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Consolidation of STREET RAILWAY JOURNAL and ELECTRIC RAILWAY REVIEW

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Speak the Speech of the People

OBSOLESCENCE, depreciation, amortization, reproduction cost, new and fair rate of return are soundful and ponderous expressions, but they are as clear as mud to the individual who painfully spells out with one finger any word longer than a syllable. This is a fact not taken into account often enough in preparing publicity copy on the reasons for an increased fare or a reduction in taxing burdens. The language of finance is a long remove from the speech of the people and from their experience in daily life. Householders who buy gas stoves are not in the habit of putting by 10 per cent of the cost of the stoves annually for a replacement fund, and they know nothing about the possibility of obsolescence due to the coming of the superior electric range. But this they do understand: That they can't borrow new money unless they pay the old debt first. That fact lies within the experience of almost everybody. It is true that the average man can't see how it is possible to take in so vast a sum as a million dollars and yet fail to make both ends meet. However, when the fact is set forth that millions of new dollars are needed and can be obtained only by making good on past borrowings, the element of bigness is seen from a new angle.

The best form of such publicity as this will take into account both the limited vocabulary and the limited financial experience of the average man. Furthermore, such publicity will deal with neighborhood problems as closely as possible, since that is the only way to arouse that large class of people with whom: "Co-operation (like charity) begins at home."

Rifts Through the Cloud Rack

THE clouds of adversity still lie thick and heavy over the electric railway field, but here and there one notes a rift of sunshine that gives promise of the return of fairer weather. A conversation that we were fortunate enough to hear at the Atlantic City Convention was illuminated by just such rays of cheer. One of the speakers said that he had always enjoyed good relations with his public, his property being a small one and the management homebred. Nevertheless, said he, it had never been possible for him to avoid heavy charges for paving, changes in grade, etc., because such assessments were considered a matter of course. There came a day, finally, when he had to say bluntly: "Gentlemen of the Council, we would certainly like to

pay the amount you have assessed against us, but we simply haven't got the money. You have asked for \$5,000. Will you call it square if we give you \$500?" To his surprise, the councilors did agree to call it square.

"Now that's pretty good," said the second manager, "But I think my public has treated us still better. So long as our lines were part of a great consolidation, the people in this town wouldn't abate a mustard seed from the assessments possible under the franchise. They said they had been neglected and ignored too long a time by a remote-control management to come forward with the Good Samaritan stuff. But, oh what a difference when the lines of their city were taken out of the big system and restored to the old name and the old owners. After we had opened the books and showed the red glow of bankruptcy with which the figures were suffused, the townfolk O. K.'d the passage of a resolution which exempts us from paying taxes for three years. And, say, it's a New England town, too!"

While it is a pity that so important and necessary a utility as the electric railway should have to be thankful for crumbs like these, the hopeful side of the picture is that in each case the public gave the railways a square deal once they clearly understood that their cry of: "Wolf, wolf" was justified. In securing such aid, a small property is likely to have better luck than a big one because of the possibility of appealing to local pride.

Inform the Public Through Its Representatives

RECENTLY, in discussing the various ways of getting new ideas before the public, we had occasion to point out that while the commercial clubs of a community were important centers of influence the fact remained that most of their members were not street car riders personally. Therefore, it was necessary to seek the larger audience of actual car riders, especially through the use of the moving-picture theaters.

Another way of getting at the problem of informing the public is indicated by the successful practice of a Western manager who had found that it was not sufficient to be a good mixer. Realizing this, he set himself the problem of putting all the cards on the table before the board of aldermen of his town. These men, elected directly by the people, are given a frank and full statement in that detail which would be impossible in direct publicity for the masses. The aldermen have every opportunity to raise any question of information they see fit, so that they will not be at a loss if questioned by constituents. One would suppose

that labor partisans, for example, would prove skeptics if not utterly indifferent or unfair. On the contrary, our manager has found that most of these men are honestly anxious to get at the facts. It is different with those who want public ownership at any cost, but these latter are not in sufficient number to prevent judgment on the basis of the facts in the local situation. One fruit of this policy of "nothing to hide" has been the passage of so risky (from a political viewpoint) a measure as an increase in fare and of another which permits the operation of one-man cars. When railways made, or rather thought they made, inordinate profits there may have been wisdom in concealment; today, silence or partial silence is too futile a policy to deserve consideration.

Delayed Issues of This Paper Are By No Means Back Numbers

OWING to the unprecedented conditions in the printing industry in New York City, the *ELECTRIC RAILWAY JOURNAL* is still being printed in Baltimore, Md., and at this writing it is impossible to make any reasonable prediction as to when the publication will be back on a normal basis. Even if the strike should end immediately, it would take several weeks to bring the printing schedules in the McGraw-Hill Company's plant back to normal.

In order to preserve the sequence of numbers and paging in conformity with the requirements of the post-office department, the delayed numbers will be issued in serial order, catching up with the calendar as rapidly as possible, although for some weeks still there will be discrepancy between the date printed of each number and the actual date on which it is mailed. It must be understood, however, that the news in every issue is brought as nearly up to date of that issue as the facilities of the temporary printing office will permit. The office is nearly 200 miles from New York, and as the editorial organizations must be divided between the Baltimore and New York offices, the news service may not be quite as "snappy" and as fresh as the paper prides itself on giving under more favorable conditions. On the other hand, no expense is being spared to overcome all of these handicaps. We are publishing no "back numbers," and shall not do so. At times there may be amusing inconsistencies in statement due to the very rapid progress which is being made in certain electric railway lines at present, and to the fact it takes now from six to ten days to get a paper out after it has been prepared editorially, whereas in New York it takes only two days.

The publishers and job printers in New York City are standing together in an effort to bring the essential printing industry back to a condition where a spirit of reasonableness will characterize the relation of employers and employees in this business. They desire to pay fair wages for good work, but maintain that the reasonableness of wages and working conditions must be determined with regard to all factors involved. They believe that the principles which are to determine the conduct of the business had better be determined now, once and for all, rather than to have interminable dissension and hard feeling.

At present the printing industry in New York is suffering from the lack of harmony among the pressmen and associated workers. Before peace can be established permanently the relations of the "locals" and their international unions must be harmonized, so that when the employing printers negotiate with a responsible organization they will know that the contracts which are made will be respected, and that a spirit of reasonableness will be met in the drawing up of contracts.

Workers in the printing industry are highly paid for the class of work which they do and are among the most fortunate of all industrial workers. Their work is steady, it is inherently interesting, they are comfortably housed, and they receive ample compensation for overtime. The employers are willing to pay even more than at present and to make reasonable arrangements in regard to working hours, but they resent extortionate demands and they ask for stability of conditions and sufficient time to adjust their own contracts with customers to prospective increases in manufacturing costs.

This is the first time in its long history that the *ELECTRIC RAILWAY JOURNAL* has been seriously hampered in its work by manufacturing conditions. As has been explained, every effort is being made to surmount the present obstacles to prompt publication. We have been greatly encouraged by the assurances of support from our readers, appreciation of which will be shown in the only practicable way, namely, by giving the best service of which we are capable.

Too Many Toonerville Trolleys

ONE series in the widely-syndicated cartoons of Fontaine Fox has become almost a household word; and that, we grieve to say, is: "The Toonerville Trolley." These graphic quips at disheveled, unkempt trolley lines have so much basis in fact that the cartoonist seems never at a loss for ideas. We may laugh at these pictures, but if we think seriously about them the laugh will carry the same ache that surely afflicted Socrates when he applauded Aristophanes' cruel burlesque of himself. We must realize that the effect of cartoons like these is to give the public a poorer opinion of the electric railways as a class; to think of them as something belonging to the past and not to be mentioned in the same breath with the gas wagon. Yet where is the bus that can be run at anything like the cost, the speed or the passenger-pleasing qualities of an up-to-date electric railway? We are not talking about the kind of transport to adopt where there is no established traffic, but of what is possible on existing lines where the question is either improvement or elimination of the electric railway.

Why should not the owners of these down-at-the-heel electric railways make one clear-cut invoice and then offer the public the alternative of shutting up shop or of being financed to a level that will make them the pride instead of the mock of the community? It is not hard to demonstrate today that it pays to rehabilitate almost any line that has at least 20 cents worth of gross per car-mile. If it has not, or is not likely to get even that minimum through

higher fares, the owners of the electric railway had better shut up shop and allow the populace to enjoy the merciful ministrations of go-as-we-please jitney or the double-fare bus. Better an honorable demise than a friendless struggle for existence that can only injure those who have got a fair chance to rise out of the Toonerville class.

Comparisons Based on Insufficient Data Are Worse than Useless

WE REFERRED in our issue of Oct. 25 to the misinterpretation being given in many parts of the country to the fact that the Philadelphia Rapid Transit Company is paying dividends although only 5 cents is charged for a car ride in that city. It is perhaps not surprising that the general public and many daily newspaper men in other cities cannot understand why the railways there should say that they cannot get along with a 5-cent fare, when in Philadelphia people are carried for that sum. Where this question is raised the facts should be given by the railway management. Thus, in our issue of Oct. 25, we published an article on the subject of fares in Philadelphia and Chicago by President Busby of the Chicago Surface Lines, which showed that consideration should be given not only to the minimum fare but to the average fare, length of ride, taxes paid and other salient facts, before final conclusions are drawn. Viewed in this light, the comparison was not unfavorable to Chicago.

There are other cities where incorrect deductions have been drawn from the existence of a 5-cent fare in Philadelphia. An instance at point is an extended editorial in the New York *Evening World* for Nov. 17, in which the Philadelphia example is quoted to show the lack of necessity for any fare higher than 5 cents on the New York railways.

An instructive comparison proving the necessity for a knowledge of all the facts is given in a report recently made public by Alfred M. Barrett, deputy public service commissioner of New York. This report cites the following four fundamental unit figures in which the operations of the companies in Philadelphia and New York differ:

	New York	Philadelphia
Gross earnings per passenger, cents.....	3.736	3.98
Average speed, miles per hour.....	6.95	9.06
Cost of maintenance per car-mile, cents....	11.85	5.58
Taxes paid, in per cent of gross.....	10.05	5.91

It then points out that if the Philadelphia Rapid Transit Company during the calendar year of 1918 had received an average of only 3.736 cents instead of 3.98 cents per passenger, its gross earnings would have been reduced approximately by \$1,975,000. In the same way, if its cost of operating cars had been increased in the ratio of the speeds of the cars in the two cities, namely 6.95 and 9.06 m.p.h., and if the track maintenance had been increased in the ratio of 5.58 cents to 11.85 cents, the operating expenses in Philadelphia would have been increased from \$18,498,386 to approximately \$26,449,000. Similarly, if the taxes in Philadelphia, instead of being 5.91 per cent of the company's gross, had been 10.05 per cent as they are in New York, they would have reached the sum of approximately \$3,000,000.

To sum up, the results of operation in Philadelphia for the calendar year 1918 would then have been as follows:

	Actual Showing Calendar Year 1918	What 1918 Would Have Been
Gross earnings	\$31,704,427	\$29,829,000
Operating expenses	18,498,386	26,449,000
Balance	\$13,206,041	\$ 3,380,000
Taxes	1,871,185	3,000,000
Net earnings	\$11,334,856	\$ 380,000
Fixed charges	9,800,040	9,800,000
Balance for reserves, replacements and dividends.....	\$ 1,534,816	(d) \$9,420,000

d signifies deficit.

Continuing the comparison the report estimates what the New York Railways would have done if its figures in the four points mentioned had been the same as those in Philadelphia. That is to say, it assumes gross earnings per passenger of 3.98 cents instead of 3.736 cents; that its cars were able to operate during the year at the speed of those in Philadelphia; that its maintenance, instead of being on underground conduits 11.85 cents per car mile, was only 5.58 cents, and that its taxes were 5.91 per cent instead of 10.05 per cent, of its gross receipts as at present. Then the comparison would be as follows:

	Actual Showings Fiscal Year 1919	What Fiscal Year 1919 Would Have Been
Gross earnings	\$12,417,679	\$13,176,000
Operating expenses	9,921,411	7,296,000
Balance	2,496,268	5,880,000
Taxes	1,248,197	779,000
Net earnings	1,248,071	5,101,000
Fixed charges	3,423,029	3,423,000
Balance for reserves, replacements and income bonds... (d)	\$2,174,958	\$1,678,000

d signifies deficit.

The comparison in the report illustrates the danger of a superficial inference that the correct standard of fare for all cases is the minimum price at which a ride can be given anywhere. This seems to be the idea behind at least some of the suggestions that have been made by advocates of a prohibitively low fare.

We shall not attempt here to consider whether 11.85 cents per car mile for a road equipped with the underground conduit system and 5.58 cents for a trolley line are too high or too low, whether higher speeds could be made in New York's congested streets, the reasonableness of the taxes assessed in each case or the best way of increasing the average fare in New York. But we do want to emphasize the necessity for full consideration of all facts in comparisons of fares charged in different cities. In this particular case, as shown by the report mentioned, Philadelphia conditions in New York would have meant a surplus of more than a million-and-a-half dollars for the New York Railways, while New York conditions in Philadelphia would have meant a very large deficit.

As Mr. Mitten himself said in his testimony presented in writing at the Washington hearings of the Federal Electric Railways Commission: "Every situation has its own difficulties to overcome."

The Connecticut Company Goes to Zone Plan

On Nov. 2 a System of Distance Charges Was Inaugurated on Lines in New Haven, Waterbury, Hartford, Bridgeport and Other Cities Comprising the Connecticut Company System, as Well as On the Connecting Lines—It Differs in Some Essentials from the Public Service Railway Plan

AFTER a very elaborate traffic study and analysis of the possibility of increasing its income without placing undue burden upon any one class of its patrons, the Connecticut Company on Nov. 2 inaugurated a zone system of charges. For some time it had been operating on the 6-cent flat-fare basis, and this amount is retained as the basic or minimum fare. For this fare a passenger may go from a point in one zone to a point in an adjacent zone, transferring from car to car without extra charge, if necessary. For each additional zone, or part of a zone, a charge of 2 cents is made.

The zones were laid out with the central points in New Haven, Hartford, Bridgeport and Waterbury as the starting points, the length of the first zone from each of these points being about $1\frac{1}{2}$ miles. The second zone measured from each center is in general about 1 mile long, and on some lines within the metropolitan areas there are several sections each 1 mile long. When the sparsely-settled districts are reached, the sections are 0.8 mile long. The sections are of such length that the average rate of fare is 2 cents a mile for rides in congested areas and $2\frac{1}{2}$ cents in less thickly-settled areas.

In the business center of each of the cities mentioned "neutral" areas are provided to permit passengers to ride beyond the geographical center in order to reach the stores in the central business region without paying an extra fare.

The "pay-leave" system of fare collection is used, the passenger on entering at the front of the car being given a zone ticket by the motorman. Samples are reproduced showing typical "in" and "out" checks. In addition,

special zone tickets are used for shop trips, and for extra service on cars which are especially routed.

On leaving the car passenger deposits his fare in a Johnson fare box and surrenders the zone check. If he desires to continue his ride by transferring to another car, the conductor hands him a transfer or "continuing-trip" ticket like that reproduced, enabling him to complete the ride for which he has paid and serving as an identification to prevent his having to pay the basic charge a second time.

Under the new system school children are carried at half rate as before. Special books containing 100 tickets are sold for \$1. When a school child presents a zone check to a conductor, the latter simply takes out tickets to one-half the value of the regular fare. These books are on sale at the company's offices. Formerly paper tickets were used very largely to simplify payment of the 6-cent fare. In place of these metal tokens have been issued, each having a value of 6 cents. These are sold by the conductors in any quantity desired, or they can be purchased in packages of seventeen for \$1, at all points where ticket books were formerly sold.

There are now no reduced rates of any kind in force on the system, although previously monthly commutation tickets were issued on several divisions.

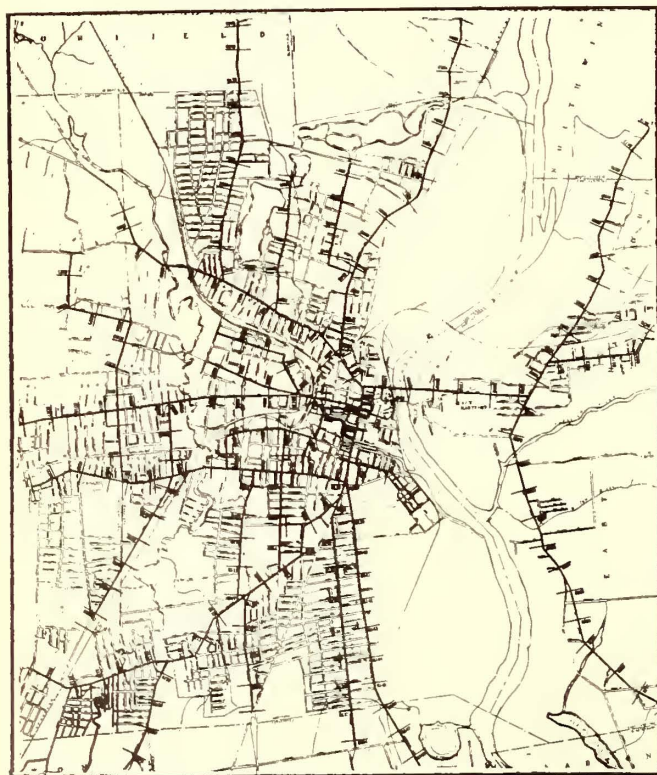
PREPARING THE PUBLIC FOR THE ZONE SYSTEM

On Oct. 1, 1917, the company went to a 6-cent fare. Protests were received by the Public Utilities Commission, particularly from citizens in Hartford. In connection with the Hartford protests the plan of making a distance charge was suggested by representatives of the public appearing before the commission at that time.

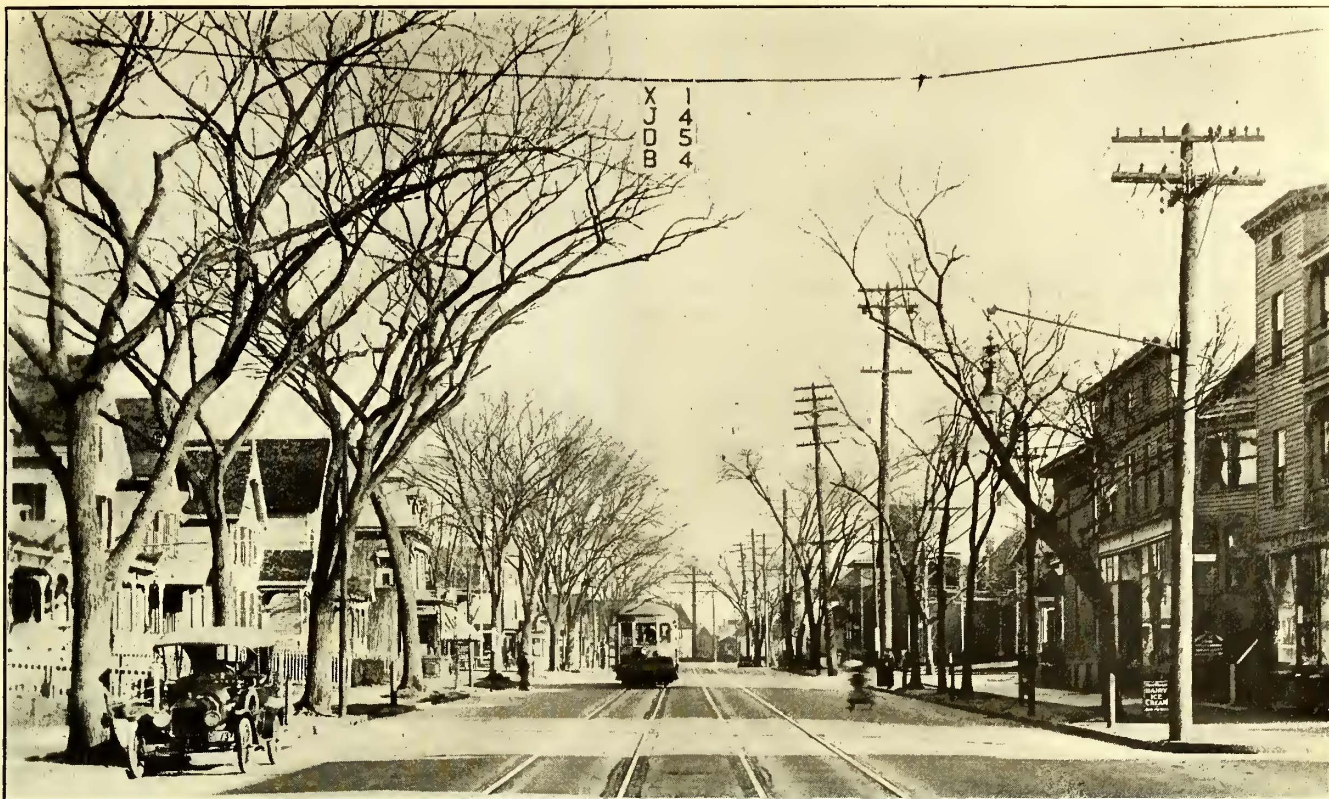
Soon after the hearings before the commission, a traffic survey was undertaken by the company, and an explanation was made to the public of the fact that the industry in Connecticut was in a very serious plight. The company stated that at the time it could announce no definite plan for increasing its revenue, but that in due course a plan would be prepared and explained.

While the traffic studies were being made, the company took every opportunity to put before the public and the employees the facts regarding the condition of the industry in general. In this connection liberal use was made of the reports of the hearings before the Federal Electric Railways Commission, which were being held at the time at Washington. On Oct. 6, 1919, a statement was distributed to the press explaining that a zone plan of operation and fare collection would be inaugurated, but a definite date for its inauguration was not mentioned at the time. This announcement brought out editorial comment, for and against the plan, showing the general effect of the educational work which had been done during the previous two years. In the discussion the preponderance of editorial opinion seemed to be favorable to the plan.

On Oct. 20 a definite statement was made that the plan would be inaugurated on Nov. 2. Advertising was then carried out on a broad scale, using large space in all newspapers published in the company's territory. The president of the company, Lucius S. Storrs, also addressed gatherings of citizens in all of the large cities served by its



PRINCIPAL PORTION OF HARTFORD WITH DIVISION OF LINES INTO SECTIONS FOR STUDY OF TRAFFIC CONDITIONS



TYPICAL STREET SCENE ON CONNECTICUT COMPANY'S SYSTEM, SHOWING ZONE BOUNDARY MARKERS FOR FOUR LINES

lines, explaining the workings of the proposed system and the necessity for some such plan in meeting the current emergency.

Samples of some of the printed matter used in the publicity campaign are reproduced in connection with this article.

The results of the advance educational work were evident even before the system was actually put into operation. For example, manufacturers and business firms announced that for indefinite periods they would absorb the extra cost of the transportation for their employees under the new plan, some even going so far as to state that they wished the benefits of the increased fare to be reaped by the railway company rather than by the jitneys. As an example of this the following quotation from a statement made to the employees of the Hartford Electric Light Company by S. Ferguson, vice-president, is of interest:

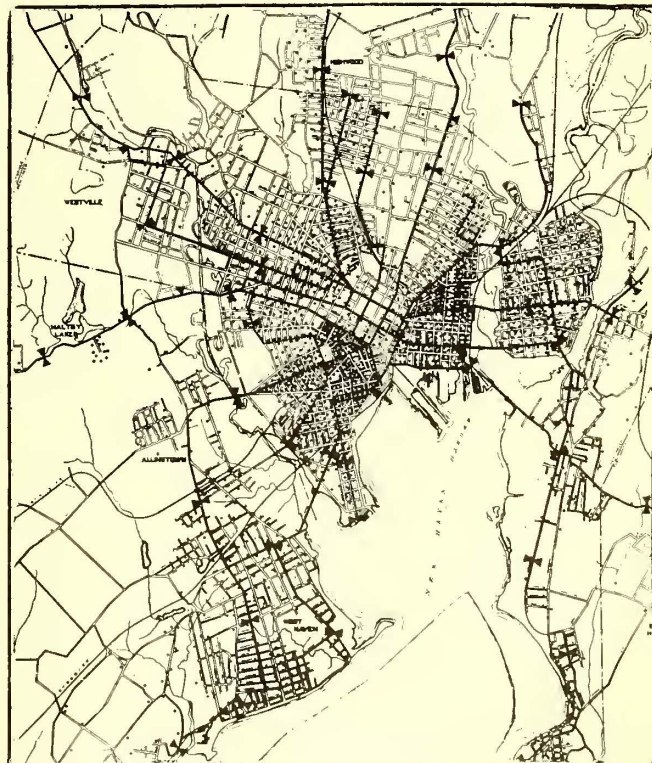
As it is impossible for employees, especially those living in suburban towns, suddenly to absorb in their weekly budget of expenditure the increase in transportation charges announced today, the company will absorb the increases for a period of six months as follows (details to be announced later).

After Nov. 2 employees whose fares have been increased may purchase weekly, of the company, car tickets sufficient for their use to and from the office at the schedule of charges of the trolley company now in force. The above method rather than a cash reimbursement is adopted in order to insure that the money so expended shall go toward increasing the trolley revenue rather than the revenue of jitneys or steam lines, as it is obvious that reduced transportation rates in Hartford and vicinity cannot be obtained until the trolley revenue exceeds the cost of operating the cars.

