh, Pa., announces the opening of an office in the Little Building, Boylston and Tremont Streets, Boston, Mass., and in the Owen Building, Detroit, Mich. A. W. Ransome, formerly of the New York office, assumes the duties of New England manager. H. J. Desson has been transferred from the Pittsburgh office to Detroit to assume the duties of manager of the Michigan district.

Dunbar Brothers Company, Bristol, Conn., manufacturer of springs, reports it is tearing down all the old buildings connected with its plant and replacing them with a large brick extension, which will be equipped with the latest appliances for the prevention of fire. The floor space will be materially increased, when these additions are completed, and the necessary machinery installed, which it is contemplated will be in about four months' time.

American Steel Foundries has issued \$9,000,000 of 7 per cent cumulative preferred stock for use in the purchase of control of the Griffin Wheel Company. The former company operates nine plants for the production of steel castings which are used principally in new construction; the latter company operates eight plants for the production of iron car wheels, and 85 per cent of its business is renewal work. The present managers will remain in control.

Cleveland Switchboard Company is now housed in its new factory building at 2925 East Seventy-ninth Street, Cleveland. The building is much larger than the former one. The present officers of the company are F. C. Hafemeister, president; F. F. Hafemeister, secretary; E. C. Leaming, treasurer; A. N. Rogers, sales manager and E. F. Blair, assistant manager. The company has opened a branch sales office at 1938 Dime Savings Bank Building, Detroit, Mich., with J. D. Nelson in charge.

The Central Steel Company, Massillon, Ohio, has opened up new offices in Detroit, Mich., in the Book Building. Arthur Schaeffer, former assistant director of sales at the home office, Massillon, Ohio, has been appointed district manager of sales, with Frank Gibbons as his assistant. Mr. Gibbons, who has just joined the organization, has been associated with the Carbon Steel Company for five or six years where for the last several months he has been district sales manager of their Detroit office.

C. D. M'Clary, who has been with the Western Electric Company since February, 1910, has been made sales manager of the Pittsburgh office, effective July 1, 1919. Mr. M'Clary was first connected with the Philadelphia office and transferred to Pittsburgh in the later part of 1910. In April, 1916, he joined the sales force, and in April, 1918, was promoted to assistant sales manager. He has held that position until his present promotion.

Charles G. Du Bois has been elected president of the Western Electric Company to succeed H. B. Thayer, who has resigned after thirty-eight years of service to assume the presidency of the American Telephone & Telegraph Company. Mr. Thayer was elected chairman of the board. Mr. Du Bois was born in 1870. After his graduation from Dartmouth College in 1891, he joined the Western Electric Company in New York, as a clerk in the accounting department. In 1898 he was elected secretary of the company. Shortly afterward, he was also made supervisor of branch houses. This carried with it the opening of a large number of distributing houses, which are now a part of the company's organization. In 1907 Mr. Du Bois was tranferred to the American Telephone and Telegraph Company as its comptroller, On Oct. 1, 1918, he rejoined the Western Electric Company as vice-president.

New Advertising Literature

Spray Engineering Company, Boston, Mass.: Bulletin No. 257 on "Spraco Air Washing and Cooling Equipment."

Ohmer Fare Register Company, Dayton, Ohio: Circular showing the application of larger type Ohmer fare registers to one-man safety cars.

Electric Service Supplies Company, Philadelphia, Pa.: "One Hundred Per Cent. Lightning Protection" is the title of Booklet No. 137.

Packard Electric Company, Warren, Ohio: Bulletin 201 on Transformers. A section containing technical data on the operation of the transformers is included.

Metal & Thermit Corporation, New York, N. Y.: Current issue of *Reactions* devoted to welding of large masses of metal and to repairs in railroad shops.

Westinghouse Electric & Manufacturing Company: A publication covering the process of electric arc welding and the necessary apparatus required for this process. This publication compares the different processes of welding.

Wellman-Seaver-Morgan Company, Cleveland, Ohio: Bulletin No. 22 on "Charts Giving the Relations in Any Shaft Between Power, Shaft Diameter, Torsional Stress and Speed." The data were prepared by one of the company's engineers for distribution on request to all engineers and draftsmen.

Massey Concrete Products Corporation, Chicago: Illustrated pamphlet describing the wide variety of reinforced concrete products included in the company's line. More detailed information for ordering purposes is being included in a series of supplements to this catalog. The first two on railway culvert pipe and on pipe for highway culverts and sewers will be ready for distribution in the near future. Another will relate to hollow reinforced concrete poles, and another to piling.

McGraw-Hill Book Company, Inc., New York: Illustrated booklet entitled "Ten Years," issued in commemoration of the completion of the first decade in the career of this organization. It contains portraits of the officers and heads of departments and of the editors of some of the important series and handbooks. The company published on the average slightly more than one book per week during its entire career, increased its sales from about 73,000 to nearly 655,000 volumes per annum, and increased the royalty payments to authors in the ratio of 1 to 13½.