Again, comment in every newspaper in the territory showed that the editors realized that something had to be done to preserve electric railway service for the public. This attitude was radically different from that in evidence two years earlier when the fare was increased to 6 cents. Furthermore, that the publicity work made clear to the employees the fact that more revenue was needed was evidenced from the hearty co-operation with which they assisted in putting the new scheme into effect. This was

later officially recognized by the company in a letter from President L. S. Storrs to the employees, commending them for their share in making the introduction of the zone plan a success.

In addition to the general preparation of the employees, already referred to, a comprehensive plan of training was carried out. Meetings of managers and superintendents were addressed by J. K. Punderford, vice-president and



BUSINESS AND RESIDENCE DISTRICTS OF NEW HAVEN WITH DISTRIBUTION OF POPULATION AND ZONE BOUNDARIES

general manager of the company, and others, at which all questions that might arise later were taken up and decided.

Then came meetings with foremen, dispatchers, accountants, cashiers, etc., who would be in positions of authority, and who would be required to instruct others in the workings of the zone scheme. A meeting of all of those who had met previously, together with inspectors and others who would later instruct the platform men, was held next,

The men were paid for their time while learning, to the extent of three hours, so that there would be ample time for the instruction.

In preparing the rolling stock for the zone-fare operation, it was necessary to inclose all cars. The company had a number of pay-enter cars that required no change, but on the other hand there were several hundred cars with bulkheads that had to be made over. Some had no outside

Viktiga forändringar i spårvagnsmetoder

den andre november

Beginnande söndagen den 2 november kommer ett nytt system att införas av Connecticut Company ifrågas om att stiga på och stiga av spårvagnar samt uppgåta avgifter.

Alla passagerare inträda i spårvagnarna genom den framre dörren.

Passagerare betala, då de gå ut genom den bakre dörren.

Avgifterna variera, beroende på det avstånd man reser

Alla Connecticut Companys linjer ha blivit indelade i zoner. Oberoende av var närlag vid spårvagnen. Här ni åka genom de första två zoner betala sex cents, och sedan reser i vilken som helst del av varje annan zon kostar två cents.

När ni stiger på spårvagnen giver motormannen eder ett zombesiv, på vilket en till vänster finner nummeret på den zon i vilken ni inträde.

Om detta bevis till konduktören, när ni är färdig att lämna spårvagnen.

Eders avgift blir sex cents för de första två zonerna och derafv plöjt två cents för varje tilläggad zon.

Konduktören kommer att ha en tydligt tryckt förteckning på avgifter, till vilken ni också kan referera.

På eders första dags resa lär ni kunna eder bestämmande avgift. Var god och ha korrekt växel färdig att lägga i avgiftslådan varje gång, ni bestiger spårvagnen.

Var god och forma vana att betala avgiften, innan spårvagnen stannar, så att ni kan vara på bakre platformen färdig att stiga av vid ni när eder bestämmelseort.

Connecticut Company ar nedsatt att göra denna ändring på grund av det faktum, att under de senaste två åren ha dess löroentgifter emsamt ökat med 63 procent, eller \$2,700,000 per år, och andra utgifter idroagna genom att hålla egendomen i sånd ha tillagt tussentals dollars till kostnaden för systemets igånghållande, så att dessa utgifter står store an dess inkomster.

Det berder om eder samverkan och samverkan av varje person, så att det må kunna fortsätta att betala goda löner till dess arbetare och att det må bli va möjligt att uppehålla spårvagnstrafik för folket.

THE CONNECTICUT COMPANY.

IMPORTANTI CAMBIAMENTI SUI METODI DEI TRAM

Due Novembre

Incominciando Domenica, 2 Novembre, La Connecticut Company inaugura un sistema sull'entrata ed uscita e collatazione della corsa.

I passeggeri entreranno il carro dalle porte di fronte.

I passeggeri pagheranno all'uscire dalla porta di dietro.

La corsa varia secondo la distanza che si percorre.

Tutte le linee della Connecticut Company son divise a zone. Ovunque salite sul carro potete percorrere attraverso la distanza di due zone per sei soldi, e per ogni addizionale zona che si percorre, o parte di essa, si aggiungono due soldi.

Nell'entrare sul carro, il Motorman vi darà una "zone check," sulla quale, a fianco sinistro, viene indicata il numero della zona sulla quale vi trovate al momento che avete salito.

Darete questo biglietto al Conductor quando state per scendere dal carro.

La corsa sarà sei soldi per le prime due zone, o parte di essa, più due soldi per ogni addizionale zona percorsa.

Il Conductor, avrà per vostra referenza, una scheda, chiaramente stampata, coll'ammontare della corsa.

Suo vostro primo giorno di traversata, vi sarà detto l'esatto ammontare della corsa. Ve si prega di avere pronto l'esatto ammontare per metterlo nella scatola monetaria quando montare sul carro.

Vi preghiamo ancora di lornarvi l'abitudine di pagare la vostra corsa prima che il carro si ferma accoché vi troverete sulla piattaforma di dietro pronti a scendere all'arrivo della vostra destinazione.

La Connecticut Company è obbligata fare questo cambiamento per la ragione dei fatti, che nei passati due anni, si aumentò il costo di salario del 63 per cento, cioè \$2,700,000, all'anno, ed altre spese incorse per l'operazione della proprietà, avendo aggiunto molte migliaia di dollari per il funzionamento del sistema, divenendo lo speso maggiore del introito.

Domanda la vostra co-operation e la co-operation di ogni persona per abituarsi a poter continuare a pagare ai suoi impiegati un buon salario e fare il possibile di mantenere il suo servizio tramviario al popolo.

THE CONNECTICUT COMPANY

IMPORTANT CHANGES IN STREET CAR METHODS

November Second

Beginning Sunday, November 2, a new system of entering and leaving cars and collecting fares will be inaugurated by The Connecticut Company.

All passengers will enter cars by the front doors.

Passengers will pay as they leave by the rear door.

The fares will vary according to the distance travelled.

All lines of The Connecticut Company have been divided into zones. No matter where you get on the car you may ride through the first two zones for six cents, and your ride in any part of each additional zone will cost two cents.

When you enter the car the motorman will give you a "zone check," at the left of which will be the number of the zone in which you entered.

Give this check to the conductor when you are ready to leave the car.

Your fare will be six cents for the first two zones, or any part thereof, plus two cents for each additional zone.

The conductor will have plainly printed schedule of fares to which you can also refer.

On your first day's ride you will know your exact fare. Please have correct change ready to put in the fare box every time you get on the car.

Please form the habit of paying your fare before the car stops so that you may be on the rear platform ready to alight when you reach your destination.

The Connecticut Company is compelled to make this change by reason of the fact that in the last two years its wage expenses alone have increased 63 per cent, or \$2,700,000 per annum, and other expenses incurred in operating the property have added thousands of dollars to the cost of running the system, so that its expenses are greater than its income.

It asks your co-operation and the co-operation of every person that it may be able to continue to pay its employees good wages and make it possible to preserve car service to the people.

THE CONNECTICUT COMPANY

Ważna zmiana w tramwajnej metodzie.

Listopada drugiego.

Zaczynając w niedzieli listopada 2-go nowy sposób w wejściu i wyjściu również i kolektowaniu pieniędzy ma być pszemieniony pszez Tramwajnej Kompanij.

WSZYSTKIE PASAZEROWIE BĘDĄ WCHODZIĆ DO TRAMWAJU PRZEZ PRZEDNI DRZWI.

PASSAZEROWIE BĘDĄ PŁACIĆ PSZE WYJSCIU TYLNECH DRZWI.

PŁACA BĘDZIE ZMIENIONA ZODNIE ODLEGŁOŚCI JAZDY.

Wszystkie linij tramwajnej kompanij są podzielone na pasy „zones”. Nie robi różnic gdzie bedziesz jechał na tramwaju to możesz pszezjechać pszez pierwsze dwa pasy za szes centy i twoja dalsza jazda bedzie cie kosztować dwa centy za każdy dodatkowy pas.

Jak bedziesz wchodził do tramwaju to motorman tobie da „zone bilet” na lewej stronie którego bedzie numer pasa pod którym wsiadłeś do tramwaju.

Oddaj ten bilet konduktorowi jak bedziesz wysiadac z tramwaju.

Twoja płata bedzie szes centy za pierwsze dwa pasy, lub każda przesiadka pszez tym, dobawiając dwa centy za każdy dodatkowy pas.

Konduktor bedzie miał wyrażnie drukowany rozpis kosztów jazdy, którą wolno od niego żądać.

W pierwszym dniu twojej jazdy bedziesz wiedział swojej prawdziwe kosztu przejazdu.

Proszcie mi akkuratnie wyliczone gotowe pieniądze do wzięcia do „płatnej koszy” w każdym razie siadając na tramwaj.

Proszcie się przyszydzając w placeniu swoich kosztów jazdy, pszedtem nim tramwaj stanie będąc na tylnej platformie, żeby być w gotowości zsiąć z tramwaju na miejscu przybycia.

Tramwajna kompania jest zmuszona do zrobienia tej zmiany, z powodu faktu że za pszezły dwa lata rozchód tyżko na pasyj dla słozących podniósł się na 63 procent, lub 2,700,000 rocznie, a takoz i różnż inne rozchody, jaku narazony w operacji prosperow mają dobawic tysiący dolarow do kosztów w bieżącym systemie, otuż skutkiem tego rozchod w ogromnych rozmiarach pszewyszedł dochod.

Proszcie się o twoje społecznostwo a również społecznostwo każdej osoby, tak że dziadem mogli, w dalszym ciągu czasu placić dla służących dobre pensji, a również uczeni to możebnym ulpszyć i zachować służby tramwajowej dla publiczności.

THE CONNECTICUT COMPANY

NOVEMBER MASODIKATOL KEZDVE FONTOS UJTASOK LESZNEK A KOZOTTI VILLAMOS KOCSEKON.

Uj rendszert lép életbe november másodikkán, vasárnap a kocsihoz való felszállás, illetőleg leszállásra, valamint a futódijak fizetése névre, amint azt a Connecticut Co. már jóváhagyta

MINDEN UTASNAK AZ ELSŐ AJTÓN KELL FELSZÁLLANI, AZ UTASOK AKKOR FIZETNEK, MIKOR A HATULSO AJTÓN LE AKARNAK SZÁLLANI.

Az utazási díjak a megtett utóhoz mértent szamittatnak.

A Connecticut Company minden vonala zóna-rendszert lesz. Nem határoz, hogy milyen messze utazik, mellet az első zónán át hat centert és csak a következő zónákért fog fizetni két centetért.

Amikor belép a kocsihoz, a vonatvezető fog adni egy zóna-checket, melynek a bal oldalán lesz megjelölve a zóna, a hol felszállott. Adja ezt a checket a kasszának, amikor el akarja a kocsit hagyni.

Az utazási díja az első két zónán át hat cent és minden további zónáért két centtel több. A kasszának egy egyszerűen elkészített táblázata lesz a vitéldiákról, melyet bárki megnehet. Már az első alkalommal is tudni fogja a pontos vitéldiát. Kérjük, hogy az aprópenzt kezdise el már akkor, a mikor beszáll a kocsihoz, hogy bedobhassa a kasszába.

Stokjon közre, hogy a vitéldiát megfizesse, mielőtt a kocsi megáll, hogy akkorra már kiszállásra készen lehessen.

A Connecticut Company kénytelen volt ezt a rendszert beozni, mert úgy az, hogy az edelmi két ezertöbbedik egyedjöl az alkalmazottak fizetése 63 százalékkal emelkedett, a mi 2,700,000 dollár évente. Tekintve, hogy más kiadások, a mit a kocsihoz kellett költeni, szőntlen oriaszi mértéken emelkedtek, a kiadás tízszer nagyobb volt a bevételből.

Mi kérjük minden egyes embernek segítséget, hogy fenntarthassuk az üzemet, és a munkásainknak jó fizetéseket adhassunk továbbra is.

THE CONNECTICUT COMPANY

Важная перемена в трамвайной методі, Ноябрья второго.

Начиная с воскресенья ноября 2-го дня, новая система въезду и выхodu из трамвая и собираиия „феров” будеть переизменен Трамвайной Компаниею.

КАЖДЫЙ ПОСАЖЕНИЙ ДОЛЖЕН ВХОДИТЬ ВЪ ТРАМВАЙ ЧЕРЕЗЪ ПЕРЕДНЮЮ ДВЕРЬ.

ПОСАЖЕНИИ ДОЛЖИИ ПЛАТИТЬ ПО ВЫХОДУ ИЗЪ ТРАМВАЯ ЧЕРЕЗЪ ЗАДНЮЮ ДВЕРЬ.

Все платы будеть разливной, согласно расстоянью взы.

Все линии въ Трамвайной Компани будеть раздѣлены на промѣтутти „зоны”. Независимо гдѣ вы садитесь въ трамвай, вы можете проехать черезъ первые два зоны за шесть центовъ, а каждая добавочный промѣтутти стоить шесть центовъ.

Когда вы садитесь въ трамвай, моторманъ вамъ дастъ „зону бѣтъ” на лѣвой сторонѣ котораго показаны будеть выходы промѣтутти въ слѣдъ за трамваем.

Когда вы выходите изъ трамвая, вы должны отдать кондуктору, когда вы готовы выйти изъ трамвая, а не раньше того, приспособивши два цента за каждую добавочный промѣтутти. Кондукторъ будеть имѣть ясно печатное расписание платъ, которое вы можете отъ него потребовать.

Въ первый день вашей вѣды вы узнаете точную плату вашего расстояния.

Пожалуйста при поступлении въ трамвай имѣть на готовѣ правильную плату чтобы быть готовымъ къ ладной вѣды.

Пожалуйста привыкнеть къ уплатѣ денегъ въ правый бокъ отдавательства, такъ что будучи на задней платформѣ вы будеть готовы высадиться на выѣздъ станци.

Трамвайная Компаниа принуждена была переизменить плату взы, причина тому, что фактически, расходы изъ за повышение дѣловъ, увеличилась на 63 процента или же на сумму \$2,700,000 годично и также другіе расходы, приносящіе множество компаний, добавляющіе тысячами долларовъ въ стоимость общаго системы, такъ что расходы въ большихъ размѣрахъ превышаютъ приходовъ.

Принимая вашу корпорацию и корпорацию повѣнчившихъ публики, такъ что бы вы могли имѣть въ лучшее состоянью продолжать платить хорошее жалованье своимъ служащимъ и сбавить возможности сохранить удобство публики.

The Connecticut Company.

POLYGLOT POSTER USED IN EDUCATIONAL CAMPAIGN, INDICATING DIVERSITY OF NATIONALITIES

in order that every detail of operation might be gone over. This was followed by a gathering of the general office force and a meeting of the American Electric Railway Association company section, at which the zone system was the topic of discussion.

The platform men were divided into small groups of classes for detailed instruction. Motormen were given actual experience in preparing zone checks, operating doors, etc. Conductors were shown how to collect fares, operate the zone indicator cards, fill out new day cards, envelopes, etc.

doors, and some that had doors were not equipped for their mechanical operation.

The bulkheads were removed from a number of cars, and in all cases the bulkhead doors were taken off. This was done to promote free interchange of the passengers and to contribute to the comfort of the platform men. The vestibule doors were equipped for manual operation. Pipe stanchions were also installed to support the registering fare boxes, the door operating levers being mounted on the stanchions also.



CONSPICUOUS DASHER SIGNS TELL PASSENGERS WHAT TO DO

On many of the cars, change boards like those described in the issue of the ELECTRIC RAILWAY JOURNAL for Aug. 16, 1919, page 342, were installed. These previously had been used only on one-man and pay-enter cars.

A zone indicator was developed by the company for use on the cars and built in its own shops. This has the following characteristics: It consists of a board back 10½ in. x 21 in. in size, with a set of 8½-in. x 10½-in. cards, showing on the face the zone numbers and a table of fares to any point in this zone from any other zone on the line. On the back of the cards above is the lettering "Car now in zone." The cards are eyeletted and mounted on removable brass wire arches, so that they can be "flopped over" in passing from zone to zone. The upper set of cards is held in place by a spring-mounted, knurled brass roller, and the cards are protected at the point where they come in contact with the roller by thin sheet metal guards. Metal tabs project from the cards to permit them to be changed readily.

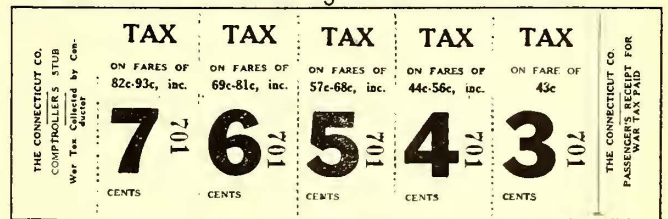
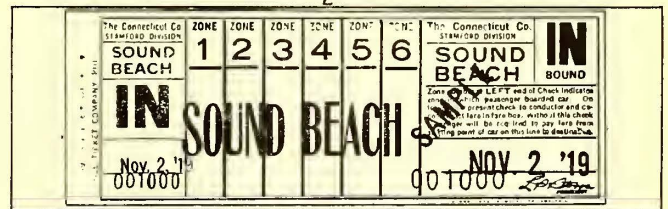
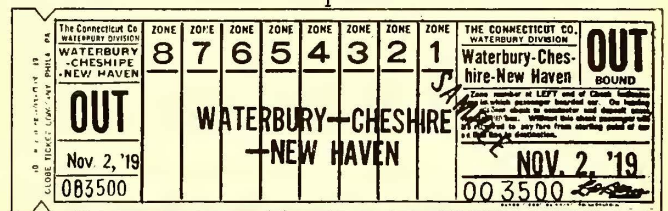
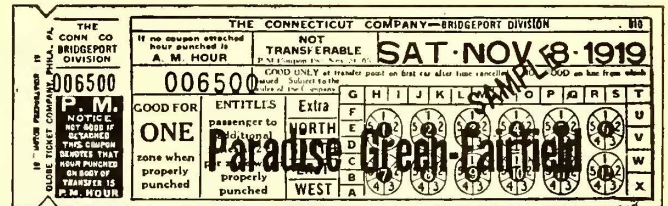
Zone indicators are installed at both ends of the car, but the one at the motorman's end is not used. The indicators are hung on the same kind of keystone lock as that used to support the fare boxes.

Zone boundaries as finally set were determined from data obtained in an elaborate traffic study extending over several months. This was conducted under the supervision of Dr. Thomas Conway, Jr., of the faculty of the University of Pennsylvania. A census of riders was taken on each line on an average day, showing the origin and des-

tinuation of each ride. At the same time surveys of distribution of population throughout the territory were made. These included not only the populations along the line but all residents tributary thereto. For the purpose of study, the lines were divided into quarter-mile sections, as shown on one of the accompanying maps.

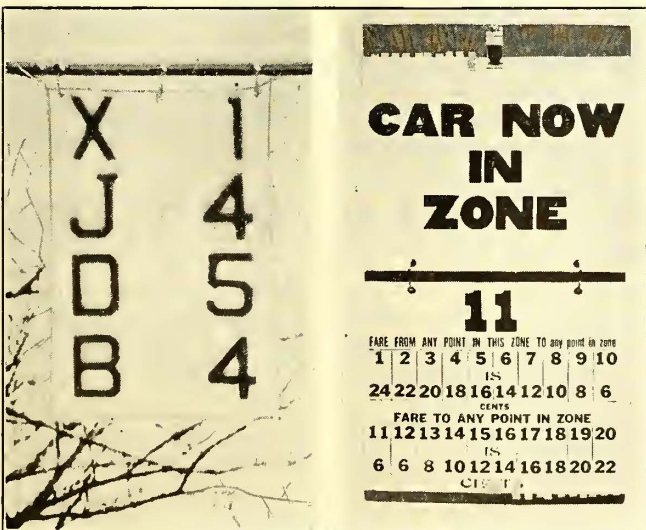
From the data compiled the riding habits of the patrons were determined and the zone boundaries were established by the company. A chart of population distribution density for New Haven, together with the zone boundaries, is reproduced herewith.

The zone boundaries are indicated by signs hung from the wires, no pole markings being used. The sign carries simply the line letter and the zone number. The lettering is in black on an aluminum background, this combination



ZONE CHECKS AND RECEIPTS USED IN CONNECTION WITH THE ZONE SYSTEM

1. Transfer and continuing-trip ticket, the nature of the ticket being indicated by punching.
2. Typical "out" zone check for an eight-zone line.
3. An "in" zone check for a six-zone line.
4. War-tax receipt used with interurban fares of 43 cents or more.



AT LEFT, ZONE MARKERS SHOWN IN LARGER VIEW. AT RIGHT, ZONE INDICATOR USED ON CARS

having been shown by experiment to be most legible, especially at night.

Where there is but one marker, the sign is 16 in. wide and 8 in. deep, the lettering being 7 in. high. For two lines the sign is 16 in. square. The deepest sign used contains four lines, with 4-in. letters, the sign being 24 in. deep.

No markers are used in the center of the city, as the center of each city is a zone limit on all lines and surrounding each center is a neutral area. The company did not consider it necessary to indicate the limits of the neutral area by markers, but concluded that such markers might prove an unnecessary complication.

In the accounting system used by the Connecticut Company only the simplest records are required of the motor-

THE CONNECTICUT COMPANY

NEW HAVEN CONN., Oct. 25, 1919.

To All Employees:

A few weeks ago we sent to every employee a letter that told how every dollar received by The Connecticut Company is spent.

We showed that 2.9 cents out of every 6-cent fare taken in was paid to employees for wages.

Since that letter went to you there has been another increase in wages, so that today more than one-half of every fare is spent to meet the payrolls.

Since October 1, 1917, rates of pay alone have been increased 63 per cent, involving additional payroll expenditures of approximately \$2,700,000 per annum. To meet this increase without changing the present rate of fare we would have to carry 45,000,000 additional passengers per annum, and this you know is not possible.

Employees should be familiar by this time with the fact that the company's financial condition, like the financial condition of all electric railways, is a matter of grave concern.

For many months The Connecticut Company has been considering every possible means of making its revenues sufficient to equal its expenses. Since 1916 expenses have exceeded income and instead of there being an improvement in conditions there has been a continuing increase in outgo that has left the company without sufficient funds to pay its taxes or to meet the obligations put upon it by the various communities.

WE NEED THE HELP OF EVERY EMPLOYEE

Realizing that it cannot exist indefinitely under present conditions, the Company has decided upon a readjustment of the fare schedules in the hope that sufficient income may be received to enable it to pay the wages and other expenses involved in operating its property and preserve service to the people.

The Company most earnestly solicits the co-operation of every man and woman in its employ.

It cannot continue to pay good wages if it does not receive money with which to pay them.

Employees have it in their power to make the service of The Connecticut Company so good that it will meet with favorable comment and produce greater income.

When the readjusted fare schedule becomes operative on November 2 we want every employee to feel that this change is being made not only in the interest of the public and the company but in the employee's own interest.

We want every employee to understand thoroughly how the readjusted fare system will operate, so that we may feel that every person in our employ is working intelligently for the success of the new arrangement.

THE DISTANCE FARE SYSTEM

For more than a year experts were employed upon a most comprehensive traffic survey of the lines of The Connecticut Company. Checks were made which revealed approximately where every rider went on his regular journey over our lines. The vast amount of data obtained through this survey has been analyzed. It revealed that in some places passengers were able to ride for a 6-cent fare a distance which, if travelled by steam railroad, would cost 33 cents. There are many such unprofitable long hauls. The survey revealed that in some cities the jitneys were taking away the revenue formerly obtained from thousands of short riders.

Every employee is well aware of the fact that although it was generally conceded that the electric railways in Connecticut were deserving of relief, nevertheless no relief was granted them.

The long, unprofitable hauls, the jitney competition, the burdens placed upon our revenues by the State and communities, together with the steadily increasing cost of operating the property have now brought a crisis in the affairs of the Company.

It has been decided to establish a distance fare system for rides over The Connecticut Company's lines, effective Nov. 2.

By this system passengers will pay fares which will vary according to the length of ride they take, just as they pay the steam railroads according to the distance they may travel.

HOW THE SYSTEM WILL OPERATE

Every stretch of track in The Connecticut Company system has been divided into fare sections.

In the four large cities, New Haven, Hartford, Bridgeport, and Waterbury, beginning at the traffic center of the city the first section includes the distance on any line up to one and one-half miles. The next section or sections (the number of these sections being determined by the density of population) are one mile in

shown, as well as the times between which he has worked with each. For each half trip he enters the car number, the origin and destination of the half trip, with time of starting and arriving, the total of zone checks collected, the revenue tickets and passes, the cash and tokens as recorded on the fare box and the transfers collected and issued. Totals for the several items are entered, including the war tax collected. The transfers collected are recorded so as to show the number of identification checks and transfers respectively.

A day card is required for each run and suitable envelopes are provided for inclosing the corresponding tickets, stubs, etc., as follows: (1) For zone checks, one for each trip; (2) for transfers, one for each trip; (3) for transfer trip envelopes for the run; (4) for passes and tickets for the run; (5) for war tax receipts; (6) a "report" envelope for zone-check envelopes, transfer trip envelopes and unissued transfers.

As in the case of the motorman, the conductor gets his supplies in a tin box at the beginning of the day's run, and the last conductor turns in this tin box with the remaining supplies at the end of the run.

The carhouse clerks are responsible for stocking the platform men's boxes with supplies and for keeping track of serial numbers of transfers and zone checks issued to conductors and motormen respectively. From this point on the handling of the records takes the usual course in the comptroller's central office.

THE PLAN HAS WORKED WITH REASONABLE SMOOTHNESS SO FAR

The company has been highly gratified at the way in which the new plan has worked out. A memorandum given on Nov. 10 to the Associated Press contains the statement that after ten days' trial the zone system had proved to be an unqualified success. While it is yet too early to give details regarding the financial results, the income has increased. As far as riding is concerned, the elimination of commutation tickets resulted in protests being made in some quarters, and there was a diversion of some traffic to the steam trains. For the most part there was no loss of riding that could be considered serious.

In Bridgeport particularly, where the jitney fare is 5 cents, the buses did a greatly increased business, but not enough to reduce the income of the company. On the system as a whole the riding did not fall off materially.

On Nov. 8 and Nov. 15, when thousands of strangers flocked to New Haven to attend the football games at "Yale Bowl," the company operated 120 extra cars between the railroad station and the Bowl, collecting 6-cent fares in the old way from passengers going to or from the Bowl. The Bowl is just outside the 6-cent zone-fare limit from the railroad station, but within the 6-cent limit from Church and Chapel Streets, the center of the city. The "extras" were all open cars, and fares were registered on overhead

SAMPLE PAGE FROM LEAFLET OF EXPLANATION TO EMPLOYEES

man. He makes a report to the comptroller for each run, to show the number of zone checks issued. In the morning when the car pulls out from the carhouse, the motorman is handed a tin box (to be kept on the car during the run) containing the supply of zone checks for the day. All motormen on this car use the zone checks from this box.

When a motorman takes a run he enters the reading of the zone pads on his report form and does the same on finishing the run. He simply makes these entries and does not subtracting. He also enters his pad readings at the end of each half trip.

The last motorman on a run turns in a large report envelope containing the stubs of issued zone checks and the whole or partly used pads of unissued zone checks. The tin box is turned in empty.

The conductor's day card requires, as did the one previously used, the date, route and punch mark. This information is placed in the upper righthand corner to facilitate sorting and handling. The names and badge numbers of the motormen with whom the conductor has worked are

YOUR FARE

Beginning November 2, will be SIX CENTS for two zones or any part thereof PLUS TWO CENTS FOR EACH ADDITIONAL ZONE.

Fares between all zones on the line are shown on the conductor's fare card.

Transfers will be issued entitling passengers to complete ride in two zones.

Passengers having ridden in two zones will be given CONTINUOUS TRIP TICKET, entitling them to ride on other lines at two cents per zone.

BE SURE TO GET A ZONE CHECK as you enter—unless you present a Zone Check to the Conductor when you leave at the Rear Door you will be required to pay fare from the starting point of the car on this line to destination.

THE CONNECTICUT COMPANY.

TO SAVE TIME

If passengers will please take seats as near the rear of the car as possible, and pay their fares before the car stops at their destinations, they will co-operate greatly to give good service.

After paying fare, please step to rear platform, thus being ready to alight quickly. You will appreciate the time this will save.

THE CONNECTICUT COMPANY.

Announcing To The Public A Readjustment Of Trolley Fares:

Beginning November 24 a readjusted schedule of fares will be effective on the lines of The Connecticut Company, by which passengers will pay according to the distance they ride.

There will be no change in the fare in the central area of the city.

The present 6-cent fare will be retained, and will pay for transportation within the central area—a distance on any line up to two and one-half miles from the center of the city.

The present 6-cent fare also will pay for a ride from any point not more than 1½ miles from the center to any point not more than 1½ miles beyond the center.

For rides beyond the central area a charge of two cents per zone will be made, and each zone will be approximately a mile in length in the residential areas and four-fifths of a mile in the country districts.

This system has been decided on because it seems to be the most equitable arrangement that can be made, and because there have been public requests for it.

The Connecticut Company had three alternatives:

(1) A high flat fare of not less than eight and probably ten cents in the present area without changing the fare limits;

(2) The division of the system into a greater number of six-cent zones, or,

(3) The distance system with the six-cent minimum fare and small increments.

The history of flat-rate fare increases indicates them to be unpopular with the public and unprofitable for the company, and The Connecticut Company believes the distance system will commend itself to the public because of its fairness to all riders.

In announcing this readjustment, The Connecticut Company wishes to emphasize that it is a question as to whether the revenue the new schedule shall produce will be adequate, but it believes that the public now thoroughly understands the financial difficulties that beset the electric railways and will appreciate its efforts to readjust fares with as little inconvenience to the car riders as possible, and with the purpose of assuring continuance of street railway service to the people.

Further details of the readjustment will be published later.

THE CONNECTICUT COMPANY.

TYPICAL FOUR-COLUMN ADVERTISEMENT FROM DAILY NEWSPAPERS

were collected in the center of the city, and when the cars reached the shipyard the men had given up their transfers or continuous-trip tickets and there was no delay in unloading. There has not been any trouble anywhere on the system, even where the least-educated foreign-speaking workers are predominant.

EMPLOYEES HAVE COOPERATED WITH COMPANY

As far as the employees were concerned, the men appear to prefer the zone system to the old one. They consider that the conductor is relieved of the necessity for moving about the car, and the motorman's extra duty causes him to take more interest in his work.

The excellent team work which has been contributed by both motormen and conductors played an important part in the successful establishment of the system. This was so apparent that the trustees of the company, on Nov. 8, adopted a resolution of appreciation of the co-operation given by all employees. At the same time appreciation of the attitude of the public was expressed.

Obviously the success of the plan lies with the platform men. Indications are that in Connecticut they feel that while there are some new duties to be performed under the zone plan, it offers an opportunity for the company to make more money, and ultimately this will react favorably upon themselves. As examples of the way in which the men are contributing to the success of the system, the care with which the motormen call out the zone boundaries at night so that the conductors may set their indicators, the good humor with which the conductors circulate through the cars, asking passengers if they have proper change, desire transfers, etc., may be cited.

While the system has not as yet been in use long enough to demonstrate all of its qualities, the results so far are very encouraging. While some slight modifications may have to be made, in general the possible difficulties have been anticipated. A few protests have, of course, been made and in due time the Public Utilities Commission will consider all of the complaints. In the meantime every effort will be made to give service that is worth the increased fare and to show the public the reasonableness of this increase.

registers. Any transfer or continuous-trip ticket was accepted in payment of fare on the "football" cars.

Special arrangements to handle impatient shipworkers in Bridgeport were successfully carried out. Many of these workers come from distant parts of the city and have been riding to the shipyard in specially routed cars. They were looking for trouble, and care was taken that there should be none. The extra cars were short-routed, and the men transferred at the railroad station to cars going to the shipyard. In this way pay-leave zone fares

Electrification of French Railways

M. CLAVEILLE, Minister of Public Works and Transports of France, in a report on the future development of French railways, states that it is highly important for France to make the most of its vast resources in water power for generating electricity particularly at a time when its supplies of coal are not going to be sufficient to meet the need of its industries. With this end in view, he had an inventory made, at the end of 1916, of the available hydraulic power of the public water courses, and later, reports were requested for each region, showing exactly the quantity of hydraulic energy which could be used by the public services. A particular study was made of the economical use of electricity for motive power on railroads.

On this subject a special committee of the Railroad Service has recommended the electrification of 5220 miles of track as follows:

Paris-Orleans	1,926 miles out of a total of 4,839 miles.
Paris, Lyons & Mediterranean	1,367 miles out of a total of 6,040 miles.
Midi	1,926 miles out of a total of 2,525 miles.

With the traffic of 1913 the kw.-hr. consumption would have reached:

Paris-Orleans	280,000,000 kw.-hr.
Paris, Lyons & Mediterranean	550,000,000 kw.-hr.
Midi	330,000,000 kw.-hr.
Total	1,600,000,000 kw.-hr.

With the estimated traffic in the immediate future the consumption is estimated at:

Paris-Orleans	560,000,000 kw.-hr.
Paris, Lyons & Mediterranean	1,110,000,000 kw.-hr.
Midi	600,000,000 kw.-hr.
Total	2,260,000,000 kw.-hr.

In determining upon lines to be electrified, the Midi and the Paris-Orleans considered the relation of the cost of electric power as compared with the cost of power with steam locomotives, and the comparison showed that mountain lines with sufficient traffic should be among the first to be electrified. They also considered the location of the source of hydro-electric energy in relation to the lines, and the importance of this power to other industries.

On the Paris, Lyons & Mediterranean, however, the possibility has been considered of using electricity on lines of low grade where there is a heavy traffic, even before putting it on mountain lines where the traffic of these lines is very small.

The proposed sources of electric power are the following:

For the Paris-Orleans—The Upper Dordogne River and its branches.

For the Midi—The Pyrénées.

For the Paris, Lyons & Mediterranean—Certain waterfalls in the Central Plateau and in the Alps, and the enormous reservoir of energy formed by the great plants at present existing or going to be constructed in the region.

The probable cost is estimated as follows, based on prices before the war:

Paris-Orleans	\$94,000,000
Paris, Lyons & Mediterranean	93,000,000
Midi	148,000,000
Total	\$335,000,000

With the traffic of 1913, electrification would save 1,500,000 metric tons of coal, and in the near future the economy should be less than 3,000,000 metric tons.

A special committee has been formed for the purpose of studying the use of electric energy. It at first obtained all the information possible from the principal electric companies, and it will use this as a basis for improving the present legislation, if necessary, in order to promote the development of the distribution of power. Members of the committee have already visited America to study conditions there.

Simplification of Corporate Structures

A Co-operative Plan is Outlined for the Relief of Large Street Railway Systems Through Reconstruction of the Underlying Corporate and Financial Structure—By a Special Increase in Fare a Sinking Fund Is Provided by which Underlying Securities Are Retired, the Equity Therefrom Being Taken by the City

By CHARLES B. COOKE, JR.

Of Kelly, Cooke & Company, Engineers, Philadelphia, also Assistant Manager, Division of Passenger Transportation and Housing, United States Shipping Board, Emergency Fleet Corporation, in Charge of Street Railway Operations

IN REVIEWING the various aspects of the situation which today confronts the operators and owners of those street railway properties which are the outgrowth of successive mergers of smaller underlying properties the fact must be faced that the one factor which, as much as or more than any other, creates sentiment adverse to the partial relief of such companies obtainable through higher fares, is their underlying corporate and financial structures.

Such considerations as may exist in obligations to underlying companies, and these are many and diverse, do not appear to have been of weight in shaping the public attitude which has developed on this question. The popular mind conceives the large street railway company as fattening, through some magical process, upon the rentals it has agreed, and is obliged, to pay to underlying companies. This feeling on the part of the public will doubtless continue to exist, with consequent injurious effects, so long as this particular phase of the situation is available as a bone of contention.

There can be no doubt, therefore, of the beneficial effect on the status of the street railway business, as a whole, if some workable plan could be applied to the situations calling for such treatment, which would enable the operating company and the riding public to provide, once and for all, for ultimate and permanent elimination of the underlying obligations as such, and which would at the same time furnish a solution of the future financing problem.

An appreciation of economic conditions responsible for the heavy burden of increased expenses carried by operating companies discourages any hope that some avenue of escape will open up by which the consequences of exorbitant costs of operation may be avoided. Lacking permanent relief through the channels of sufficient revenue or less expense, it is not unreasonable to expect that successful attempts may be made by public, or semi-public, agencies to enforce measures of inequitable relief through the dangerous process of arbitrarily scaling down underlying obligations.

The evil effects of such a possibility turned into a probability or certainty, in undermining and wrecking established standards of value and credit, can hardly be overestimated. It would involve not only confiscation of the assets of individual holders of securities bought on the basis of such established values, but also those of life insurance companies, savings banks and trust companies. It would undermine the value and integrity of the great volume of collateral trust obligations issued upon the pledge of such securities. These far-reaching and disastrous results would be the certain outcome of any attempt to relieve street railway finances through attack on underlying obligations or commitments. They would not be avoided or softened, however just and true contentions might be that such obligations came about through manipulation by promoters of early street railway enterprises. Such manipulation did, of course, occur in many cases, but while I am not an apologist in any sense for practices

economically and ethically wrong, it may as well be recognized that this particular milk has been spilt. It cannot be recovered through practices similarly wrong on the part of the public, damaging alike to the present security holder, who is the innocent third party, and to the best interests of the community served by the street railways whose securities would thus arbitrarily be depreciated.

“WATER” OFTEN COUNTERBALANCED BY SUSPENSION OF DIVIDENDS ON CASH INVESTMENTS

It has become the custom among the misinformed generally to regard securities outstanding in excess of visible physical investment as “water” representing nothing of value, and therefore to be eliminated as a factor in the fixation of utility earnings. This is false doctrine. It is as oppressive and hurtful to public utilities as it would be to industrial enterprises if the latter were required to fix the prices of their products on the basis of investment in their present manufacturing plants. While it is true that these types of investment enterprises bear different economic relations to the local and general public, yet it is equally true that the investor looks coldly upon such academic distinctions in choosing where to place his money.

In considering situations which, in the past, may have been subject to excessive security issues, there are many factors of which full account must be taken before it can be determined if those situations are today overcapitalized. It is not proposed to discuss such factors herein, but for illustration brief mention might be made of one. Where underlying companies have issued unjustified securities, a frequent result has been that subsequent operating companies, which leased them subject to their fixed charge commitments, have been unable, for a period of years, to pay even a fair rate of interest on bona fide cash paid in on the stock of the operating company. This applies to the operating company now on the premises as well as to former operating companies during their periods of active life. The aggregate of the interest or dividend money thus not paid clearly and logically replaces an equal amount of such unjustified securities as may have been issued, with actual though intangible cash investment. The necessity for considering such questions as early investments in facilities which became obsolete over night and scrapped need hardly be mentioned in view of the wide-spread attention given to this subject.

If the original promoters took unjustified profits, it was done under then existing laws and could have been stopped at the time through proper restrictive legislation. If the early development of public utility enterprises had been hedged about with present-day safeguards, such abuses as occurred could certainly have been diminished, if not entirely prevented. It was, however, the prospect of large profits quickly made that brought the needed large volumes of capital into this field for the development of what was then an infant enterprise, the future of which was conjectural. Lacking such an attraction, it is difficult to believe that transportation facilities would have developed

with that rapidity which marked the early days of the electric railway, and which was required by and essential to the expanding industrial and social needs of the community.

Such factors as these have weight and demand consideration in the development of any plan for establishing permanent means of relief for the street railway with its financial intercorporate structure, as at present constituted. It appears to be axiomatic that any such plan, to be workable, must not contain features prejudicial to the ultimate best interests of the parties in the premises, nor countenance any violation of the fundamental and sound principles of equity which underlies the present economic system.

REMEDY MUST BE EQUITABLE TO CAPITAL

The riding public must recognize that its primary requirement from the railway company is service, adequate in all respects to its needs. To provide adequate and satisfactory service, new capital must be continually invested in the facilities needed to give the car rider what he wants. The general investing public constitutes the only continuous source of supply of new capital, and so long as there was assurance of satisfactory returns to such new capital, it flowed freely into street railway investment. Under existing conditions, broadly speaking, there is no assurance to the investing public of fixed and permanent returns on investments in street railway securities, and these are consequently passed by in favor of other more reliable and productive opportunities for investment. The investing public in effect says to the riding public that if it is unwilling to pay the investor for the use of his capital in obtaining that which is wanted, *i. e.*, service, then it must be satisfied without service of the required kind, or participate in some plan for raising new capital which is not based on sale of securities to the investing public.

There exist contracts and agreements between holding or operating companies and underlying companies which are unbreakable under present laws. The terms of these cannot be modified to the detriment of any of the parties having a direct interest, at the request of those who have no such interest. Any action with this end in view on the part of public or semi-public organizations or individuals for ulterior motives would not only further undermine confidence in railway investments but would constitute nothing less than an attack on the very foundations supporting the present social and economic order. These will remain sound and secure so long as contractual agreements made in good faith are sustained by accepted law, and no longer.

No equitable, and therefore no successful, solution of the street railway problem can be sought through any method based upon the scaling down, or elimination of, underlying security issues without equivalent compensation to the holders for the established values of their securities. The investing public will not provide the means to make this compensation and for this reason the operating company cannot. The question then immediately arises as to how such compensation shall be made, if it is considered essential by the three major parties at interest to eliminate the underlying corporate structure and to change the character of the obligations arising therefrom, as a factor in a given street railway situation. Such elimination would be, without question, desirable from the standpoints of the several parties at interest, providing it can be done in a way that is fair and equitable to all concerned and interested in the stabilization and improvement of the street railway industry as to adequacy of service, as to an attractive field for investment, and as to the elimination of the underlying security, which is the skeleton in the street railway closet. It always offers an inviting point of attack which may not always be as invulnerable as it is under existing legislation and recognized principles of equity.

The situation clearly calls for the development of some sort of co-operative financial plan involving participation on the part of the holding or operating company, the underlying companies, the car-riding public and the bankers who have assumed, in whole or in part, the responsibility of financing street railway properties.

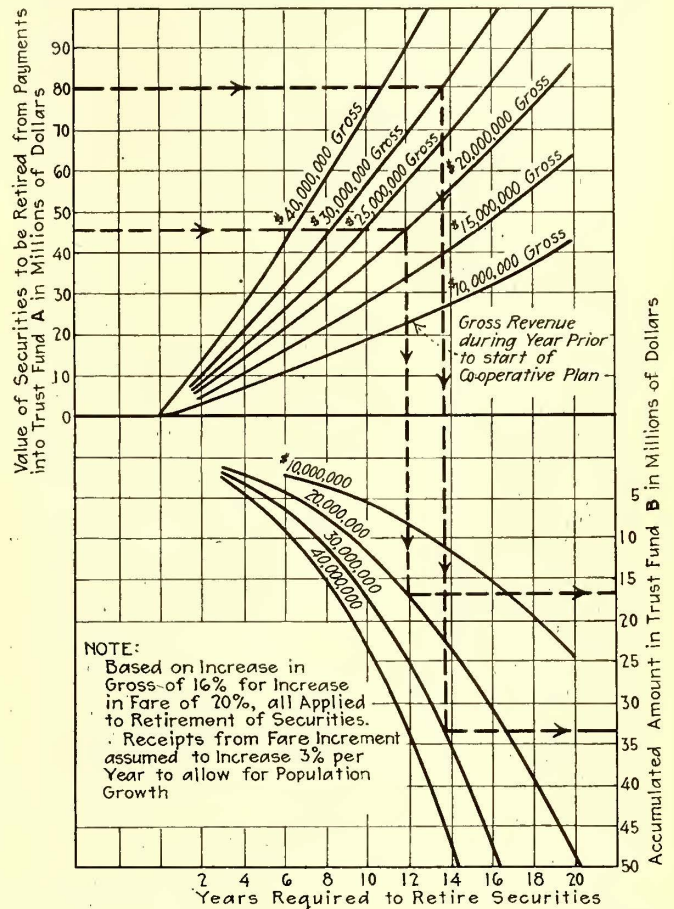


CHART SHOWING RATE OF ACCUMULATION OF TRUST FUND UNDER PLAN OUTLINED

Before proceeding to the consideration of such a plan, it would be well to crystalize the primary objects which its execution must accomplish. These appear to be as follows:

1. It must provide a perpetual guarantee that the riding public will get new and additional transportation facilities as and when needed to serve existing territory, as well as new districts developed by changing centers of population. The riding public has not at present, and will not have so long as the present situation continues, any such guarantee or assurance. The guarantee of adequate service facilities at ultimately lower cost represents consideration to the riding public for its participation in a co-operative plan such as later outlined.
2. The holders of underlying securities must be compensated for their holdings upon the basis of the value conferred thereon by underlying contractual agreements and guarantees. This in conjunction with the removal of the possibility of wholesale depreciation of these securities resulting from either a receivership or from some inequitable form of adjustment of underlying obligations, constitutes consideration to the underlying companies for their participation.
3. It must stabilize the street railway security and furnish a direct means for financing the construction and operation of facilities required for service of the riding public. Such provision for new capital requirements and insurance against operating deficits represent consideration to the operating company, the public and the banker.
4. It must simplify the underlying financial structure for the operating company, changing the form and ultimately the amount of underlying fixed charge obligations. The benefits and advantages so derived under a co-operative plan may be distributed equitably between the operating company and the riding public, and constitute additional consideration to both of these.

In presenting the following suggestions of what might comprise the main features of a co-operative financial plan, designed to accomplish these objects, it is appreciated that its successful application would call for departure from established precedent in street railway financial operations, as well as for courageous and far visioned recognition, by regulatory bodies, of their duties in the premises. Many difficult questions of law, finance and equity would have been solved, and these would be of a character to engage the abilities of the keenest minds now struggling with the financial, legal and economic operating phases of the street railway problem. The following central ideas, around which an effective plan might be developed, are put forward as constructive suggestions to meet a situation in which these are needed:

1. A board of traction fund trustees to be established, with a permanent membership of five trustees to be selected through a system of balanced non-political appointments representing supervision of the state utility commission, the city and the operating company. An auxiliary temporary membership to be organized which shall be composed of representatives elected by protective committees for each class of underlying security.

2. The operating company to secure an increase in fare under an agreement to devote all or such part of the net proceeds therefrom, as may be practicable, to certain uses hereinafter defined.

3. The traction fund trustees shall establish two separate and distinct trust funds, which may be called "Trust Fund A" and "Trust Fund B," and shall have absolute jurisdiction over the receipts of and disbursements from these funds.

4. The amounts collected from the riding public through the fare increase provided in Paragraph 2 above are to be paid by the operating company, in whole or in part as may be agreed upon, into Trust Fund A. The amounts so paid in are to be used by the trustees for the purpose of buying in underlying securities at an equitable price in accordance with a plan to be developed by them, based possibly upon the order of the priority of the lien of such securities on the earnings of the operating company, or on those of holding companies in the underlying structure. The fare increase authorized for sinking fund purposes is to be applied thereto exclusively and is not to be regarded in any way as an increase to provide for current operating requirements, which is a problem separate and distinct from that herein considered.

5. All questions concerning the equity of the settlement made for each class of security shall be heard before the board, shall be investigated and reported on by a committee of trustees appointed for that purpose, and shall be decided finally by general vote of the board after full and complete consideration of all factors of weight in reaching a balanced and equitable settlement.

6. As such securities are so acquired by the trustees, the operating company shall then immediately cease paying interest charges or dividends thereon as such, but instead, shall pay an exactly equivalent amount into Trust Fund B during an initial period to be agreed upon. Provision to be made that during a period subsequent to the initial period, there shall be a gradual reduction of amounts paid into Trust Fund B in lieu of the retired underlying obligations.

7. Ultimately, all underlying securities will be in the possession of the trustees, and as and when this occurs the fare increment authorized for this purpose shall be eliminated and no further amounts shall be collected for Trust Fund A. As each class of security is retired the auxiliary trustee representing that security shall be retired automatically from the board.

8. The payments made by the company into Trust Fund B in lieu of interest and dividends or underlying securities are to be used for the benefit of the riding public, either in increased and improved service facilities, or paid back through the medium of lower fares, or through a balanced combination of both methods. As consideration for this use of Trust Fund B, it shall also be made available to the operating company as protection against extraordinary obsolescence and as a buffer fund out of which may be made up such operating deficits as may occur, due to lowering the rate of fare below that justified by the cost of service.

9. Fair value of the property upon which the operating company shall be allowed to earn, to be determined and used as a basis for future property accounting. The company to be allowed a fixed return on such fair value, plus a share in the profits above the fixed return, the balance of the profits to be paid into Trust Fund B.

10. Depending upon the size of Trust Fund B, the operating company could either depend upon it entirely as a source of

new capital, or use it in conjunction with capital raised by sale of securities. These, owing to the margin of safety introduced by the existence of the trust fund, and the elimination of underlying obligations, would be rated accordingly and salable on a low interest basis.

11. New and covering franchises to be obtained, designed to meet modern conditions and requirements.

12. The board of trustees to conduct an educational campaign to inform the public as to the purposes of its operations, the results thereof from time to time and the benefits accruing to the riding public.

AN EXAMPLE IS GIVEN

To illustrate the principal of operation of the proposed plan with specific figures, an assumed case of a company with a present gross on a 5-cent fare of \$20,000,000 and underlying securities outstanding in the value of \$45,346,000, has been worked out in Table I. It has been further assumed, simply for illustration, that the net increase with gross from a fare increase of 1 cent, after allowing for decreased riding, would amount to \$3,200,000 in the first year of operation of the co-operative plan, and that thereafter there would be an annual growth of receipts from fare increase, following growth of population, of say 3 per cent per annum. Based upon these figures, the underlying securities would be retired out of Trust Fund A in approxi-

TABLE I—ASSUMED CASE SHOWING PRINCIPLE OF OPERATION OF TRUST FUNDS A AND B

		Additional Receipts from Fare Increase Paid Into Trust Fund A		Amounts Paid into Trust Fund B in Lieu of Interest and Dividends, on Retired Underlying Securities	
		Each Year	Accumulated Value of Retired Securities	Each Year	Accumulated Amount Available for Capital Requirements and Other Purposes
Value of underlying securities.....			\$45,376,000		
Present gross revenue of operating company with 5-cent fare.....			20,000,000		
Assumed increase of gross with 6-cent fare.....			3,200,000		
One year		\$3,200,000	\$3,200,000	\$192,000	\$192,000
Two years		3,296,000	6,496,000	389,760	581,760
Three years		3,395,000	9,891,000	593,460	1,175,220
Four years		3,495,000	13,386,000	803,160	1,978,380
Five years		3,600,000	16,986,000	1,019,160	2,997,540
Six years		3,710,000	20,696,000	1,241,760	4,239,300
Seven years		3,820,000	24,516,000	1,470,960	5,710,280
Eight years		3,920,000	28,446,000	1,706,760	7,417,020
Nine years		4,050,000	32,496,000	1,949,760	9,366,780
Ten years		4,170,000	36,666,000	2,199,960	11,566,740
Eleven years		4,290,000	40,956,000	2,457,360	14,024,100
Twelve years		4,420,000	45,376,000	2,722,560	16,746,660

mately twelve years. In this period Trust Fund B, available to the company as a source of new capital and for other purposes, would have increased from \$192,000 in the first year to \$16,746,660 in the twelfth year, these amounts being in the form either of cash or of interest-bearing obligations of character and amount approved by the traction fund trustees.

The accompanying chart shows an estimate of the rate of accumulation of Trust Funds A and B for companies of present gross revenues of \$10,000,000 to \$40,000,000, and with underlying security values up to \$100,000,000. The directional line indicates the method of reading the chart. Starting at the upper scale on the left, representing total value of securities to be retired out of the fare increase, project horizontally to the intersection with gross revenue curve, thence downward to the horizontal scale of years required to affect retirement. Project therefrom downward to the intersection with the gross revenue curve in the lower quadrant, and thence horizontally to the scale showing the accumulated amount in Trust Fund B for given conditions at to security values retired and present gross revenue.

The administration of Trust Fund B may be handled by such means as will constitute simple and powerful financial machinery, through which the riding public may secure to itself such service facilities as may be required, and through which the operating company may be protected if the cost of operating such service facilities proves to be excessive.

The central idea is that instead of earnings from railway operation being paid out in the shape of interest to underlying security holders, who in turn divert it to other uses foreign to industry, this interest money will be retained, either in liquid or equivalent form, as a permanent and gradually increasing fund for the betterment and intensive development of transportation facilities for the riding public which has contributed thereto. The perils arising from participation of the municipality in either ownership or operation of transportation facilities would thus be permanently avoided, with advantage to all interests concerned.

Probably no other course of action or policy which could be adopted by regulatory bodies, street railway management and holders of its underlying obligations would have such an immediate effect in building up public confidence in street railway investments as the inauguration of a determined effort gradually to release the industry from a situation which will continue to threaten and impede its development so long as it is passively accepted by the parties at interest. Certainly, the needs of the times require that the financial foundations of the industry be reconstructed along clean cut lines that will function positively and effectively to the end that the street railway may fulfill its destiny as the real backbone of the community it serves.

SIMPLIFICATION OF CORPORATE STRUCTURES IS DESIRABLE

The industry as a whole is at the threshold of a new era in which conditions affecting its welfare will be of different order from those heretofore encountered. The new course cannot be steered boldly and effectively by looking back at the old landmarks, nor by passive adherence to the heritage from such past corporate practices are now generally appreciated as economically unsound. These practices, under the circumstances of their origin and present-day conditions, must of necessity be broadly considered as in the nature of a passing phase of the development of the street railway to its present place as the admitted keystone of the community arch, and corrected once and for all, without prejudice from that standpoint.

The riding public, the general public, the industrial community and the operating companies are, in kind, equally and vitally interested in placing the industry, as a safe and sound business proposition, on the broad highway of permanent and ever increasing usefulness to the population at large. It is not clear how this can be done in the premises, except through action based on real and constructive co-operation between the parties having a direct and important interest at stake.



A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE

Stockroom Records and Practice

Indiana Company Rehabilitates Its Stockroom and Adopts Motto "A Place for Everything and Everything in Its Place"

THE Indiana Railways & Light Company has recently combined under one roof its stockrooms for the lighting, steam heating, interurban and city railway departments. The building which is being utilized stands on the shop and track storage yard premises and was formerly used as a car storage house. Prior to that time it was part of a manufacturing plant acquired some years ago by the company. The building was not, therefore, built primarily for a stock department, but has been adapted for this purpose by the construction of bins, shelves, racks, etc., and an office 10 ft. x 16 ft. in one corner. The stockroom is 100 ft. deep by 35 ft. wide with a concrete floor, and one track remains extending the full length of the room. This permits direct loading and unloading of heavy supplies.

All small materials such as crossarm pins, bolts, insulators, washers, nails, pinions, pipe fittings, trolley wheels, springs, etc., are stacked in bins varying in size from 36 in. x 36 in. to 7 in. x 11 in. These tiers of bins reach a height of 9 ft. Smaller articles such as carbon brushes, contacts, controller fingers, contact springs, trolley axles, etc., are stored in box compartments, 7 in. x 7½ in., and such articles as wood screws, rivets, ball bearings, etc., are kept in small drawer compartments. Large articles, such as crossarms, gear cases, meters, journal boxes, brakeshoes, lightning arresters, etc., are kept in sections, 52 in. x 64 in. on the opposite side of the room, while brooms, shovels, pails, etc., are hung conveniently on racks. Piping, trolley wire, etc., are stored on racks at the back of the room. Rolls of tar paper, asbestos paper and wrapping paper are held in convenient racks on the sides of the bins, and fire extinguishers are distributed in prominent places throughout the room.



THERE IS AMPLE SPACE TO PERMIT ALL SUPPLIES TO BE NEATLY ARRANGED

CARD NO.	MAX. <u>75</u>	MIN. <u>25</u>			
ARTICLE	<u>6" Trolley Wheels 7/8" Axle</u>				
DATE	ORDER NO.	IN	OUT	ON HAND	
<u>9/17-19</u>	<u>23610</u>	<u>50</u>	<u>Recd</u>	<u>10</u>	<u>70</u>
<u>9/17-19</u>	<u>680</u>	<u>AMSF</u>	<u>12</u>	<u>58</u>	<u>58</u>
<u>9/20-19</u>	<u>682</u>	<u>AMSF</u>	<u>6</u>	<u>52</u>	<u>52</u>
REMARKS					

STOCK CARD WHICH MAINTAINS PERMANENT INVENTORY OF ALL ARTICLES

Every bin, compartment, section, drawer and other storage place is plainly marked with an identification card in a neat metal slide. This card bears the bin number and complete identification of the article therein. If there is a possibility that the article is one with which an employee is not familiar enough to know the correct name, or of which there are several kinds very similar and the bin is so high that the contents are not in plain view, a sample of the article is fastened beside the identification card.

Corresponding to every bin identification card there is retained in the stockroom office a stock card such as is reproduced. This bears the same number as the identification card and a similar description of the article. The stock cards are indexed alphabetically according to the names of the articles recorded. The sample shown indi-

cates that on Sept. 17, fifty 6-in. trolley wheels were received by the stockroom on purchase order No. 23610 and that this made a total of seventy on hand. On Sept. 17, by interdepartment order No. 680, twelve of these wheels were taken out of stock, leaving fifty-eight on hand, etc. The figures in the upper right-hand corner of the card indicate that seventy-five wheels are as many as should be on hand at any one time, while the supply should never be allowed to fall below twenty-five. By means of this card a permanent inventory is on file at all times.

When the supply of any article reaches the minimum shown on the card, a requisition for supplies, is made on the purchasing department in duplicate. The carbon copy remains in the requisition book. The purchasing agent then makes out in triplicate a purchase order. One copy is, of course, retained by the purchasing department, while the second goes to the storekeeper to be used in checking up the materials when they arrive. Any material received at the stockroom, checked against the purchasing order as "O. K." and not kept in bins, is identified by means of a yellow tag. This indicates that the material has been placed in stock. To any material received but checked and placed in stock, a similar tag in red is attached. This insures that articles will not be given out for use until they are checked as "O. K." and recorded on the stock card.

At the end of every month the storekeeper fills out a material and supply sheet, showing all articles taken from the stockroom during the month. This is sent to the purchasing department where the prices are filled in and the record is used to ascertain the cost of operation of each department. The personnel of the stockroom comprises a storekeeper and one helper.

A railway to Kongozan, the celebrated mountain in Korea, is projected by a group of Japanese financiers. It is proposed to obtain power from the Kanko River. The length of the proposed line will be about 63 miles.

	PURCHASE ORDER FROM THE INDIANA RAILWAYS AND LIGHT COMPANY	No. <u>281</u>	Date <u>9/10</u>	1919
PLEASE ENTER ORDER FOR THE FOLLOWING:		Buyer <u>HJW</u>	Date <u>9/10</u>	
To be shipped <u>blower leaf</u>		Supplier <u>Moore Jones Brass & Metal Co St Louis Mo</u>		
QUANTITY	DESCRIPTION	PRICE	PLA	
<u>50</u>	<u>6" Trolley Wheels 7/8" Axle</u>			
NOTICE: Please acknowledge this order promptly, advising when you will ship. From Order and Requisition Numbers on forms, books, etc., in 47 columns for which we are responsible, are based on this form. We do not pay for copying, tracing or setting.				

PURCHASING ORDER FOR SUPPLIES MADE IN TRIPPLICATE. ORIGINAL AND THAT SENT TO STOREKEEPER SHOWN

Requestion For Supplies Indiana Railways and Light Company		
Req. No. <u>291</u>	Date <u>9/10</u> 1919	
Please furnish for use of <u>M & S Car Shop</u>		
QUANTITY RECEIVED	CHITREN #	MATERIAL
<u>50</u>		<u>6" Trolley Wheels 7/8" Axle</u>
From <u>Moore Jones Brass & Metal Co St Louis Mo</u>		Signed <u>M. H. Wagoner</u>
Shipped Via _____		Approved _____
To _____		Order No. _____

REQUISITION FOR SUPPLIES MADE ON PURCHASING DEPARTMENT BY STOREKEEPER

MATERIAL AND SUPPLY SHEET				
Attached to and Forming Part of Journal Voucher No. _____				
DATE	Quantity	Price	ARTICLE	REMARKS
Total				

MONTHLY RECORD OF MATERIALS TAKEN FROM STOCKROOM

DO NOT REMOVE THIS TAG

Article _____

Date Received _____

In Stock _____

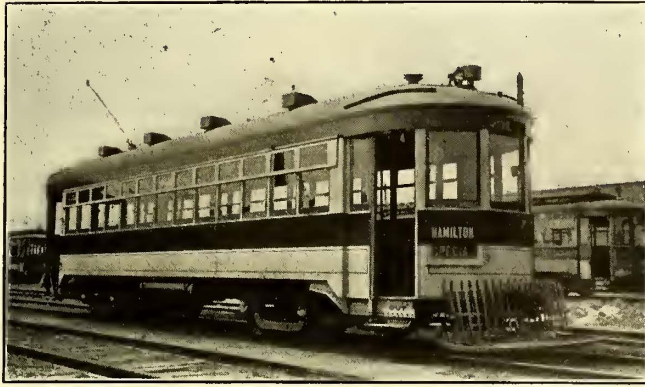
From _____

Bin No. _____ Order No. _____

TAG WHICH IDENTIFIES MATERIAL AS BEING IN OR NOT IN STOCK

Construction Features of New Cars Now Building at Detroit

Special Members Are Used in the Floor and Side Frame, and There Are No Bulkheads—The Arch Roof Is in Three Units Without Headlining—A Special Lighting System and Ample Ventilation Have Been Provided



NEW DETROIT MOTOR CAR BUILT IN COMPANY SHOPS

THE Detroit United Railway has entered upon an extensive car building program by which it expects to complete at the present status of labor an average of six or seven cars per month for an indefinite period. This work is being done in its spacious new shops at Highland Park which were especially erected with the idea of building cars for the company. It is assured that 100 city motor cars and 100 trailers will be built and as many more than this as seem to be necessary to meet the steadily increasing business of the company resulting from the rapid growth of Detroit. Twenty-five motor cars will be completed first and then fifty trailers, following which seventy-five more trailers will be built. At the present time several motor cars have been completed and placed in service and others are passing through the shops on the schedule mentioned. In addition to the above program the company is now arranging details for the construction of interurban passenger cars.

In connection with this extensive car construction program there are several features of interest concerning the construction details of the car. The various parts are built as units on templates and later assembled. The methods of construction will be explained in an article which will appear in a later issue of this paper.

The body bolsters are built up in truss type from $\frac{5}{8}$ -in. x 9-in. material as the top plate and 1-in. x 9-in. as the bottom plate. In the floor the end sills consist of two 3-in. channels bolted together 12 in. apart and separated by a plate. These

are reinforced by a No. 10 gage steel plate 26 in. wide, bent to a right angle and riveted to the side sills which are 5-in. x $3\frac{1}{2}$ -in. x $\frac{3}{8}$ -in. angles. The first three cross-sills back of the bolster consist of two 3-in. channels riveted back to back, while the three center cross-sills are 3-in. I-beams. All parts in the construction of the sides are riveted with $\frac{5}{16}$ -in. rivets; while all joints in sash and letterboard are acetylene welded and each post is welded at top and bottom to the letterboard and sash rest respectively.

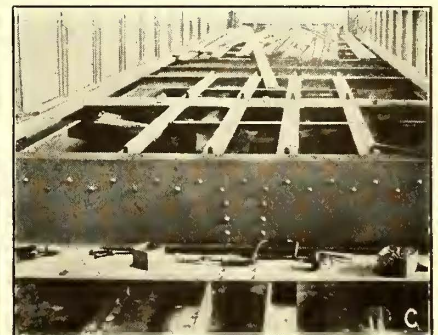
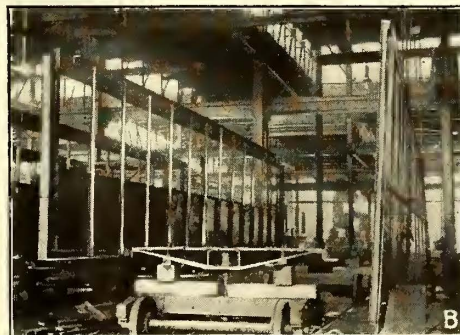
All vertical posts are of 2-in. x 2-in. T-iron and the side sheathing is No. 13 gage sheet steel. An angle, 3-in. x 3-in. x $\frac{5}{16}$ in. is used at the top of the letterboard as a support for the roof.

The top and bottom vestibule supports are $3\frac{1}{2}$ -in. x 3-in. x $\frac{5}{16}$ -in. and 4-in. x $3\frac{1}{2}$ -in. x $\frac{5}{16}$ -in. angles respectively and the bumper is a 5-in. channel. The drop platforms are supported by knees built up from two 3-in. x 3-in. x $\frac{3}{8}$ -in. angles reinforced with a $\frac{1}{4}$ -in. plate and the drawbar guide is formed by 4-in. x 4-in. x $\frac{1}{2}$ -in. angles.

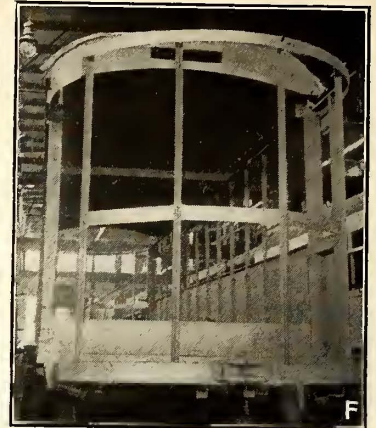
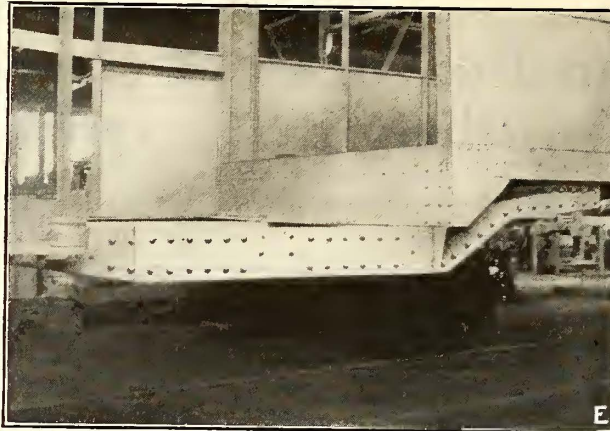
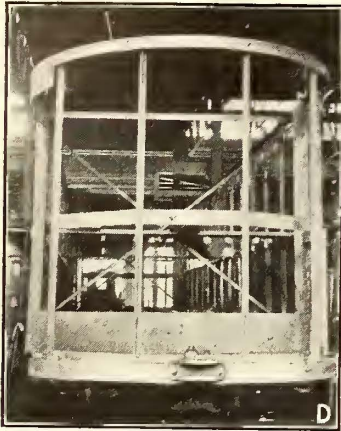
THE CONSTRUCTION OF THE ROOF PERMITS INTERCHANGEABILITY

The arch roof consists of three sections, the hoods being separate units from the main roof. It is apparent that this permits quick and easy replacement from stock in case of damage. The longitudinal angles of the main roof are 2-in. x 2-in. x $\frac{5}{16}$ -in. and there is a $\frac{3}{8}$ -in. x $1\frac{1}{2}$ -in. steel carline over each vertical post in the side frame. Onto each of these are bolted a pair of wooden carlines and there are two intermediate wooden carlines between adjacent combinations of steel and wood. Poplar roofing $\frac{3}{8}$ -in. x 2-in. is used and covered with No. 6 canvas duck.

The flooring of the car is $1\frac{1}{2}$ -in. x $3\frac{1}{4}$ -in. yellow pine, double thickness, separated by tar paper except at the center and ends where matting strips are placed. The furring of the posts above the window coping is $2\frac{3}{4}$ in. x $1\frac{1}{2}$ in., and below 2 in. x $1\frac{1}{2}$ in. and this fits over the leg of the T-iron post. The lining below the window is No. 16 gage steel. No headlining is installed and the entire car is finished in quarter-sawed oak, natural finish. All motor and resistance wires are placed in conduit. Railway Utility ventilators are installed in a large intake located in the front vestibule and in four exhaust openings in each side of the roof. Hunter illuminated destination signs are used, and



A—DETAILS OF SIDE CONSTRUCTION ON THE TEMPLATE WITH RIVETING PARTLY COMPLETED. B—METHOD OF ASSEMBLING SIDE FRAMES ON BODY BOLSTERS. C—THE FLOOR CONSTRUCTION INCLUDES SOME SPECIALLY DESIGNED MEMBERS



D—DETAILS OF VESTIBULE CONSTRUCTION. E—THE DROP PLATFORMS ARE SUPPORTED BY KNEES BUILT UP FROM ANGLES AND PLATES. F—THE VESTIBULE HOODS ARE SEPARATE UNITS FROM THE MAIN ROOF

the signal system includes a push button on each post. The heating system is of the Peter Smith hot-air type.

The upper sash of all windows is stationary while the lower sash raises. Pantasote curtains are used. Double folding doors for entrance and exit are provided at the rear, with a single, folding exit door at the front. All doors have wireglass in the lower panel and plain glass in the upper panel. Doors and steps are manually operated as a unit. There are seven transverse Hale & Kilburn hinge-type seats on each side. These are 35 in. wide, leaving an aisle space of 22 in. Each seat is supported by a single pedestal, the opposite end being screwed to the seat rail which is fastened to the side of the car. There are four longitudinal seats, those at the front of the car being each 7 ft. 6 in. long and those at the rear, 6 ft. 2 in. This gives a seating capacity of forty-six passengers. Leather hand- straps with sanitary covering are provided for standing passengers.

A feature of these cars is the absence of bulkheads. The rear bulkhead is done away with entirely and the front bulkhead has been replaced by pipe stanchions at the back of the motorman. On these stanchions are curtains so arranged that the motorman can draw them, to prevent the light from the interior of the car from interfering with his vision at night.

LIGHTING SYSTEM INCLUDES FIVE INDIVIDUAL FIVE-LIGHT SERIES

The lighting system includes 23-watt tungsten lamps without reflectors along each side of the ceiling, one on the back platform over the door, one outside over the front door, a five-light cluster over the fare box, one lamp in the Hunter destination sign and one Golden Glow headlight. These twenty-five lamps are arranged in five individual

five-light series, each on a separate switch. This arrangement has been made as a means of saving energy during such a crisis as was experienced last winter. One switch controls four alternate lights on one side of the ceiling and one in the cluster, a second the other four and one in the cluster, a third and fourth similarly for the other side of the car. Thus the fifth switch controls the headlight, the light over each door, that in the destination sign and one over the fare box. All switches are located on the front platform.

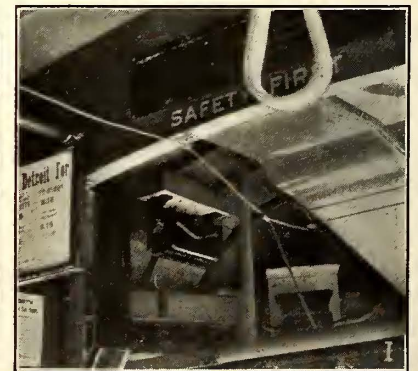
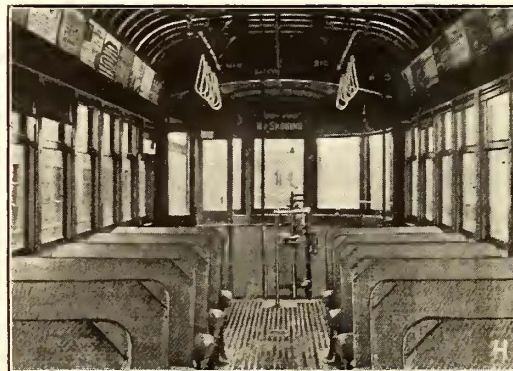
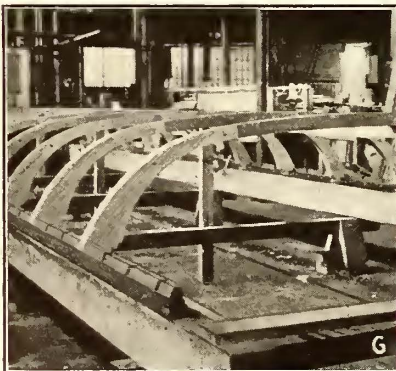
GENERAL DATA ON DETROIT UNITED DOUBLE-TRUCK CARS

Length of body over all.....	46 ft. 8 1/2 in.
Length of body over corner posts.....	32 ft. 4 in.
Width of body over all.....	8 ft. 2 in.
Height from rail over trolley board.....	11 ft. 8 1/2 in.
Height from rail to first step.....	14 in.
Height from first step to platform.....	13 1/2 in.
Height from platform to car floor.....	11 1/2 in.
Total weight.....	46,800 lb.

The car bodies are mounted on Standard 0-50 trucks equipped with four GE-203 motors. The motors are geared 15 to 69 and the control is K35G. Westinghouse semi-automatic air brakes are used with Peacock hand brakes as auxiliary equipment. The wheelbase is 5 ft., with 21 ft. 2 in. truck centers and 33 in. diameter cast-steel wheels on 4 1/2-in. x 5 1/2-in. axles.

Other equipment besides that already mentioned includes the Cleveland fare box, Tomlinson air and electric coupler, special life guards and Trolley Supply Company Ideal trolley catchers. Dimensions of the car not already given in the account of construction details are included in the accompanying table.

A description of the methods of constructing these cars will appear in a later issue.



G—STEEL CARLINE BOLTED BETWEEN TWO WOODEN CARLINES WITH PLACE FOR TWO SINGLE WOODEN CARLINES BETWEEN ADJACENT COMBINATIONS. H—INTERIOR OF COMPLETED CAR LOOKING TOWARD REAR. I—A SPECIAL FEATURE OF THE CARS IS THE VENTILATION INTAKE IN THE FRONT VESTIBULE. NOTE ALSO THE LIGHTING CONTROL SWITCHES

A Successful Traffic Count on the Beaver Valley

Publicity Literature and Forms Used to Secure the Co-operation of the Public and the Platform Men

AS A NECESSARY basis for proposed alterations in fares, W. H. Boyce, superintendent Beaver Valley Traction Company, New Brighton, Pa., undertook a traffic check on Oct. 2, 1919. The co-operation of the public proved all that could be desired despite the fact that this district contains a large proportion of foreigners. Of all the passengers who were handed slips by the checkers, one curtly informed the checker that he had left his slip sticking in the window while the only other recalcitrant rolled up his slip and threw it out of the window. The success of the survey was due in part to the excellent public relations which this company has long enjoyed and in part to effective publicity and co-operation of the trainmen.

As a preliminary, the public was notified through newspaper advertisements and car-posted copies thereof. These

Where Are You Going?

Do not be surprised if you are asked that question on the street cars

WEDNESDAY OR THURSDAY
October 1st or 2nd

When Traffic-Checkers will be at work determining where patrons of these lines board and alight from the cars.

We want to reduce the fares, if we can, to the patron who rides but a few blocks. We must have more income. We must have more riders or we will be compelled to decrease our present service and abandon a portion of our lines entirely

What Will It Mean to You If the Street Cars Are Discontinued?

Please Help the Traffic-Checkers Obtain the Information Desired

THE BEAVER VALLEY TRACTION COMPANY
and **PITTSBURGH & BEAVER COMPANY**
W. H. BOYCE, Superintendent

Route	1	2	3	4	5	6	7	8
Car No.	.....						
Time	..... M. Direction: In / Out							
TO THE PASSENGER:								
We must have more income. We hope to be able to reduce the fare to the short rider, thus materially increasing the number of such riders and consequently our income.								
To aid our traffic checkers in securing reliable data on which to base new rates of fare, will you kindly preserve this sheet and hand to traffic checker when you leave the car? I thank you.								
W. H. BOYCE, Supt. The Beaver Valley Traction Co., Post The Pittsburgh & Beaver St. Ry. Co.								
ROUTE 2002 (End of Hst. Vantage to Monaca Park terminal.)								
TOSTON								
Perry Street, VANPOY	.....	.....	.....	.....	.....	.....	.....	.....
Denon's Store Stop	.....	.....	.....	.....	.....	.....	.....	.....
Line Street	.....	.....	.....	.....	.....	.....	.....	.....
Chesnut Street	.....	.....	.....	.....	.....	.....	.....	.....
Yale Street	.....	.....	.....	.....	.....	.....	.....	.....
Elm Street	.....	.....	.....	.....	.....	.....	.....	.....
Church Alley	.....	.....	.....	.....	.....	.....	.....	.....
Dravo Street	.....	.....	.....	.....	.....	.....	.....	.....
Lynn Street	.....	.....	.....	.....	.....	.....	.....	.....
Southway Alley	.....	.....	.....	.....	.....	.....	.....	.....
Cemetery Wall	.....	.....	.....	.....	.....	.....	.....	.....
Oak	.....	.....	.....	.....	.....	.....	.....	.....
Elm	.....	.....	.....	.....	.....	.....	.....	.....
Walrus	.....	.....	.....	.....	.....	.....	.....	.....
Orchard	.....	.....	.....	.....	.....	.....	.....	.....
Buffalo	.....	.....	.....	.....	.....	.....	.....	.....
Navigation	.....	.....	.....	.....	.....	.....	.....	.....
Drain	.....	.....	.....	.....	.....	.....	.....	.....
Commerce	.....	.....	.....	.....	.....	.....	.....	.....
Coast House	.....	.....	.....	.....	.....	.....	.....	.....
Market	.....	.....	.....	.....	.....	.....	.....	.....
College	.....	.....	.....	.....	.....	.....	.....	.....
Wayne	.....	.....	.....	.....	.....	.....	.....	.....
Beaver	.....	.....	.....	.....	.....	.....	.....	.....
Taylor	.....	.....	.....	.....	.....	.....	.....	.....
Wilson	.....	.....	.....	.....	.....	.....	.....	.....
East End	.....	.....	.....	.....	.....	.....	.....	.....
Park	.....	.....	.....	.....	.....	.....	.....	.....
Presbyterian Church	.....	.....	.....	.....	.....	.....	.....	.....
Clinton	.....	.....	.....	.....	.....	.....	.....	.....
Mulberry	.....	.....	.....	.....	.....	.....	.....	.....
Market	.....	.....	.....	.....	.....	.....	.....	.....
Water	.....	.....	.....	.....	.....	.....	.....	.....
West Rochester	.....	.....	.....	.....	.....	.....	.....	.....
Conway's Corner	.....	.....	.....	.....	.....	.....	.....	.....
George	.....	.....	.....	.....	.....	.....	.....	.....
Wheeler	.....	.....	.....	.....	.....	.....	.....	.....
Beer	.....	.....	.....	.....	.....	.....	.....	.....
Trimbles	.....	.....	.....	.....	.....	.....	.....	.....
JUNCTION								
Fashion	.....	.....	.....	.....	.....	.....	.....	.....
22nd	.....	.....	.....	.....	.....	.....	.....	.....
20th	.....	.....	.....	.....	.....	.....	.....	.....
19th	.....	.....	.....	.....	.....	.....	.....	.....
18th	.....	.....	.....	.....	.....	.....	.....	.....
17th	.....	.....	.....	.....	.....	.....	.....	.....
16th	.....	.....	.....	.....	.....	.....	.....	.....
15th	.....	.....	.....	.....	.....	.....	.....	.....
14th	.....	.....	.....	.....	.....	.....	.....	.....
13th	.....	.....	.....	.....	.....	.....	.....	.....
12th	.....	.....	.....	.....	.....	.....	.....	.....

ADVERTISEMENT AND PART OF TRAFFIC RECORD

notices stated frankly that more revenue was imperative but that, if possible, the company wanted to get this increased revenue through lower short-haul fares. A sample advertisement is reproduced.

On Sept. 30, all trainmen were advised how to co-operate with the traffic checkers through the medium of Bulletin No. 345 as follows:

NOTICE TO TRAINMEN:

On Thursday, Oct. 2, a check of traffic will be made on all cars on all routes. A special checker will be placed on each car. He will work under the instructions which follow and you will be expected to aid in every way possible to carry out these instructions:

If possible, permit no person to leave by the front door unless the checker can get to the door and collect passenger's check slip. On these slips, sample of which is attached, the route number and direction in or outbound will be checked, and the car number, run number and time of leaving the end of the line will be written.

As the passenger boards the car, the checker (if it is possible for conductor to assist him, he will do so) will issue to the

passenger one of these slips, having checked in the "on" column the point at which the passenger boarded the car.

The passenger will be requested to keep this slip until he leaves the car. When he does so the slip will be lifted and the point at which he leaves the car will be checked in the "off" column.

These slips will be used as transfers on this day only. When a passenger approaching a transfer point requests that a transfer be issued, inform him that this slip will be good for transfer.

When a passenger boards the car at a transfer point with one of these slips, the conductor will honor same as a transfer but will not lift it at the time of making the general collection, for the traffic checker will lift the same when the passenger leaves the car. Try to prevent persons from leaving the car by the front door unless the motorman or traffic checker can receive the slip and check thereon the point of debarkation.

These slips are to be turned in by the traffic checker or conductor on each trip passing the Junction, and on routes 2001, 2002, 2003 and 2004, they will be lifted by special traffic checker at Monaca Corner. On route 2005 these slips will be lifted at intervals throughout the day. The same will apply to routes 2006, 2007 and 2008. Special traffic checkers, when lifting these slips at the above mentioned point, will band same and place thereon a slip showing the following information; route number; car number; time; direction.

The traffic checker's slip, as handed to each passenger, is reproduced in part. This slip was made out so that the passenger could readily indicate the length of his ride by checking off the "on and off" corners.

A final happy touch to the survey was an advertisement "Thanks to you" in which Mr. Boyce thanked the local public for their co-operation.

Results of Motor Omnibus Service in Sheffield

IN A PAPER read at the recent eighteenth annual conference of the Municipal Tramways Association, Inc., of Great Britain, A. R. Fearnley, general manager Sheffield Corporation Tramways and Motors, gave the results of his experience with motor buses as adjuncts to tramway service.

He said that the motor bus is an excellent vehicle as a feeder for tramway lines and as a connecting link between such lines, but is an unsuitable vehicle for dealing satisfactorily with heavy town traffic. It has proved quite inadequate for handling peak loads and is a financial impossibility for workman's traffic at reduced fares. As to average speed maintained throughout the day, it possesses no advantage over the electric tramcar.

The *Electric Railway & Tramway Journal* quotes an abstract of Mr. Fearnley's paper in part as follows:

"Alluding to the new type of bus of the London General Omnibus Company, he said the great difficulty was that only twenty-two passengers are provided with cover or a comfortable seat under inclement weather conditions which prevail during eight months of the year, whereas the whole of the seventy-six tramcar passengers are under cover and traveling under reasonably comfortable conditions whatever the weather may be. As to peak traffic he cited the case of the 5 to 6 o'clock traffic in the Tinsley district, where each evening eighty-two cars per hour, carrying 5576 passengers, have to be provided for. This traffic would need double the number of buses, and in bad weather even that number would not be adequate.

"Mr. Fearnley than made some comparisons which showed that the revenue expense of running the motor bus is 44½ per cent more than the tramcar; the revenue expense per passenger is 198 per cent more, and the revenue expense per seat provided is 131.3 per cent more. In conclusion he said that the motor bus is not going to supersede the electric tramcar, but it can serve a most useful purpose for connecting up tramway routes for crosstown traffic which cannot be served by tramcars; for relieving congested tramway routes, and for connecting up the villages and rural districts with the tramways and railways."

Heavy Freight Service on a Single-Track, High-Speed Passenger Line

Dispatch, Merchandise and Steam Road Interchange Freight Service Interspersed
with Frequent Multiple-Unit Passenger Trains—Road is
Member of American Railroad Association

By A. B. COLE

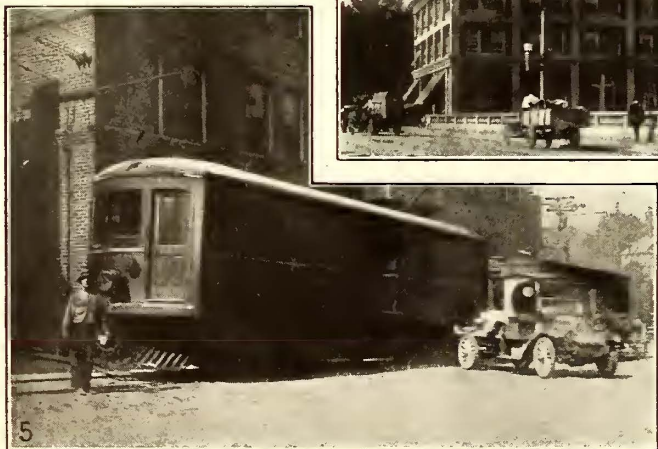
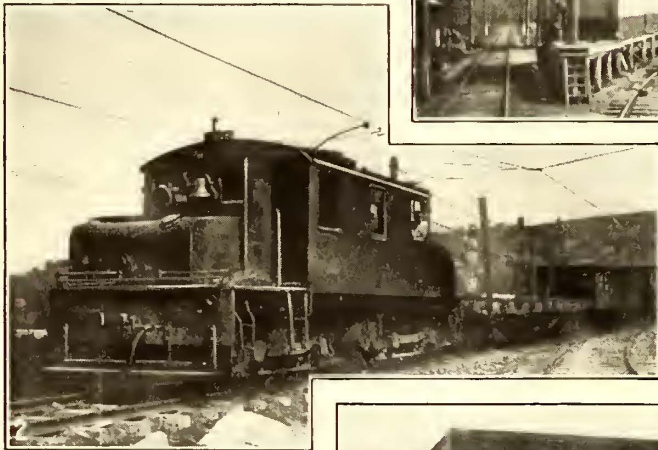
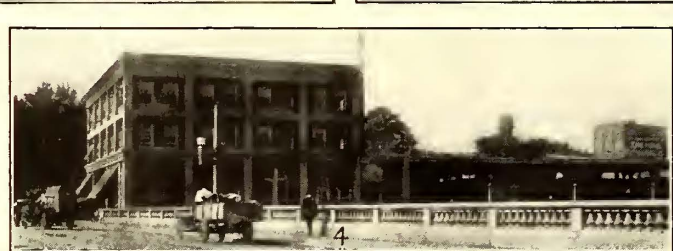
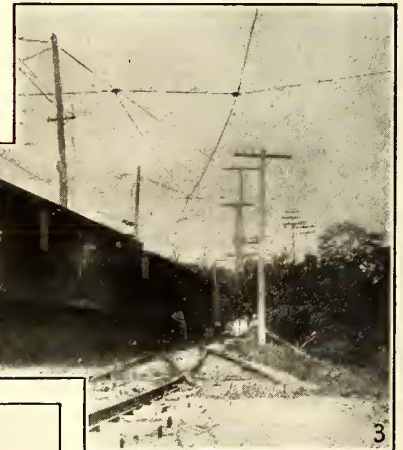
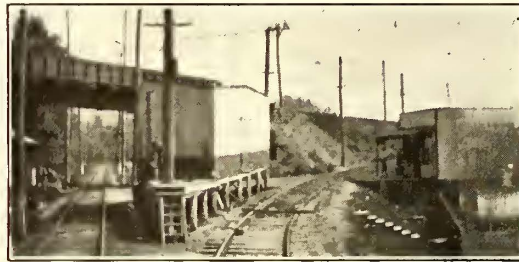
Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

MANY electric railway operators have contended that freight operation is impracticable on single-track heavy interurban passenger lines. As evidence of what can be done under these conditions, the practice of the Monongahela Valley Traction Company, Fairmont, W. Va., affords an interesting example. This company is not only enjoying a very heavy passenger business, requiring the use of two-car multiple-unit trains all day on its main line, but is also earning a substantial revenue from hauling carload and less-than-carload freight in motor cars and trailers, and also from steam road interchange.

This company is fortunately located in the heart of the famous coal regions of West Virginia. The Fairmont-Clarksburg division passes through a territory which has been only slightly developed. The offices of the company are located at Fairmont, which has a population of

about 18,000, with more than 25,000 people within a mile radius of its business center. Fairmont is not only in the heart of the coal and natural gas supply, but it also enjoys low rate electric power, developed from the inexhaustible water power and natural gas of the region. These facilities have attracted a number of large industrial plants to the district, which contribute largely to the passenger and freight business of the traction company. Branching out from this Fairmont-Clarksburg division, which is 25 miles long, are branch lines reaching Fairview, Mannington, Lumberport, Wolf Summit, Bridgeport, Weston, and other towns.

In addition to the above division and its branches, the system includes the line between Beverley, Ohio, and Parkersburg, W. Va., a distance of 36 miles. This is known as the Parkersburg-Marietta division, and it includes



TERMINAL FACILITIES AND EQUIPMENT CONTRIBUTING TO THE PROSPEROUS PASSENGER AND FREIGHT BUSINESS OF THE MONONGAHELA VALLEY TRACTION COMPANY

the city lines in Parkersburg, W. Va., and Marietta, Ohio, making a total mileage for this division of 60.84.

The Monongahela Valley Traction Company also operates two electrified divisions of the Western Maryland Railroad, one extending from Hutchinson on the main line of the traction company to Wyatt, and the other from Everson up to Helen's Run. Both passengers traffic and merchandise freight are handled over these lines, both of which are heavy coal carriers. Naturally with the large number of mines located along these lines, there are many people to be served with transportation as well as a means of getting their food supplies.

Owing to the extensive operation of the Consolidated Coal Company in the valley of the Monongahela River, rapid transportation is essential, for there is an extensive movement of people between trading centers, and of freight from the larger cities to the mining communities.

From the foregoing general outline of the system and the territory served, it can readily be seen that the Monongahela Traction Company is admirably located for doing both a heavy passenger and freight business. In visualizing this business, it should be borne in mind that the entire property is made up of single-track line, and that altogether provision has been made for only 4 miles of siding track.

FREIGHT OPERATION

Three distinct classes of freight service are rendered:

1. Dispatch freight handled in the baggage compartment of passenger cars.
2. Merchandise freight handled in motor cars and box-car trailers.
3. Carload interchange freight handled between steam roads and industries along the line.

The organization which handles the freight service comprises a general freight agent, whose office is at Fairmont, and additional local personnel as follows: At the Fairmont freight station there are an agent and three helpers and an equal force at the Clarksburg station. At the latter station, the crew on the western division car assists with the loading of cars in the morning. It will be noted from the schedule below that this car does not leave Clarksburg until 12.20 p. m.

In addition to the Fairmont and Clarksburg depots there are three other agency stations—at Fairview, Mannington and Weston. There are no agencies at the other towns along the line. At these non-agency points freight must

be shipped prepaid. There is not much pick-up freight at any of these non-agency points, but whenever there is any the shipper meets the car. Also freight received at such points is received at the risk of consignees.

Most of the stations at the non-agency points consist of a platform and a small shelter roof. At some of the towns there is a small storehouse belonging to one of the mining companies, which has a door on the track side locked with a switchlock. Supplies are placed in such storehouses by the freight crew and the door locked, the representatives of the mining company then obtaining the freight from the wagon side of the building by unlocking another door. This arrangement eliminates the necessity of an agent at these mining town stations.

One of the significant practices in connection with the operation of fast freight service on the lines of the Monongahela Company is the use of four men on each train, which usually consists of a motor car and one or more trailers. Very often these cars are "set out" at some point, and then there are times when a large amount of less-than-carload freight must be handled on and off a train and yet keep in the clear of passenger traffic. This necessitates quick action. The company has found that the use of four men is a great expedient under these conditions.

The manner in which the freight service is handled on regular schedule is indicated by the following table of the four runs:

RUN No. 1			RUN No. 3		
Name of Town	Arrive	Leave			
Fairmont	.....	8.15 a.m.	Fairmont	.....	10.15 a.m.
Clarksburg	..... 10.20 a.m.	11.15 a.m.	Clarksburg	..... 12.20 p.m.	2.15 p.m.
Fairmont	..... 1.30 p.m.	2.30 p.m.	Lumberport	..... 3.15 p.m.	3.30 p.m.
Fairview	..... 3.40 p.m.	4.10 p.m.	Fairmont	..... 5.15 p.m.	.....
Fairmont	..... 5.30 p.m.	.....		
RUN No. 2			RUN No. 4		
Clarksburg	.....	8.15 a.m.	Clarksburg	.....	12.25 p.m.
Fairmont	..... 10.30 a.m.	.....	Weston	..... 2.35 p.m.	3.15 p.m.
Mannington	..... 12.50 p.m.	1.20 p.m.	Clarksburg	..... 5.17 p.m.	.....
Fairmont	..... 2.45 p.m.	3.20 p.m.			
Clarksburg	..... 5.20 p.m.	.....		

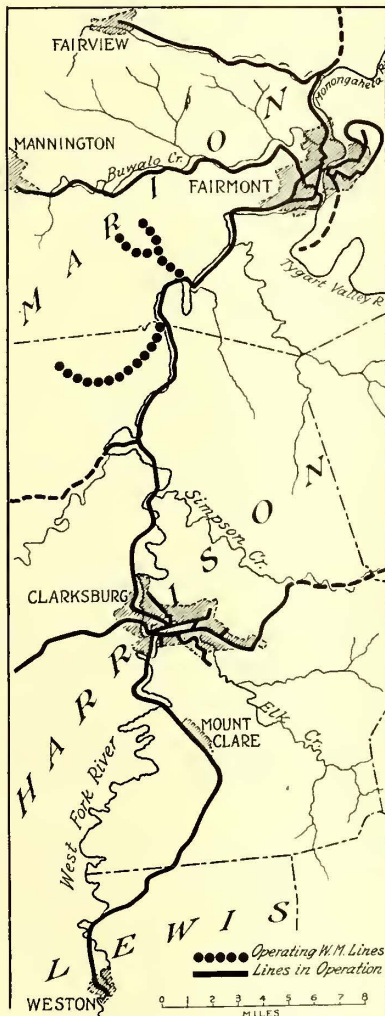
The traction company has steam railroad interchange facilities with the Baltimore & Ohio and the Western Maryland Railroads at seven different junction points. The following table gives an idea of the interchange business which the company handled during the first seven months of 1919:

Month	Locomotive No. 1000	Locomotive No. 2000	Total
January	43	32	75
February	33	106	139
March	49	107	156
April	98	152	250
May	276	122	398
June	229	91	320
July	171	142	313
Total (7 months)	899	752	1,651

In addition to many cars of mine supplies handled at the various interchange points, the traction company handles a number of tank cars to and from gasoline filling stations, located at Jackson Mills and at Hays. A construction company building a large plant besides the traction line has also contributed heavily to the interchange business.

EQUIPMENT USED IN FREIGHT SERVICE

The freight motive power rolling stock consists of five 20-ton capacity motor cars equipped with Westinghouse motors and HL multiple-unit control, and two 50-ton Baldwin-Westinghouse electric locomotives of the regenerative type which are used for handling the steam railroad interchange business. In addition to the above, there is one motor flat car which is used for handling rough freight and at other times is operated by the way department. In connection with the operation of the five motor cars,



MAP OF THE MONONGAHELA VALLEY TRACTION COMPANY SYSTEM

six 20-ton box-car railers are used. These have been found to be invaluable as they have added great flexibility to the handling of freight, in addition to the advantage they afford when used for carload movements.

As a member of the American Railroad Association the Monongahela Valley Traction Company enjoys the benefits of the per diem operation, accruing from steamroad interchange, as it owns, in addition to the electric railway rolling stock, 300 coal cars which are not supposed to be used for any other purpose than direct shipment of coal from its own mines to distant points and return.

A significant feature of the freight service of the Monongahela Company is that the freight claims have amounted to only one-half of 1 per cent.

How the Electric Railway's Dollar Has Depreciated

Testimony in Public Service Railway Fare Hearing Before the New Jersey Commission Brings Out Some Interesting Figures

MUCH interesting information on a variety of subjects has been presented in the course of the hearings before the Board of Public Utility Commissioners of New Jersey on the Public Service Railway fare cases. Among other things, Mortimer E. Cooley, dean of the College of Engineering, University of Michigan, in his testimony relative to his valuation of the physical property of the railway, presented some valuable cost data. These data were designed to show the change in the purchasing power of a dollar and, in view of the large number of fare petitions now pending over the country and the need of publicity on the subject of railway costs, are of special interest at this time. In the accompanying table the items under the column headed "1910" represent the costs in 1910 of that amount of the several materials which could be purchased for \$100 in 1918.

Item	1910	Item	1910
Poles and ties	\$41.50	Galvanized sheets	\$56.00
Steel rails, heavy Bessemer	51.00	Electrolytic copper	52.50
Steel rails, light	41.00	Copper wire	55.00
Soft steel bars	52.00	Lead	62.00
Steel beams	51.00	Tin	38.00
Structural beams	58.00	Cedar poles, New York	43.00
Pig iron, Lake Superior charcoal	52.00	Cedar poles, 6-in. top, Michigan	26.00
Pig iron, foundry	58.00	Ties, white oak, St. Louis	54.00
Cast iron pipe, 6 in.	45.00	Ties, yellow pine, New York	57.00
Wire nails	53.00	Machinists' wages	64.00
Wire rods	57.00	Common labor	68.00
Galvanized iron wire	49.00	Carpenters' wages	72.00

In the following table the cost of lumber at the mills is compared on the same basis as the materials in the previous tables.

Kind of Lumber	1910	Kind of Lumber	1910
Oak	\$61.50	Douglas fir	\$55.00
Maple	62.50	Hemlock	57.00
Ash	62.50	Yellow pine	48.00
Beech	54.25	Spruce	60.00

A little study of the table shows, as was brought out in the testimony, that the American dollar of 1918 "had a purchasing power about equal to the Mexican dollar of 1910."

The effect of the higher unit costs now prevailing on the reproduction cost of the Public Service Railway's property was also shown. On the basis of unit costs secured by averaging prices for the five-year period 1911-1915 inclusive, the reproduction cost of the property as of Dec. 31, 1915, was \$79,318,040. Using the average prices for the five-year period, 1914-1918 inclusive, the reproduction cost was \$91,424,350. For the prices, prevailing during 1918, however, it was \$117,890,529. These figures do not include development costs, which records show to be \$16,247,369

for the period of 1903 to the date of the hearing. Book records also show that \$7,993,092 has been put into the property since Dec. 31, 1918. This sum added to the reproduction cost, exclusive of development charges, on the 1914-1918 unit cost basis amounts to \$99,417,442, or in round figures to \$117,000 per mile of track. In the course of the hearing this cost was compared with per mile cost of \$138,000 for the San Francisco Municipal Railway and the Detroit United Railway valuation of \$110,734 per mile of track. It was also shown that 600 miles of the company's total mileage of 850 passes through paved streets involving 2,654,412 sq. yd. of paving. The reproduction cost of this paving amounted to \$5,572,000, which with other paving required by municipalities totals up to a grand total of \$6,105,000. This gives an average of \$7200 per mile of track.

Overhead percentages used in the appraisal were 7½ per cent for contingencies, 5 per cent for engineering and superintendence on way and structures and 2 per cent on equipment, and 2½ per cent for legal and administrative expenses.

Prof. H. C. Anderson, also of the University of Michigan and Dean Cooley's assistant in the valuation work, in his testimony presented the following overhead expense data on trolley wire:

Labor of erection	\$28 per mile.
Purchasing expense	1 per cent of material cost.
Material yard expense	¾ per cent of material cost.
Insurance	4 per cent of labor cost.
Time keeping and accounting	¼ per cent of labor and materials cost.
Commissions	5 per cent of labor and materials cost.

He also estimated that the reproduction cost would have been \$5000 per mile of track greater had it been necessary to include power-house costs.

Letter to the Editors

Zone Fares vs. Multi-Fares in New York

BROOKLYN, N. Y. Nov. 8, 1919.

To the Editors:

Those who have been declaiming loudly that the zone fare will never have a chance in Greater New York are asked to contemplate a couple of sample results that have followed the splitting up of the great consolidations into their intermediate or even original constituents. In the two instances which are presented, names are purposely omitted but the distances given are approximately correct.

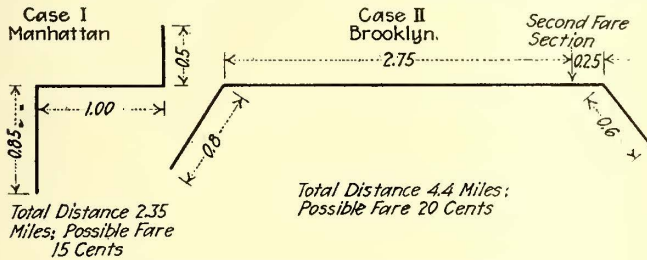
The writer had some business to transact on Broadway, Manhattan, then wished to proceed north to the theatrical district, then east across town and then north. The length of the first lap was 0.85 mile; of the second, 1 mile, and of the third 0.5 mile. Each lap was served by a car route so that walking was unnecessary.

In the old days, the total fare for this trip would have been just 5 cents, because a double transfer was granted to a destination in the same general direction—in this case north. Today, this trip would cost 5 cents per lap or a total of 15 cents. A 6-cent flat fare would make this 2.35 miles cost 18 cents and a 7-cent flat fare, 21 cents. Obviously, none of the three fares given would appear reasonable to the public. In this case, the writer rode two of the laps and walked the third, his decision in each case depending upon the frequency of service. If others were swayed by the same motive of saving time, it would be fair to assume a return of 10 cents but no more from this particular combination.

If a zone fare with a 3-cent minimum for 1 mile or less was applied to this case, the total fare possible would be

only 9 cents; but there would be far less boycotting of lines by prospects for two or more laps, so that the net result would be at least as good as getting two 5-cent fares from a smaller number of riders. No allowance is made here for the traffic that would be created by inaugurating a lower minimum fare in this densely-populated portion of the Borough of Manhattan.

The second case, which was in Brooklyn, illustrates a still more painful result of the break up of the holding company there. In that case, too, a three-lap journey was undertaken. The first stretch was 0.8 mile long, the second 3 miles long, the third, 0.6 mile long. An interesting complication was that the intermediate stretch is a double-fare line, a second fare being charged at the old city boundary. At first, even, it was necessary for passengers



SAMPLE RIDES AND FARES IN NEW YORK

to pay this second fare on a second car, but now a through service is given and the second nickel is collected en route. The former fare for the entire journey was 5 cents, but the present fare for the entire distance would have been 20 cents. As a matter of fact, it proved faster to walk the 0.75-mile and 0.6-mile laps than to wait for a car, nor did it seem good sense to pay 5 cents to ride over the 0.25-mile section. Hence, the actual ride was over the 2.75-mile section and the fare spent was 5 cents. With a base zone of 3 cents a mile thereafter, the cost of the ride actually taken (2.75 miles) would have been 9 cents and of the whole ride would have been 15 cents, against the illogical and actually non-collectible multiple fare of 20 cents.

In making these comparisons, of course, the writer is offering no criticism of any of the operating companies inasmuch as they are not at liberty to institute a genuine zone fare. The parallels are drawn to show how absurd and unjust such multiple fares are in comparison with the zone fare that begins low enough to catch the walker.

BROOKLYNITE.

National Research Council Expands Activities

THE Division of Industrial Research of the National Research Council is arranging for the formation of a co-operative association to plan and support fundamental researches in alloys. Although much valuable work has been done in this field by scattered investigators there is no doubt that a well-planned and co-ordinated effort by a co-operative association working under the general guidance of the National Research Council and composed of specialists representing both the manufacturers and the more extensive users of alloys can produce additional results of great importance.

It is planned to create a special scientific staff composed of a director and assistant director of research and a group of scientific investigators and technical experts who shall give their whole time to the work. To finance the organization each member of the co-operative association will pay \$1,000 a year, and all contributing members, who may be either alloy manufacturing or using individuals, firms or companies, are to benefit alike by the results of the researches.

Association News

1920 Mid-Year Conference

Cleveland, Ohio, the Place, Jan. 8, 1920, the Date
—Tentative Program Announced

THE committee on location and date, of which J. J. Stanley is chairman and S. M. Curwen and Lucius S. Storrs are members, have selected Cleveland for the location of the annual mid-year conference of the American Electric Railway Association on Thursday, Jan. 8, 1920. No selection has as yet been made as to the hotel or hall where the meetings are to be held.

The dinner will be in charge of a special committee, which will arrange all details including the program. Secretary Burritt advises that the personnel of this committee will be announced next week.

The tentative program for the meeting, which will be in two sessions, includes subjects of vital importance to the electric railways. At the morning session Williston Fish of Pittsburgh will present a resolution on depreciation and speak for it. This will be followed by three papers, each of which will discuss the resolution, after which discussion from the floor will be allowed.

At the afternoon session the main speaker will be Edwin Gruhl, of New York, who will address the conference on "What a labor contract should contain." This subject will likewise be discussed by others.

Other subjects that will be presented include reports from the committees on revision of dues, and changes in the constitution and by-laws. Due to the fact that in the past there have been numerous inquiries as to why more frequent conferences have not been held by the Association, a part of the afternoon session will be devoted to a discussion of this question, including the matter of speakers and subjects that will be of interest to the industry.

Toledo Men Entertain at Sylvania

ON OCT. 15 the "Rail-Light" orchestra, the company section glee club, and other members of the Toledo Joint company section went from Toledo to Sylvania on two special cars and gave an entertainment for the benefit of the employees of the Toledo & Western Railway.

Besides musical selections and recitations, the program included talks by members of the section on the benefit to be derived from membership, and Chairman Sommerville gave an account of his trip as section delegate to the Atlantic City convention of the American Association.

Chicago Section Elects Officers

AT the meeting of company section No. 6, consisting of employees of the Elevated Railroads of Chicago, held on Oct. 21, Charles H. Jones, recently appointed to be electrical engineer of the company, was elected president of the section. Other officers elected were as follows: Vice-President, W. C. Kelly; secretary-treasurer, M. W. Bridges; librarian, W. J. Boucher, and director for a two-year term, B. P. Rourke. With the exception of a talk by Miss Esther Burkett, of the "Loop" transportation department, on her work with the Red Cross and the Y. M. C. A. in Europe during the war, the program was entirely of an entertainment character. Luke Grant, manager publicity department, proved to be a very successful story teller.

News of the Electric Railways

FINANCIAL AND CORPORATE . . . TRAFFIC AND TRANSPORTATION
PERSONAL MENTION

A Get Acquainted Party

President Kealy Gives Dinner To Directors and Officials of Kansas City Railways in Honor of New Members

Philip J. Kealy, president of the Kansas City (Mo.) Railways, gave a dinner on Nov. 12 at the Hotel Muehlebach to the directors and officials of the company. The Mayors of Kansas City, Mo., and of Kansas City, Kan., and representatives of the local press were also invited to attend. There have recently been several changes in and additions to the staff of operating officials and the dinner was primarily for the purpose of promoting acquaintance and co-operation.

PRESIDENT KEALY URGES CO-OPERATION

Following the dinner President Kealy outlined the purpose he had in mind in asking those present to attend. He placed particular emphasis upon the necessity of co-operation by the public, the management, capital and the employees. He then reviewed briefly the operating and financial conditions of the company covering the past few years. He said that the last strike had cost the company \$1,500,000, but that the benefits which had resulted were worth the expense and could not have come about in any other way.

The work of building up an entirely new operating organization has been tremendous. To obtain 2000 satisfactory train service employees it has been necessary to employ more than 5000 men since Jan. 1. The labor turnover has now, however, been reduced in the transportation department to 50 per cent annually and it is expected that in a very short time this figure will be reduced to at least 30 per cent. At the present time there is a fine spirit of co-operation in the entire organization. For this President Kealy gave great credit to F. G. Buffe, recently made general manager. He also said that the success of the company in the strike was due in no small measure to the attitude of support at that time by Mayor Cowgill of Kansas City, Mo. He praised highly the work of the local Brotherhood and its able president, Warren Fisher. The membership in this organization has increased from seventy-five in November, 1918, to 2100.

OUTLOOK IS PROMISING

President Kealy said that the outlook for the company was promising. The extensive power plant rehabilitation work was nearing completion. The track had been rehabilitated and deferred maintenance accomplished so that now there remained only the necessary annual maintenance. The service had been greatly improved through rehabilitation in the shops and the purchase of new equipment, including safety cars. A receivership had been avoided and with the fare recently granted by the commission the company hoped to pull through intact and furnish to the citizens of Kansas City a service second to none.

In speaking as a recently elected director of the company, P. W. Gobel, Kansas City, Kan., praised the work which has been accomplished and the betterment of

service. He placed emphasis on the necessity first of good service and said that then the public will be willing to pay for the service which they receive. John H. Wiles, city representative on the board of directors, said that if only the information and facts which the directors have and understand could be placed before the public so that they also would understand there would be no hesitancy in giving the company the proper support and co-operation.

E. M. Harbour, city counselor, spoke highly of the betterment in service, praised both the company and the Mayor for the work done in breaking the strike and denounced radical unionism in general. He said he hoped the company would not find it necessary further to increase fares for this might drive people to the jitneys and good railway service was necessary to the growth and development of the city.

Each guest had a place card with his photograph and name thereon and each wore a ribbon on which were printed his name and position. After the speaking, there was a general get together and chat.

Way Out for Toledo

Mr. Doherty Advances Railway Settlement Plan Under Which City Is Expected to Act at Once

The city of Toledo, Ohio, was still without electric railway service when this was written. It is true that the prospects for the resumption of service had improved somewhat but all indications pointed the cars being idle for at least a month.

On Nov. 13 Mr. Doherty, head of the operating company in charge of the Toledo Railways & Light Company, stopped off in Toledo on his return East. He repeated that the resources of the company with respect to keeping the property going under the conditions that obtained had been exhausted and that the move in suspending service had only been taken when the firm's own opinion of what was proper and best to be done had been supplemented by the opinion of its local advisers and outside interest whose help had been sought.

Mr. Doherty did not leave the city, however, without holding out some hope. A summary of the proposal which he made is as follows:

1. That the City Council immediately enact both ordinances submitted to that body by the Toledo Railways & Light Company two months ago—the Taylor "service-at-cost" plan and the straight-out municipal ownership plan.
2. That organized labor, through the Central Labor Union, the newspapers, the commerce club and the public determine what is wanted in the meantime, so that when it goes to the polls to vote on the two ordinances he proposes it will give a decisive victory to one or the other.
3. That Mayor Schreiber immediately name competent persons to appraise the property of the company, the Doherty interests to pay \$25,000 toward this task.
4. That cars be put in operation as soon as the Council enacts the two ordinances and a valuation of the property is completed, the cars to be kept in operation until the voters determine which of the ordinances they desire.

On Nov. 17 it seemed that quick action was likely to follow. The city was reported then to be lining up its plans with a view to complying as quickly as possible with the ideas advanced by Mr. Doherty for an immediate appraisal of the railway.

New Franchise Suggested

The City Manager of Norfolk Advocates Local Railway Commission and Division of Earnings

Charles E. Ashburner, city manager of Norfolk, Va., has advanced for the approval of the City Council and the officers of the Virginia Railway & Power Company what might be termed a community-in-interest plan for stabilizing the relations between the company and the city. The plan has its basis in a public utilities commission for the city, to consist of six members who in addition to rendering assistance in the matter of operations in the city shall consider the advisability of revising the terms and conditions of all existing contracts between the city and the company.

AN EFFORT AT CO-OPERATION

It is explained in Mr. Ashburner's memorandum that while it is recognized by both parties that the power vested in the Council cannot be delegated to the railway commission and that while the officers of the company must accept their full responsibility, the plan is an effort on the part of those concerned in good faith to secure the assistance of disinterested and capable men, and that both parties pledge themselves to co-operate in securing the full benefits of action with the commission.

A memorandum is attached to the plan which suggests a possible working basis for a new agreement between the company and the city. It advocates a complete new franchise in place of the existing grants and outlines the following possible distribution of earnings:

Six per cent on the net operating revenue, after the payment of taxes, shall go to the city as compensation for the use of the streets.

Interest and the necessary sinking fund shall be paid on the lands outstanding against the Norfolk properties; the amount of said bonds to bear the same proportion to the total bonded debt of the Norfolk system as the average (running over five years), gross revenue of the division bears to the total gross revenue of the Virginia Railway & Power Company, from its street railway division.

Six per cent shall be applied as a dividend on the preferred stock of the company and 3 per cent on the common stock. Any excess net revenue shall be divided equally between the city the common stockholders and the employees, below and including the superintendent. The amount of stock on which a return is to be allowed is to be determined on the same basis as that fixed for the bonds.

MEASURE REGARDED FAVORABLY

The commission would be empowered to recommend and report in favor of increased charges for service rendered in transportation or otherwise. It would also have recommendatory powers with respect to service regulations, the expenditure of additional moneys for improvements and have power to recommend what it considered the best means of securing such additional capital as might be needed to carry out any recommendations made by it and agreed to by the company.

The vote on the first reading of the measure was unanimous. It is reported that no opposition to the measure is likely to develop.

Unanimous Report on Railway Relief

Special Massachusetts Commission Reports Against Public Ownership—Many Important Recommendations

The final report of the Massachusetts Street Railway Commission was filed with the clerk of the Senate on Nov. 15. It recommends sixteen legislative measures. An outstanding feature of this report is the fact that it is a unanimous one, signed by all the thirteen members of the commission. There are two supplemental statements only, in which a minority state a difference of opinion on certain points.

PERSONNEL OF COMMISSION

Charles G. Washburn is chairman of the commission, John D. Wright, secretary. The other members of the commission are, R. W. Boyden, Charles Giddings, David A. Belden, Charles S. Ashley, Leonard F. Hardy, Frank G. Allen, William H. McDonnell, David J. Maloney, William A. Kneeland, Benjamin L. Young and John J. Walsh.

The most important act proposed, provides for the establishment of transportation areas and the operation of electric railways under so-called public managers similar to measures in the Public Control Acts under which the Boston Elevated Railway and the Eastern Massachusetts Street Railway operate.

The bill contains twenty-three sections and under its provisions a town or city by vote of its citizens may petition the Public Service Commission of the State to establish a transportation area. If this petition is granted, the Public Service Commission is authorized to contract with any electric railway for the lease and use of its property within the limits of the transportation area. Upon the execution of the contract, and the acceptance by a majority of the holders of the common stock, and by the cities and towns petitioning and included within the proposed transportation area, the act becomes effective. Public control for a period of ten years from the time the act takes effect is provided for. Local managers, charged with supervision and direction of operation, are to be appointed by the Public Service Commission, subject to the approval of the Governor and Council of the State.

Provision is made for special assessment upon towns and cities within the transportation area in case of a deficit in operation. Where expense must be incurred for the rehabilitation of railways within the proposed area, provision is made for the railway to issue preferred stock at 6 per cent per annum to meet the maturing obligations. The bill also authorizes the State to exercise an option of purchase on the property at any time during the continuance of the contract.

CITIES SHOULD ASSUME SUBWAY RENTALS

Another important measure is an act to provide the assumption of subway rentals by the communities served. This act recommends that during the period of public control a sum equal to the amount of subway rental, including the amount to be paid by rental or otherwise for the use of the Cambridge Subway, be assessed upon the cities and towns in which the company operates.

An amendment to the Public Control Act under which the Boston Elevated Railway operates provides greater freedom for the trustees in fixing rates of fare and includes a provision whereby communities served in order to secure lower fare, may petition the Public Service Commission for the right to contrib-

ute to the cost of operation to an amount not to exceed two dollars per \$1,000 on their assessed valuations.

An act providing for the regulation of jitneys recommends making them common carriers and as such subject to public control. The commission has placed on record the opinion "that jitneys should be subject to the same control as that exercised over other classes of common carriers. It should be understood, too, that jitneys cannot at present replace the electric railway. We are satisfied that the unregulated jitney and the electric railways cannot exist as competitors in the same territory. The public must choose one or the other. . . . The jitney has run absolutely wild in many cities, often unregulated and irresponsible. As railways are regulated by the Public Service Commission, so should jitney service be supervised by public authorities. Unless this is done, service by trolley must be abandoned in much of the territory that is now served."

Among other important measures recommended by the Street Railway Commission are an act authorizing the State to purchase the Cambridge Subway; a bill which provides for the use of public credit to secure additional capital for the Boston Elevated Railway; special acts as amendments to the Public Control Act granting relief to the Boston Elevated Railway; an act for the relief of the Eastern Massachusetts Street Railway wherein the excise tax, amounting to \$277,000 shall be abolished and giving the towns and cities the right to contribute to the cost of operation in order to avoid the necessity of abandonment of certain of the existing lines of the company and to make possible lower fares.

The passage of legislation is recommended to provide for continuity of service on publically controlled electric railways. This bill if enacted into law would make it unlawful for any officers, employees, agents or other persons in service of any railway publically managed or controlled, to obstruct or prevent the operation of street railways by concerted action, combination or agreement. Provision is made in this bill for bargaining by the submission of any disputes relating to wages, hours of labor or working conditions, to a representative board whose decision shall be final. The bill also provides that in case any person in the employ of the publically controlled railway violates the provisions of the bill he shall be discharged from the service and thereupon shall become ineligible to re-employment or re-appointment in any capacity in that service for a period not exceeding one year.

PUBLIC OWNERSHIP NOT FAVORED

The majority of the Street Railway Commission does not favor public ownership. As regards the Boston Elevated Railway the report states that the majority believes it wise to give the present experiment of public management a longer trial. It says: "The Public Control Act has been in operation for a little over a year under the most unsettled business conditions. Already the revenue derived from the 10-cent fare is deemed by the trustees adequate to meet the obligations of the road. Further experience may make it clear that a readjustment of fares, through the creation of a zone system, will make possible a materially lower basic fare. The effect of removing some of the burdens now imposed through taxation and otherwise if our recommendations be adopted, is yet to be determined. The State of Massachusetts now has public control which could not be made more effective by public ownership."

Respite Granted Denver

Mayor Signs Six-Cent Fare Ordinance—Wage Question to be Submitted to Arbitration

Mayor Bailey of Denver, Col., on Nov. 12 signed an ordinance authorizing the Denver Tramway to charge 6-cent fares on its Denver City lines. The ordinance had been passed by the City Council on Nov. 10 in an effort to prevent a strike of the company's employees, who had threatened to walk out unless they were granted an increase in pay. The 6-cent fare became effective at midnight on Nov. 14.

Mayor Bailey approved the ordinance following the signing of an agreement between company officials and employees in which both sides undertook to abide by the award of a board of arbitration as provided in the contract now existing between the company and the union. The suggestion for such an agreement came from the Mayor, who had refused to sign the ordinance unless the company first came to an understanding with its employees.

Negotiations looking to the settlement of the wage controversy were scheduled to begin on Nov. 14 on the understanding that there should be no suspension of operation. The men are now receiving 48 cents an hour and are demanding 70 cents an hour. Any increase awarded by the board of arbitration is to take effect on Dec. 1. The company contends that it cannot raise wages above the present level, even under a 6-cent fare.

The Denver City Council took action to relieve the tramway situation caused by the rejection of both the cost-of-service and the elastic 6-cent fare plans at the poles at a special election on Oct. 22. The company had insisted that it must have relief in the shape of higher fares. The action of the voters in denying its appeal was announced in the issue of the ELECTRIC RAILWAY JOURNAL for Oct. 11, page 730.

Following defeat of both plans by popular vote, the company took steps to secure relief in some other way. The carmen, who were demanding further wage increases, were told that, unless fares were advanced, their pay would be lowered instead of being raised. The strike threat followed.

Confronted with the prospects of an immediate strike of its carmen, the company on Oct. 27 began circulating petitions for an initiated ordinance which would permit it to charge 6-cent fares under practically the same conditions as those provided in the temporary ordinance passed at the time of the strike threat last July and due to expire on Oct. 29. On the same day Mayor Bailey issued a statement with reference to the tramway situation, in which he said:

At the election held Oct. 22 last the people voted down both propositions presented for the settlement

of the tramway question. Therefore, on Oct. 29 the tramway fare reverts to 5 cents. There is much said in the public press and much talk outside of it about a strike of tramway employees and an interruption in the tramway service.

Under the state law thirty days' notice is required to be given before there is a change made in wage conditions—that is, before a reduction can be made in wages by the tramway company. I believe the tramway company will comply with this law and that, therefore, no strike is imminent.

I shall use every effort to see that the law is enforced whatever may occur and every endeavor to see that there is no interruption in transportation service.

It is impossible at this time to say what will be necessary to be done. I am watching developments carefully and am giving them full consideration and at the proper time will take such steps as may be necessary fully to protect the citizens of Denver in obtaining adequate transportation facilities.

To bring an initiated ordinance before the City Council required the signatures of 5 per cent of the registration at the last mayoralty election. On this basis the company had to secure 2700 signatures to initiate the proposed ordinance. Even if the plan worked according to schedule there would necessarily be a lapse of twelve days between the expiration of the temporary ordinance and the earliest date on which the permanent one could go into effect.

The ordinance as passed by the Council on Nov. 12 and later signed by the Mayor, provided that the company shall be allowed to collect a 6-cent fare with a 3-cent fare for children and free transfers. The right to repeal or change the provisions of the ordinance is specifically reserved to the city. Section 6 states that the passage of the ordinance was necessary for the preservation of the public health and public safety. Provision was made that it should become effective immediately after its signing and publication.

MAYOR STATES HIS CASE

Before signing the ordinance Mayor Bailey demanded that the tramway officials consent to examination of the company's books from time to time to ascertain the financial results of the 6-cent fare. To this proposition the company consented. The examinations are to be made by the city auditor, assisted by two other certified public accountants appointed by the Mayor.

In a statement issued at the time of approving the ordinance Mayor Bailey called attention to the fact that the law was subject to repeal by the Council or the voters at any time. He declared that if examination of the company's books revealed that a return to a 5-cent fare was warranted at any future time, he would take steps for the repeal of the ordinance.

He explained, in reference to his campaign pledge for a 5-cent fare, that, under existing conditions, the people would rather pay a flat 6-cent fare than to submit to the inconvenience of a strike.

Mayor Bailey's statement follows:

I have this day approved an ordinance passed by the City Council providing a 6-cent fare for the Tramway Company. I think the people are entitled to know my reason for this action. The employees recently demanded an increase in wages from 48 cents to 75 cents per hour, and a few days ago, by a vote of 832 to 2, voted to strike unless they could obtain some satisfactory adjustment of wages with the company.

During the campaign at which I was elected I promised the people that I would repeal the 6-cent fare ordinance, then in effect; and promptly kept my promise. After the 5-cent fare went into effect a dispute arose between the Tramway Company and the employees over wages and a strike resulted. In order to settle this strike and get the cars running a temporary arrangement was made by which a 6-cent fare was continued for a period of ninety days.

During that time there was submitted to the people, at a special election, two propositions for a settlement of the question, both of which were defeated because under the operation of either plan it was possible for the fare to go above 6 cents.

In view of the previous strike, and the demand of the employees for a second increase in wages, now pending, and the inconvenience to the people of the city which would result from a failure to have street car transportation, I believe if a flat 6-cent fare plan had been submitted to the people that it would have been carried by the people.

Since the temporary 6-cent fare, which was granted after the strike, expired on Oct. 29, last, the Tramway Company has been operating on a 5-cent fare. The problem has been an extremely difficult one to handle. It is one that has caused much grief, distress and discord in many other cities of the United States. I have been anxious that Denver should not suffer as other cities have suffered, and are suffering, from strife and bloodshed; and that serious inconvenience should not result from interrupted street car transportation during the severe weather which is now approaching. In view of these various circumstances, and especially the strike which has now been voted by the employees, and the likelihood that it will be necessary for the Tramway Company to pay a further increase in wages to its employees, and an agreement which I have this day obtained between the company and representatives of the employees to arbitrate the wage dispute, I deem it to be in the best interest of the people of the city that the 6-cent ordinance be approved by me.

Under all of the circumstances, many of which have arisen since I have taken office, I believe the people of the city would rather have a flat 6-cent fare than suffer the hardships of a long strike, which would undoubtedly result if the 5-cent fare remained in effect.

In the action I have taken I have been guided solely and only in the interest of justice and what I conceive to be for the best interest of the people whom I represent.

The ordinance granting a 6-cent fare is subject to repeal by the Council or the people at any time, and I have the right to appoint a committee to examine the books and records of the Tramway Company as often as I deem it necessary so to do, and if by an examination of the financial affairs of the Tramway Company I find the financial condition warrants the restoration of a 5-cent fare I shall unhesitatingly make such a recommendation to the Council, or the people, as the case may be.

Detroit Rejects the Tayler Plan

After Tie Vote in Council Railway Commission, Which Had Recommended Tayler Proposal, Resigns

At a recent joint session attended by the Street Railway Commission of Detroit, Mich., Mayor Couzens and the members of the Council, the commission resigned in a body. The resignations were accepted, after the Council by a tie vote turned down a resolution favoring the adoption of the report of the commission recommending the Tayler plan of railway operation for Detroit. An amendment to the resolution was offered to the effect that the city would build all new lines and replace old ones when necessary with the ultimate result that the city would own the entire system.

COUNCIL DIVIDED

The Council was about evenly divided, part of the members standing with Mayor Couzens, who wants to bond the city for \$15,000,000 to build extensions. The plan on which cars would be run or who would operate them was not discussed by the Mayor further than to state that he did not favor any negotiation with the Detroit United Railway.

The break in the deadlock in the Council forestalled action by the committee of business men formed to take the railway situation out of the hands of the officials of the city. An ordinance was introduced by one of the Councilmen acting for the Mayor, and was ordered printed and laid on the table as required by the City Charter. It calls for an advisory vote on the Tayler plan on April 5, 1920.

It has been agreed by some of the contending parties that the Street Railway Commission should negotiate with the Detroit United Railway and report back to the Council the results of its negotiations. Then if their efforts resulted in a reasonable proposition, this proposition should be submitted to the people at the earliest possible moment.

OUTLINE OF MAYOR'S PLAN

In answer to the charge that he was blocking developments in the railway situation, the Mayor stated that under his plan the Department of Public Works would start digging and laying tracks on April 6, 1920, if the people on April 5, adopted the \$15,000,000 bond issue for new extensions, while if the Tayler plan were put up in the form of an ordinance and adopted, the Detroit United Railway would have to negotiate for the money before starting construction. Under his plan the Mayor also claims a saving of \$1,000,000 annually in interest charges. It is held that advocates of the Tayler plan believe that if that plan were submitted in the form of an ordinance the people would adopt it, thinking to end the turmoil.

The Mayor's plan is to start negotiations immediately with the Detroit United

Railway to get the best possible agreement, if the people vote for the Tayler plan April 5, this agreement to be submitted to the voters the following November. In the meantime tracks could be laid.

The Corporation Counsel has expressed his opinion that the charter makes it mandatory on the Mayor to acquire, and failing in that to construct, own, maintain and operate a railway system. The Mayor says the mere fact that a portion of the citizens say the people have twice refused to acquire the railway system does not release him from his instructions in the charter to construct a system.

The incomplete returns from a referendum vote conducted by the Board of Commerce to obtain an expression of sentiment among business men show a large majority in favor of the Tayler plan. Abner Larned, former president of the Street Railway Commission, stated that unless the Council and Mayor give the people a chance to vote on the Tayler plan at the April election it is almost certain to be placed on the ballot as an initiated ordinance. The Mayor has announced that should the Council pass a resolution calling for the adoption of the report of the resigned commission, he would veto it. A two-thirds majority would be necessary in the Council to carry the resolution over the Mayor's veto.

Employees Appeal to Commission

The employees of the Utah Light & Traction Company, Salt Lake City, Utah, have filed with the Public Utility Commission of that State a petition urging that body "to hear and consider the financial condition of the company and the condition of the employees, and allow, if it finds the exigencies justify it, such raise in fares as will induce the company to permit some relief to the employees and at the same time increase the efficiency of the service."

A considerable part of the communication is devoted to a review of the needs of the men. In conclusion they say:

Your petitioners are anxious to avoid, if possible, the continuance of such conditions as may force the employees of the traction company to the desperation of seeking relief against the terms of the contract by quitting and interrupting service. We desire that conditions may be such that every contractual obligation of the present employees may be fulfilled, and we are appealing to you to assist us in the matter. We realize that without the consent of the company the existing contract cannot be reopened and that it is necessary, in order to secure such consent, that the Public Utilities Commission shall hear and consider the financial condition of the company and the conditions of the employees, and allow, if it finds the exigencies such as to justify it, such raise in street car fare charges as will induce the traction company to open the contract and permit some relief to the employees and at the same time increase the efficiency of the service.

Bill Against Strikes

Provisions of Measure Urged for Enactment by the Special Commission in Massachusetts

In the account which appears on page 871 of this issue of the *ELECTRIC RAILWAY JOURNAL* dealing with the report of the special legislative commission on electric railways in Massachusetts, reference is made to the labor legislation suggested. The bill to prevent strikes, included in the labor legislation program, follows:

Sec. 1. It shall be unlawful for any officers, employees, agents or other persons in the service of any street railway in this Commonwealth, publicly managed or controlled, by concerted action, combination or agreement, to hinder, obstruct or prevent the continuity of service of such street railway, or to threaten such hindrance, obstruction or prevention.

Sec. 2. The duly constituted operating officers of any street railway system and every person or association of persons in its service, shall, by written instrument or instruments, agree to submit to arbitration by a board or boards, whose decision shall be final, to be selected as therein provided, every difference or dispute relating to wages or compensation, hours of labor or working conditions, and any disputes or differences that may arise in the course of the operation or management of such system, and to abide by the findings, determination or award of such board. Copies of all such written instruments shall be filed with the Public Service Commission.

Sec. 3. The board shall hear the parties or their representatives and determine all matters in dispute, and such determination shall be in force for such a period of time as the board may fix. To the extent that the matters in issue are controlled by statute or may require legislation the board may make recommendations to the General Court, with drafts of such proposed legislation as may be necessary to carry the findings or recommendations into effect.

Sec. 4. In case of the failure of the parties to complete the selection of an arbitration board in accordance with said agreement or to make provision therefor, within sixty days of a request by either party, or by the governor, for the selection of such a board, the Public Service Commission shall serve as such a board and shall exercise all the powers set forth in the preceding section.

Sec. 5. Any person violating the provisions of Sec. 1 shall thereupon be discharged from the service, and his continuance in such service, or his re-employment or re-appointment in any capacity therein for a period not exceeding one year, as the Public Service Commission may determine, shall be unlawful.

Municipalization Arranged

Canadian Border Cities Approved the Plan to Take Over Suburban Lines of the Detroit United

Delegates representing Windsor, Ont., and eight other border municipalities have unanimously approved plans for the purchase of the Sandwich, Windsor & Amherstburg Railway, a subsidiary of the Detroit United Railway, at a cost of \$2,100,000. Sir Adam Beck, chairman of the Ontario Hydro-electric Commission submitted plans, and as a result the project will be sent to the ratepayers for decision thereon, in an election to be held at an early date.

ANOTHER FARE QUESTION

It is understood that the taking over of the electric light and power plant owned by the company and valued by the commission at \$190,000, will be voted on by Windsor taxpayers only as a separate by-law, since the plant is located in Windsor and furnishes light and power for the Windsor consumers.

In explaining the proposed method for financing the purchase, Sir Adam Beck stated that the commission had been authorized to issue forty-year bonds, the only obligation incurred by the municipalities being the guaranteeing of the bonds. All expense, both original cost and maintenance charge, will be supplied by the earnings of the lines and paid by the car riders.

It is believed by the commission that the present rate of fare is sufficient to make

the railway a paying proposition, but in event it is not, a 5-cent fare will be charged, which it is believed will be equitable in view of the fact that extensions to the system will be made as soon as possible, to give adequate service to the people in need of it.

The cost of the system, which will be apportioned among the nine municipalities, also includes an item of \$250,000 for new lines. Windsor's share of the total cost is fixed at approximately \$745,000, or about one-third, the remainder to be apportioned among the other eight municipalities. In the event the by-law is defeated by voters in one of the municipalities concerned, it is believed that the road could still be purchased and taken over by the approving municipalities. In their order as to size of apportionment, the other towns included with Windsor are Sandwich, Sandwich East, Sandwich West, Walkerville, Anderson, Amherstburg, Ford and Ojibway, Ojibway's apportionment amounting to \$44,515.

SIR ADAM DEFEATED

Sir Adam Beck, chairman of the Ontario Hydro-electric Commission, was defeated at the recent election by a Labor candidate at London, Ont. It is said now that this may hinder the plan to purchase the Sandwich, Windsor & Amherstburg Railway. Sir Adam will have charge of the commission's business until the new government takes over the reins, but as the purchase of the railway serving the border municipalities cannot be made without backing from those who may constitute the government, the proposal to lay the plan before the ratepayers of the eight municipalities some time in December may be delayed, it is said.

News Notes

Mayor Suggests Railway Be Purchased.—A by-law to authorize the purchase of the London (Ont.) Street Railway by the city will be submitted to the ratepayers at the next municipal election, providing the City Council adopts the suggestion of Mayor C. R. Somerville.

Row Over Municipal Procedure.—The Civic Board of Control of Toronto, Ont., broke up in a row on Nov. 6 after passing unanimously Mayor Church's motion to submit to the people the question of authorizing a commission of three, appointed by the Council, to operate the Toronto Railway when the city takes it over in 1921. It was only by three to two, however, that the Board adopted the Mayor's draft act appended to the resolution for submitting the question. Comptroller Cameron accused his colleagues of having "it all cut and dried."

Railway Offered to City.—The City Council of Columbia, S. C., has called a meeting to consider an offer submitted by E. W. Robertson, president of the Columbia Railway, Gas & Electric Company, to sell to the city the railway system now operated by that company. By authority of the board of directors of the company, the offer was made to sell the railway system to the city on the basis of its present valuation. What action the City

Council will take is not known. Mayor Blalock stated that a vote of the people will be had if the City Council favors the proposition.

Inductive Interference Alleged.—The Board of Commissioners of Sullivan County, Indiana, has filed suit in the County Circuit Court against the Terre Haute, Indianapolis & Eastern Traction Company, asking that the franchise under which the company is permitted to build lines for transmitting high-voltage current along public highways in the county be annulled and that the company be enjoined from using the public highways for this purpose. The matter seems to hinge upon whether the company should have an exclusive right to use the highways for high-voltage purposes. It was alleged that a telephone company using the same highway cannot transmit its messages because of interference from the high voltage of the railway.

Union Fails to Coerce City.—City Attorney John R. Dillard has approved the position taken by Mayor J. O. Stahlman of Bluefield, W. Va., relative to the protest made by the Central Labor Union against the Appalachian Power Company in which the labor body asked that the city officially take action to have the men now employed by the company in the operation of its cars removed, on the alleged ground that they are inexperienced and dangerous to the public. In his opinion the city attorney said that the city could not have anything to do with the controversy between the Appalachian Power Company and its former railway employees. In connection with the protest made by the Central Labor Union before the City Council, Attorney Dillard said the Appalachian Power Company was responsible for any damage done to the public in the operation of its cars and that the city could in no way interfere, nor under the circumstances would it attempt to interfere, with public utility corporations.

Suggests Plan to Prevent Utility Strikes.—The Merchants' Association of New York has submitted to the Chamber of Commerce of the United States for referendum vote a plan for the prevention of strikes by employees of public utility corporations. The plan, which was submitted to the Merchants' Association by Henry R. Towne, chairman of the board of the Yale & Towne Manufacturing Company, provides that service shall be regulated by law, so that each person who enters employment shall be legally obligated by contract to continue for a specified time. During the prescribed period he cannot lawfully quit nor may he be discharged except according to the provisions of the contract. Resolutions adopted by the Merchants' Association say that the functions of public utilities, exercised only by public authorization, become public agencies and should be controlled by law in the public interest. To obtain this result, the resolution says, continuous and uninterrupted operation must be maintained, and therefore strikes should be guarded against by law.

Program of Meeting

New York Electric Railway Association

The New York Electric Railway Association will hold its twenty-third quarterly meeting and dinner at the Hotel Astor, New York City, on Dec. 10. The program of subjects to be discussed and the list of speakers have not yet been announced.

Financial and Corporate

Mr. Perkins Permanent Receiver

Robert W. Perkins, president of the Shore Line Electric Railway, Norwich, Conn., was made permanent receiver of the company by the Superior Court within and for the County of New London, on Nov. 14, 1919. The court ordered and adjudged "that four months from and after Dec. 1, 1919, be, and the same is, hereby limited for the presentation to said receiver of claims against said estate (plant), and all claims not so presented be forever barred, and that said receiver give notice to all parties concerned of said limitation and that all claims not presented within the time limited will be forever barred, and of the address to which claims could be sent to him by mail, by publishing said notice in three issues each of the Norwich *Bulletin* and *The Day*, newspapers published in Norwich and New London, and by causing a copy of said notice to be mailed, postage prepaid, to each known creditor, all on or before Dec. 1, 1919."

The receiver has announced that claims may be sent to him at Norwich, Conn.

Receiver for West Virginia Road

As the result of a suit by the trustees of the company, Aaron Garlow has been appointed receiver of the South Morgantown Traction Company, Morgantown, W. Va. Service on the line will be resumed immediately according to an announcement made following the appointment of the receiver.

The company recently made application to the State Public Service Commission for an increase in rates. A hearing was set for Nov. 12. The company has asked for an 8-cent fare with fourteen tickets for \$1 for adults and sixteen tickets for \$1 for school children.

Service on the South Morgantown line has been suspended for several weeks because of the inability of the railway to pay its outstanding bills. The service prior to that time, however, was subjected to occasional suspensions and was a source of annoyance to the people of Greenmount, South Park and South Morgantown.

Suit for Foreclosure Commenced

Suit has been started in the United States District Court of the Eastern District of Illinois, before Judge Evans, by the Northern Trust Company, Chicago, against the Aurora, Elgin & Chicago Railroad for the foreclosure of the first and refunding mortgage, amounting to nearly \$4,750,000. The court has issued an order extending the receivership of the electric railroad.

The mortgage of the company is dated July 1, 1906. It secured (originally) an authorized issue of \$25,000,000 of 5 per cent bonds due on July 1, 1946, but subject to call on or before July 1, 1911, at 102½ and interest. The Northern Trust Company, Chicago, is trustee. Interest is payable on Jan. 1 and July 1 at the office of the Citizens Savings & Trust Company, Cleveland, Ohio.

Of the bonds \$2,979,000 have been sold, \$4,628,000 are in escrow to take care of

underlying bonds and \$7,393,000 are being held to provide for future improvements and extensions.

In 1911 the authorized issue of bonds under this mortgage was reduced to \$15,000,000. Of the \$2,979,000 of these bonds outstanding on June 30, 1911, \$272,000 were issued against the Elgin, Aurora & Southern Railroad bonds acquired under sinking fund operations. The remaining \$2,707,000 were issued against extensions, improvements or betterments made or acquired since the consolidation.

Offer to Purchase International Bonds and Stocks Rejected

George F. Rand, chairman of the board of directors of the Marine Trust Company, Buffalo, N. Y., acting on behalf of a committee of Buffalo bankers and businessmen, on Oct. 3 made an offer to the bondholders' committee of the International Traction Company, Buffalo, to purchase \$17,000,000 of the International Railway of Buffalo stock and the \$5,000,000 underlying bonds, which carry control of the system.

Mr. Rand's offer to purchase was considered at several conferences at which Thomas E. Mitten, Philadelphia, a member of the International Traction bondholders' protective committee, was present, but it has apparently been turned down. Mr. Rand says he has withdrawn his offer.

In a statement in reference to the Buffalo traction situation, Mr. Rand says the attitude of the city officials toward the company and the antagonistic feeling of the public as evidenced by the recent election tend to make the outlook anything but promising for any prospective purchaser of the bonds.

Corporation Counsel Urges Consolidation

Among those in Washington who are urging the consolidation of the Washington Railway & Electric Company and the Capital Traction Company is Conrad H. Syme, corporation counsel of the District of Columbia. Mr. Syme made public some of his views on the matter in a speech which he delivered recently. He said that if the railways do not agree to a merger Congress should condemn and seize them. He favors stopping the taxation of all utilities. In this connection he pointed out that it is the consumer who ultimately pays the tax bill in increased charges for service.

He pointed out the essential differences between the two railways operating in Washington, drawing attention particularly to the great density of traffic and compactness of the system of the Capital Traction Company as opposed to that of the Washington Railway & Electric Company. The differences between the structures of the two companies had made it very difficult to decide the recent fare case, for it would not do to have two companies in a city, one operating at a fare different from the other.

Another matter to which he referred was the recent valuation report, digested previously in the *ELECTRIC RAILWAY JOURNAL*.

Brooklyn Deposits Urged

The work is well under way of organizing to protect the holders of securities of the companies included in the Brooklyn (N. Y.) Rapid Transit Company, now in the hands of Lindley M. Garrison as receiver.

On Nov. 20 it was announced that the time had been extended for the deposit of the first consolidated mortgage 4 per cent gold bonds of the Nassau Electric Railroad. The extended date is Dec. 15. Holders are urged to deposit, it being pointed out that they should be in a position to bring foreclosure suit and to make application to have the Nassau road operated separately if such independent operation appears desirable.

On the same day the holders of bonds secured by the first consolidated mortgage of the Brooklyn, Queens County & Suburban Railroad were urged to send their names to a committee headed by Haley Fiske, which committee has a deposit agreement in course of preparation.

Financial News Notes

Valuation Figures Disagree.—The engineers of the Board of Public Utility Commissions of Manitoba have completed their appraisal of the property of the Winnipeg Electric Railway. The value reported to have been found by them, exclusive of considerable realty, is about \$20,000,000. It is reported unofficially that the figure found by the company's engineers is about \$26,000,000.

First Indianapolis Dividend Since Reorganization.—At the meeting of the board of directors of the Indianapolis (Ind.) Street Railway, held at Indianapolis on Nov. 12, it was voted to declare a dividend of 1½ per cent for the quarter from June 1 to Aug. 31, 1919, on the preferred stock of the Consolidated Indianapolis Street Railway, payable on Dec. 1, 1919. It was also voted to send a circular letter to the stockholders of the old Indianapolis Street Railway requesting them to forward their stock certificates to the treasurer of the company and receive in lieu thereof an equal number of shares of preferred stock of the new consolidated Indianapolis Street Railway.

Indianapolis Bonds Cancelled.—Cancellation of the \$2,000,000 of bonds of the Indianapolis Traction & Terminal Company, Indianapolis, Ind., and of the old Indianapolis Street Railway held in the sinking fund of the Traction & Terminal Company has been completed, in compliance with an order of the Indiana Public Service Commission. Robert I. Todd, president of the company, has obtained the consent of 80 per cent of the bondholders of the Indianapolis Traction & Terminal Company and 65 per cent of the bondholders of the old Indianapolis Street Railway. The commission, in approving the reorganization of the railways of Indianapolis, directed that the bonds held in the sinking fund and on which interest was being paid, should be cancelled.

Traffic and Transportation

Rates in Gary Increased

Indiana Commission Grants Six-Cent Fares and Also Offers Advice About Regulating Jitneys

In an order which became effective on Nov. 1, the Public Service Commission of Indiana, acting on a petition of the Gary Street Railway, granted an increase in rates in Gary, Hammond and East Chicago from 5 cents to 6 cents and an increase in the rates between these cities from 10 cents to 20 cents. In its petition the company had requested permission to make a transfer charge of 3 cents. This was denied by the commission.

In petitioning the commission the company stated that no dividends had been paid on either preferred or common stock; that the company would in the near future be required to re-lay certain of its tracks and re-pave certain streets in the city of Gary at a cost of \$350,000; that the city was calling for further extensions; that during the war period the company had borrowed about \$170,000 which must be repaid in five annual installments; that increases in trainmen's wages between March 1, 1918, and July 1, 1919, averaged 48 per cent; and that the operating expenses would be increased \$20,000 a year.

The commission found it unnecessary to make a formal valuation of the property. The tentative estimate of the value of the property as of November, 1917, was used together with a list of the additions, extensions and betterments since made. On this basis the commission estimated the value of the property at from \$1,600,000 to \$1,800,000.

Using this estimate as a basis, the net operating revenue of the company would amount from 3.1 per cent to 2.74 per cent, respectively. The commission said:

Such a return is so inadequate as not only to justify a readjustment of petitioners' rate schedules, but to constitute a positive menace to the rapidly growing community served.

The company estimated that the increase in rates sought would result in an increase in revenue of \$72,000 per year. Referring to this the commission said:

This would yield a return of 7.57 per cent on a value of \$1,600,000, or 6.73 per cent on a value of \$1,800,000, neither of which could be considered unreasonable.

The commission expressed no doubt that increased cost of operation made impossible a continuance of the 5-cent fare. In the words of the commission the company "is confronted with the most formidable jitney competition in the State." The question was whether the institution of a 6-cent fare and a 3-cent transfer charge would result in driving traffic to the jitneys to such an extent as to result in a decrease rather than in an increase in revenue. The commission assumed the attitude that the 3-cent transfer charge, making the through fare 9 cents between points where a transfer would be needed, would have a repressive effect on traffic, and would at the same time create a 50 per cent discrimination between citizens traveling like distances.

The commission considered that a straight 6-cent fare should at least be given a trial and reports made during a period of sixty to ninety days. The commission said:

Without prejudging the test of the 6-cent fare without transfer, the commission is nevertheless fearful that it will be found to be insufficient provided the jitneys are permitted to continue to operate and skim the cream of short-haul traffic. The commission, however, is hopeful that the 6-cent fare will prove successful if there can be eliminated the \$100,000 gross loss of revenue per year which now goes to the jitneys.

The commission said further:

The time has come . . . when cities . . . must select between jitneys, which can and will serve only a few people, and low fares and good service on the railways, which are held responsible for constant operation over large areas, much of which operation is unprofitable.

Competitive conditions, are especially unreasonable in Gary. The results are that:

(1) The railway paves and maintains a large part of the street used freely by jitneys which deprive the railway of revenue.

(2) The people who ride on the railway pay higher fares than otherwise would be the case, to provide and maintain pavement for other transportation agencies whose operation tends to increase the fares of railway patrons.

The commission has no jurisdiction that will enable it to regulate street traffic in municipalities. In exercising its rate-making duties in this instance, it must provide \$100,000 in higher fares to be paid by the masses of people who do not own automobiles and who must use the street cars to cover revenues lost to the jitneys. The commission therefore feels justified in directing the attention of the city of Gary to the question of whether Gary shall have low street car fares for all, or jitneys for a few.

The commission also will suggest to the city of Gary for its consideration the possibility of an eventual return to a 5-cent fare by removing from the railway patrons the burden of providing funds for pavements which are used by the entire community including private pleasure cars and trucks.

In regard to an increase in fares between cities the company sought an increase from 10 cents to 20 cents. The fare which had been charged was a 5-cent fare in each city. There is, however, some thinly populated country between the three cities, and the company sought the privilege of charging the 20-cent fare in three zones, 6 cents in each city, and 8 cents between the cities. The evidence submitted by the company showed that the distance the passenger might travel between the center of two cities was more than 11 miles, at a fare of 10 cents. The commission contended that such a fare was not adequate. The commission held that the service was really interurban service, and that should interurban fares be charged the cost would be 28 cents. The commission therefore granted the increase with the specification that the 8-cent zone should be divided into two 4-cent zones.

Changes in Operation Proposed

The United Railways & Electric Company, Baltimore, Md., has decided upon several important changes in its operating methods. In the first place it proposes to experiment on one line with the plan of having two cars discharge and take on passengers simultaneously. Under the present arrangement the follower runs slow behind his leader, while the latter is loading and unloading and comes to a full stop only when the leader has pulled out. The change that is now proposed of having the two cars load and unload at the same time will in many cases eliminate a stop by the follower and should tend to speed up the service.

Another new plan is for putting in an express service on the suburban lines. A study is now being made of riding habits on these lines and an experiment with express stops is promised for one of these lines soon.

Tickets for Kansas City

By Popularizing Tickets Company Hopes to Retain Basic Seven-Cent Fare and Also Increase Riding

It is expected that by the first week in December the Wood fare boxes will be installed on all the cars of the Kansas City (Mo.) Railway and new methods of collection will then go into effect. The 8-cent cash fare recently granted by the commission has not as yet been put into effect due to an agreement which was made with the city.

The railway is willing to continue selling transportation on a 7-cent basis, but is anxious to make the use of tickets much more general. To accomplish this the scale of fares ordered by the commission will be placed in effect and the cash fare will be 8 cents. A passenger wishing to buy return transportation or to pay for a friend can purchase two metal tokens for 15 cents while the regular patron can purchase tickets in strips of five for 35 cents or at the rate of 7 cents each.

To reduce insofar as possible the necessary work of the conductor he will sell the metal tokens only. The strip tickets will be on sale in quantities of five or any multiple thereof at some 400 locations throughout the city. This will very materially decrease congestion and delay at the boarding points and will thus be a direct benefit to the car rider by speeding up service. The fact that tickets will not be for sale on the cars will not be a hardship on the public as the selling points will be easily accessible to all.

Tickets will be placed on sale for a week or more in advance of starting the 8-cent cash fare. Their sale will be popularized by extensive advertising and by having extra men go through the cars in the mornings calling out the tickets for sale. It is believed that the tickets will appeal strongly to the public for both economy and convenience.

New Fares Work Well

After the first week of operation under a 7-cent fare, the Washington Railway & Electric Company and the Capital Traction, Washington, D. C., reported increased revenues of 9.5 per cent and 6.9 per cent, respectively.

The Washington Railway & Electric Company during the first week of November collected \$98,868 as against \$90,282 during the last week in October, when the fare was 5 cents. Taking the increased revenue of the first week as an average throughout the year, the annual increase in revenue to the company would amount to approximately \$445,992, or slightly more than half the amount which the Public Utilities Commission estimated would be necessary for the company to earn 6 per cent on its investment.

The Capital Traction Company after the first week of increased fares reported additional revenue of \$6,284 as compared with the revenue during the last week of the 5-cent fare. The gross revenue of the Capital Traction Company for the first week of November was \$97,814, while the revenue for the last week of October was \$91,530.

Both companies reported a decrease in traffic, despite the increase in revenue. The patronage of the Washington Railway & Electric Company during the first week of November was 8.1 per cent below that of the week preceding, while the Capital Traction Company experienced a decrease in traffic of 11.8 per cent during the same period.

Transfer Case Up Again

New York Supreme Court Will Pass Upon Commissioner's Authority to Make Order—Other Happenings in New York

Justice Delehanty of the New York State Supreme Court on Nov. 17 issued a writ of certiorari calling for a rehearing of the action of Public Service Commissioner Lewis Nixon of the First District in abolishing free transfers on the lines of the New York Railways and the Brooklyn Rapid Transit Company. Justice Delehanty issued the writ on the application of Corporation Counsel William P. Burr of New York City. Commissioner Nixon was given twenty days in which to file a return.

CASE WILL GO HIGHER

The case will be submitted to the Appellate Division of the Supreme Court, which will be asked to decide whether Mr. Nixon has jurisdiction to make an order annulling provisions in the franchises given by the city to the companies.

Mr. Nixon's order was made on July 17 last. Mr. Burr alleges that the order was unjustified and unwarranted by law, that it violated the contracts binding the companies to charge not more than a 5-cent fare, that the testimony taken by the Public Service Commission was inadequate to show what were the obligations of the traction companies, and that the city had no opportunity to submit testimony in opposition.

Mr. Burr holds that even if the commission had authority to increase the charge for a continuous ride it violated the law in acting without obtaining sufficient information.

Corporation Counsel Burr appeared before Justice Giegerich of the Supreme Court on Nov. 10 and asked that Commissioner Nixon be compelled to state in his return in the Manhattan & Queens Traction Corporation case whether he assumes to have the power to increase the fare on traction lines. Several weeks ago Justice Finch, on the application of Mr. Burr, issued an alternative writ prohibiting Mr. Nixon from taking any steps in a request from the Manhattan & Queens Company for permission to increase its fare.

Mr. Burr described the return of Mr. Nixon on the writ as incomplete and evasive, and said that he wanted Mr. Nixon to make a fuller return, and especially to make clear his state of mind as to his jurisdiction in requests for fare increases.

He told the court that as soon as Mr. Nixon became a Public Service Commissioner he assumed the right to abrogate free transfers, and to compel a transfer charge that cost the people of Manhattan \$80,000 a year and the people of Brooklyn \$1,200,000. He charged Mr. Nixon with having acted in violation of the decision of the Court of Appeals in the Quinby case, which stated that the commission had no power to increase fares that were fixed in franchises.

NEW YORK COMPANY NEEDS MORE REVENUE

Evidence that the New York Railways is still in need of income was indicated on Nov. 17 by notice served on the Public Service Commission by counsel for Receiver Job E. Hedges, stating that a motion would be made before Federal Judge Mayer on Nov. 24 for permission to abolish transfers between the lines of the company and three lines operated by the Third Avenue Railway system. The three are the Fifty-ninth Street, the Grand Street, and West Belt lines.

The petition to be presented to the court says that in the last fiscal year it cost the New York Railways 3.117 cents to carry each passenger, exclusive of taxes, rents, interest, dividends, and maintenance reserve. Counting in these the cost would amount to 4.088 cents. Counting the present rate of wages the cost would be 4.624.

The company receives 3 cents for each passenger transferred to its lines from the Fifty-ninth Street line, and the loss on each passenger is therefore more than 1 cent. Figures presented as to the traffic between the company's lines and the other two Third Avenue lines indicate a heavy loss on transfers.

The action of the Brooklyn City Railroad in collecting double fares on several of its lines, which were recently severed from the Brooklyn Rapid Transit System by Judge Mayer, has evoked many protests from Brooklynites. The company, which operates more than twenty trolley routes, contends that it has the right to establish zones with a 5-cent charge in each zone.

The collection of 10-cent fares on the company's Flatbush Avenue line was the cause of most of the protest by car riders. The company on Nov. 5 moved up the second fare point on this line from No-

strand Avenue to Foster Avenue and announced that, when a car reached this point it would be halted until the passengers already on board had paid the second fare. A number of riders refused to pay, causing considerable disorder and several delays.

Commissioner Nixon has taken under consideration the question of the company's right to charge the extra fare on this line. Following a hearing before Mr. Nixon on Nov. 7, the company and the city submitted briefs, that of the latter contending that the second fare was illegal. Mr. Nixon has not given his decision in the case.

Mayor Hylan's bus lines, established during the last two months in various sections of Manhattan and Brooklyn, have attracted the attention of the Federal Courts. Judge Mayer on Nov. 6 instructed counsel for Job E. Hedges to inquire into the legal right of the bus service to operate in opposition to the Eighty-sixth Street Railroad, a part of the Fourth & Madison Avenue line, a subsidiary of the New York Railways. Counsel were instructed to determine the probable effect of the bus competition on the company's earnings.

The city authorities have ignored commissioner Nixon's warning that the bus lines must secure certificates of convenience and necessity. The Secretary of State of New York has served notice that each bus must secure a state motor license or cease operation. The license fee ranges from \$40 to \$67.50.

Buffalo Wins Its Case

Commission Grants Company Seven-Cent Fare, Ending Long Fight for Increased Return—City May Appeal

After a fight in the courts covering a period of more than three years, the Public Service Commission for the Second District has handed down a decision allowing the International Railway, Buffalo, N. Y., to collect a 7-cent cash fare within the city limits and directing it to sell four tickets for 25 cents. Although the order allowed the company to put the increased rate in effect on Nov. 1, threatened appeal on the part of the city has led to three postponements. Stipulations entered into between the city and the company have put off the collection of higher fare until Nov. 30.

The International Railway is planning to use metal tokens. These will be sold by conductors. The company is preparing to spend \$50,000 re-arranging its fare boxes to fit the new system. The city wanted tickets sold, but the company opposed the proposal that the conductors be allowed to sell them.

In announcing the 7-cent fare decision, Charles B. Hill, chairman of the Public Service Commission for the Second District, said that the commission used as a basis for its order a valuation of \$18,000,000 as compared with approximately \$35,000,000 which the International Railway sought to have used as a basis for a return.

The 7-cent fare will remain in force for six months. At the expiration of that period the rate will revert to 5 cents, but if there is no change in conditions, the company may make application to have the higher fare continued in force. Similar applications may be made every six months.

The question of higher fares in Buffalo has been before the public for several years. In 1916 the City Council, believing the 5-cent rate to be too high, petitioned the commission to fix a just and reasonable rate. Owing to war conditions the

case remained unsettled for nearly two years. At the end of that time it was apparent that a higher rather than a lower fare was necessary to save the company from bankruptcy.

The Buffalo City Council in 1918 passed a resolution consenting to a fare increase, but at the referendum election which followed this resolution was vetoed. The company thereupon turned to the Public Service Commission for relief and, answering the petition of the city of Buffalo contending that the fare was too low. It, in its turn, asked the commission to consider the rates and to raise them in accordance with changed conditions. The commission refused to accept the answer on the ground that it lacked power to act in the case owing to franchise provisions which, it claimed, limited the fare to 5 cents.

FRANCHISE UPHELD

The State Supreme Court thereupon granted a mandamus, the proceeding later being changed by amendment into one of certiorari. The Appellate Division annulled the ruling of the commission and remanded the case for hearing and decision. The case was carried on appeal to the Court of Appeals, which decided in an opinion handed down on July 15 last, that the commission had jurisdiction.

The Court of Appeals, in its decision, held that under the Milburn franchise agreement between the city and the International Railway the city transferred to the Legislature the power to adjust fares. This power later, the court held, was delegated by the Legislature to the commission when the Legislature passed the Public Service Commission Act of 1907. The court therefore ruled that in deciding in favor of the rate-making power of the commission it was enforcing rather than overruling the provisions of the franchise.

Lawrence May Be Carless

So Say Trustees of Bay State Street Railway Unless Jitneys Are Curbed Before Nov. 26

Unable longer to face unrestricted jitney competition in Lawrence, Mass., the public trustees of the Eastern Massachusetts Street Railway, the successor to the Bay State Street Railway, have notified Mayor John J. Hurley of that city that unless the municipality takes steps to curb the jitneys before Nov. 26, service will halt on all local lines on that date. The letter of the trustees, signed by Homer Loring, chairman, points out that the Lawrence district is operating at an annual loss, as based on the returns for the month of September, of \$300,000.

The statement of earnings for the Lawrence district for September, the first month of "Home Rule" operation, shows a loss of approximately \$25,000. The blame for this deficit is placed solely upon the jitneys. The trustees contend that but for the jitney competition, the returns would have justified a reduction of fare.

The letter of the trustees follows:

The public trustees of the Eastern Massachusetts Street Railway have just received from Manager John H. Hayes the first statement of earnings for the Lawrence district under the home rule plan, and we regret to inform you that the district during September failed to earn operating expenses and depreciation.

The loss was caused entirely by the unrestricted jitney traffic permitted by the City Council. A careful estimate of our employees shows that the unrestricted jitneys are entirely responsible for a monthly loss to this publicly-controlled street railway of \$25,000 per month or \$300,000 per year. But for this drain upon its treasury, the Lawrence district in September would not only have been operated without loss but the earnings would have been sufficient immediately to warrant a reduction in fares.

You are, of course, aware that in the establishment of the Lawrence district the public trustees have seen to it that only earnings and expenses in Lawrence and surrounding lines are taken into consideration in the determination of fares there. You also know that the public trustees have no funds available for the operation of any district at a loss.

The public trustees appreciate the earnest efforts of the Chamber of Commerce and Citizens' Committee to bring about reasonable jitney regulations, but the financial condition of the Lawrence district makes an immediate decision necessary. The time has come when Lawrence must choose between street railway and jitney service. The earnings in October were less than in September, and the public trustees are unable longer to run the district at a loss.

We are, therefore, obliged to notify you that unless effective measures to restrict the jitney competition are adopted by Nov. 26, street railway service on all local lines, and most of the interurban lines, will be discontinued on and after that date.

Segregation With Safety Cars

Race Separation Not Found Difficult in Raleigh—Some Cars Are Short-Routed

Seven safety cars have been operating on the lines of the Carolina Power & Light Company, Raleigh, N. C., for several weeks. There will soon be a total of fifteen such cars in service. The public and the trainmen have accepted them without complaint. The segregation of negroes has caused some difficulty, although it has brought no serious complaint from the white population.

There is a "Jim Crow" law in North Carolina requiring the negroes to fill the car from the rear and the whites from the front. This makes it necessary for the negroes to pass by the white people both boarding and alighting. There was some apprehension that the negroes would not go to the rear of the car but would take a forward seat. This has not happened to any appreciable extent.

The most difficult situation to meet has been in connection with the Hillsboro line, which is the heaviest traveled line of the company's system. It extends from a

good residential section at one end to a negro section at the other, passing a popular amusement park en route. On Sundays, particularly just after church time, the negroes fill the cars as they come from their end of town toward this park. White persons desiring to board a car in the downtown section at this time frequently find the car full of negroes.

To alleviate this situation, the company has followed the practice of turning certain extra cars short of the negro section, so that they are then available for the white passengers when they reach the downtown loading points. White people then finding a car full of blacks, understand that there will be another car very shortly which will not be thus loaded. There is, however, no law or rule to prevent a white person from getting on a car full of negroes if he wants to do so, provided the car stops for him.

Courtesy Campaign Started

Indianapolis Company Issues a Booklet Planned to Help Better Public Relations

The Indianapolis (Ind.) Street Railway has started a "Courtesy Campaign" for the benefit of the public and its employees. One of the principal thoughts behind the campaign was to bring about a better feeling and a more courteous attitude between the public and the car service employees. Bulletins have been placed in the various carhouses with instructions to the trainmen. A pamphlet headed "Courtesy" has been issued to all motormen and conductors. The text of the pamphlet follows:

Common courtesy is the business of every man who meets the public.

Courtesy becomes a part of his trade, to be applied in the face of resistance, the same as it is a part of a carpenter's trade to apply a jack-plane on cross-grained wood, knots and an occasional nail head.

The station foreman, inspectors, conductors and motormen, or any man whose business is to come in individual contact with the public, if he becomes skillful in his work, must learn to restrain himself from doing that which is every man's natural instinct to do in meeting discourteous, impatient and unreasonable people.

We can never make the public better by impatience. The average mechanic does the best he can with the material delivered to him and he does not destroy that which resists him. An experienced carpenter, for instance, does not get angry and throw his tools out of the window when he strikes cross-grained wood—he simply reverses the action of his tool. It is only the hoy amateur who flies into a rage at resistance and pounds up that which he is attempting. Any man who comes in contact with the public will meet a lot of thoughtless people. Nearly all people are unreasonable at some time.

Few people are unreasonable at all times. The people who are cross-grained in the morning are frequently kind enough at night. Doctors say that the reason people are more irritable in the morning, or after they have been sleeping, is that their blood pressure is low—their circulation is not normal. People who are unreasonable or who give way to their temper in the morning are frequently sorry for it by night. Temper and irritability in the case of most people are the results of defective nerves rather than unkindness of heart.

The station foreman, inspector, conductor and motorman who is able to keep his temper and his voice low, and maintain himself with calmness, has a powerful weapon in his own defense and with which to administer real punishment to his offenders. The man whose business it is to meet the public, who resists impatience with patience, and temper with calmness, is gaining the respect and sympathy of every witness of the situation, and the offender will regret his act in his first reasoning moment.

The prosperity of every institution patronized by the public is largely dependent upon the good will of the individuals who comprise the public. The increasing prosperity of an institution depends absolutely upon the good will of an increasing number of individuals, and these individuals include the impatient, the discourteous and the unreasonable, along with the patient, the courteous and the reasonable, all of which go to make up a composite—the public. In a street railroad, for instance, the station foreman, inspectors, conductors and motormen are the only points of contact between the public and those who manage the property for the thousands of stockholders who own it.

A few of the many ways that courtesy may be applied by conductors and motormen.

BY CONDUCTORS

By seeing that all passengers have ample time to board and alight from cars.

By answering all questions politely but never to carry on an extended conversation.

By calling all streets and transfer points loudly and distinctly.

By not losing temper in disputes with passengers over fares or transfers.

Transfers probably cause more dispute between conductors and passengers than any other one thing in their relations, so much so that we believe that conductors should be very careful of how they handle a situation of this kind. In case you feel that you should reject a transfer, notify the passenger quietly and politely, giving your reasons for not accepting transfer and further notify him that in case any mistake has been made by the company or its agents, it will be rectified by the superintendent if called to his attention.

BY MOTORMEN

By seeing jointly with conductors that all passengers have ample time to board and alight from cars.

By not passing up any one unless a car is following within a reasonable distance.

By always running car on schedule time so that a uniform interval between cars is maintained.

By running car carefully at all times thereby taking no chances on injuring person or property.

Transportation News Notes

Complain of San Pedro Service.—The Railroad Commission of California recently held a hearing on the complaint of the San Pedro Chamber of Commerce that the Pacific Electric Railway, Los Angeles, was not furnishing sufficient service in the water front district of San Pedro. Attorneys for the railway contended that lack of services was due to congestion along the water front and insufficient space to be used for local and interurban cars.

Relief from Bus Competition Denied.—The Pennsylvania Public Service Commission has denied a rehearing of the complaint of the receivers for the Pittsburgh (Pa.) Railways, against the Pittsburgh Transportation Company, which operates a line of auto buses in the city of Pittsburgh. The receivers charged in their original petition that the bus company exceeded its rights to the use of streets granted by the commission. Their plea for relief was denied.

Cars Unheated, Coal Saved.—The East St. Louis (Ill.) Railway is sending out all of its cars without heat until the present coal crisis is over. An average of six carloads of coal is consumed at the plant daily and it is hoped to reduce this consumption to four carloads daily by economy. Much of the power used by the company is supplied by the Keokuk Power Company, but it is impossible to secure all that is needed from this source and some must be supplied by the local plants.

Traffic Check in Birmingham.—A system of traffic checking has been installed by the Birmingham Railway, Light & Power Company, Birmingham, Ala. A crew of traffic checkers has been put to work. Traffic on the various lines will be checked up daily especially that at peak hours. Daily reports will be made and will be tabulated for weekly periods. The check is being made in accordance with the policy instituted by Receiver Lee C. Bradley and is expected to result in an improvement of the service. Congested conditions now prevail at the peak hours.

Personal Mention

Mr. Milliken Promoted

**Appointed Manager of Houston Electric Company by Stone & Webster—
Formerly at Houghton, Mich.**

E. L. Milliken, until recently manager of the Houghton County Traction Company, Houghton, Mich., has been appointed manager of the Houston (Tex.) Electric Company by Stone & Webster. Mr. Milliken succeeds David Daly, whose appointment as manager of the Keokuk, Ia., properties of Stone & Webster was noted in a former issue of the *ELECTRIC RAILWAY JOURNAL*.

Mr. Milliken was born at Biddeford, Me., in 1888 and was educated at the University of Maine, from which he was graduated in 1908 with the degree of Bachelor of Science in Electrical Engineering. During his summer vacations from 1903 to 1908 he was employed in various capacities by the Westbrook Electric Light & Power Company, the Bangor & Aroostock Railroad, and the Massachusetts Telephone & Telegraph Company. Upon his graduation he joined the Stone & Webster organization, with which he has been continuously connected since 1908.

During September and October, 1908, he was engaged in the statistical department in the central office of the Stone & Webster Management Association. In November of the same year he entered the service of the Cape Breton Electric Company. During the first two years of his connection with the company he was clerk to the manager. For the next two years he served as superintendent of distribution and electrical engineer, also acting as superintendent of light and power.

In May, 1912, he became manager of the company. He retained this position for five years. He took an active part in the affairs of the Canadian Electric Railway Association, and was elected a member of the executive committee in June, 1917. In October of that year he was appointed manager of the Houghton County Traction Company and the Houghton County Electric Light Company, resigning to assume his present duties.

New Post for Major Gillette

Maj. George Gillette has been appointed to the newly created position of general superintendent of railways of the Tidewater Power Company, Wilmington, N. C. Major Gillette began service with the company as an electrician's helper in 1904 and in 1906 became storekeeper. During this time he attended night school and then went to the North Carolina State College from which he was graduated in 1911 with the degree of Bachelor of Science in electrical engineering. He rejoined the company in 1912 as foreman of equipment and in 1913 was made master mechanic and, later, claim agent.

In September, 1916, he organized a volunteer company of engineers of which he was commissioned captain, spending six months on the Mexican border. Soon thereafter he was sent to France, where he served with the 105th Engineers of the 30th Division and later with the 6th Engineers of the 3rd Division, which formed part of the army of occupation. During this period he was promoted to

major and given command of a battalion. He was ordered back to Norfolk, Va., in July, last, where he acted as executive officer of the supply base there, receiving his discharge on Sept. 24. He returned to the Tidewater Power Company, on Nov. 7.

H. E. Rose, storekeeper for the Androscogin & Kennebec Railway, Lewiston, Me., has been appointed purchasing agent of the company.

L. A. Bansbach has resigned as local storekeeper of the Pittsburgh (Pa.) Railways to accept a position with the Lehigh Transit Company, Allentown, Pa., as general storekeeper.

J. F. Canfield, formerly auditor of the Ottumwa Railway & Light Company, Ottumwa, Ia., has been appointed auditor of the Union Light, Heat & Power Company, Fargo, N. D.

Samuel H. Mitchell, general manager of the Phoenix (Ariz.) Railway, has tendered his resignation to take effect as soon as present improvement plans of the company are carried out. Mr. Mitchell has been connected with the company for the last seventeen years.

C. H. Hardesty has been appointed traveling passenger and express agent for the lines of the Monongahela Valley Traction Company, Fairmont, W. Va. The position of traveling agent was recently created. Mr. Hardesty will make his headquarters in Fairmont.

Captain W. S. Wyche has resumed his duties with the Arkansas Valley Railway, Light & Power Company, Pueblo, Col., after service in France with the 2d Engineers. He was twice decorated for bravery, winning the Croix de Guerre with palms and a citation from General Pershing.

E. F. Taylor, general superintendent of the Southern Public Utilities Company, Charlotte, N. C., has resigned to accept a position with The Texas Company as engineer in charge of a railway lubrication department, newly created. The resignation was effective Nov. 1. Mr. Taylor will make his headquarters in New York.

R. L. Miller has succeeded Tully Bostwick as general passenger agent of the Northern Texas Traction Company, Fort Worth, Tex. He was at one time connected with the company's claim department, resigning two years ago to become assistant claim agent for the Galveston (Tex.) Street Railway.

William B. Hartshorn has succeeded Jacob T. Barron as head of the central division of the distribution department of the Public Service Railway, Newark, N. J. Prior to his new appointment Mr. Hartshorn was connected with the Bergen division of the company. He will make his headquarters at Elizabeth, N. J.

O. C. Macy, superintendent of the East St. Louis, Columbia & Waterloo Railway, who has been associated with this company as superintendent for the last five years, with headquarters at East St. Louis, Ill., has resigned to become connected with the Franklin-Ross Automobile Company, East St. Louis.

Roland P. Hall, who for several years has been assistant passenger agent for the Texas Electric Railway with headquarters at Dallas, Tex., has submitted his resigna-

tion, effective on Dec. 1. Mr. Hall will join the James P. Simpson Company, Inc., advertising agency, as vice-president. He has been active in advertising circles in Dallas for some time, having been chairman of the study division of the Dallas Advertising League.

F. W. Lachicotte, Jr. and **S. L. Duckett** of the Southern Public Utilities Company, Charlotte, N. C., have been made responsible for the engineering work formerly in charge of E. F. Taylor, general manager, resigned. Mr. Lachicotte will have charge of the electrical engineering work and Mr. Duckett, of the civil engineering work, particularly that pertaining to the construction of gas works. Both men have been connected with the company for many years.

C. C. Johnson, formerly purchasing agent and assistant to the general manager of the Virginia Railway & Power Company, Richmond, Va., has been made general superintendent of railways in charge of transportation and shops of the Richmond division, thus assuming part of the duties of A. Taurman, resigned. Supervision of the shops and rolling stock on the Norfolk-Portsmouth division formerly under Mr. Taurman has been transferred to T. N. Jones in addition to his other duties as assistant general manager in direct charge of this division.

Patrick F. Sheehan, who for the last five months has been assistant division superintendent of the Eastern Massachusetts Street Railway with headquarters in Brockton, Mass., has been made division superintendent. Mr. Sheehan, for a number of years a leader of the state branch of the American Federation of Labor, until his appointment as assistant division superintendent had been president of the Brockton branch of the Amalgamated Association of Street & Electric Railway Employees of America. Upon assuming his new duties he automatically severed his connection with the union.

B. W. Frauenthal has been appointed general traffic agent for the United Railways, St. Louis, Mo. Mr. Frauenthal is one of the best known men in St. Louis and especially to the traveling public. For many years he was in charge of the Information Bureau at the Union Station. There he gained the name "Ask Me" Frauenthal by his knowledge of everything connected with timetables and rates and his willingness to impart the knowledge. He was later put in charge of the whole station, with the title general station agent. He resigned from that position to become connected with the United Railways. He will have charge of the readjustment of passenger fares and tickets, including charges for special service, mail and express charges, and will direct the development of traffic.

Obituary

Arthur E. Brown, disciplinary officer of the Detroit (Mich.) United Railway, was accidentally killed on Oct. 10 while on a hunting trip in the Upper Peninsula of Michigan. Mr. Brown joined the company twenty-five years ago as car repairer. He was successively promoted to carehouse foreman, motor inspector, division superintendent, and finally superintendent of employment. He had been disciplinary officer for more than a year.

Manufactures and the Markets

DISCUSSIONS OF MARKET AND TRADE CONDITIONS FOR THE MANUFACTURER
SALESMAN AND PURCHASING AGENT
ROLLING STOCK PURCHASES BUSINESS ANNOUNCEMENTS

Steel Situation Shows Improvement

Pig Iron Sales Are Made at Advances of \$1.50 to \$3 Per Ton—Unfilled Orders Show Increases

Production in the majority of the steel mills is now 60 to 70 per cent of what it was previous to the strike. The steel and iron situation is gradually becoming better and conditions approximating those of normal are rapidly being reached.

SALES AT ADVANCE PRICES

Several large sales of pig and foundry iron have been made at advances of \$1.50 to \$3 per ton. Regardless of recent sales, pig and foundry iron are being quoted at Pittsburgh at the old prices effective since March 21.

Unfilled orders on the books of the United States Steel Corporation up to and including Oct. 31 show an increase of 188,030 tons compared with the September figures. The figures show the unfilled tonnage on Oct. 31 to be 6,472,668 as compared with 6,284,538 at the end of September. The October tonnage was higher than that of any month since January, 1919, and it is expected that the succeeding months will show increases even greater than those shown in the last few months.

COAL SUPPLY REPORTED LOW

Up to the present time, the iron and steel mills have not been handicapped on account of coal shortage. In most instances, steel producers had a fair supply of coal and coke on hand and in many cases actually controlled a considerable amount of tonnage mined by subsidiary companies. While some of the mills have only one to three weeks coal supply, the government authorities who are in charge of distributing the available coal supply will see that the steel industry operates, although it will not furnish mills with fuel until their present stocks are depleted. This is absolutely necessary on account of the selling price fixed on coal by the government, and the desire of the steel trade to convert it into coke for furnace use.

Rubber-Covered Wire Mills Well Booked

Heavy Ordering on Smaller Sizes Uses Up Day Capacity—Labor Condition Uncertain

Manufacturers of rubber-covered wire have been very busy since midsummer trying to keep up to the demand for the smaller code sizes. Factories as a rule are running to their capacity and in several cases are booked up to a comfortable day capacity for the remainder of the year on Nos. 10, 12 and 14. More business can be taken on by these mills, but only under conditions of night work if 1919 shipments are necessary. Large orders are being received for the heavier sizes of this wire, but still not in quantities sufficient to surpass current capacity.

Labor conditions have here and there been responsible for poor shipments, and

in some cases have caused shut-downs to the mills. Although these latter conditions have only recently been overcome, labor is still not giving full efficiency to its work. Full capacity is really appreciably below normal on account of this one feature, with no apparent relief in sight.

Prices have been holding steady on a 30-cent base, and until a further rise in labor, copper and cotton there seems no reason to expect a higher base.

Time to Order Track Tools for Spring

Advance of 10 Per Cent in Effect on Nov. 1—Deliveries on Some Lines Are Lengthening

Orders for track construction tools for spring work should be placed before the end of the year in order to insure delivery by the time the frost is well out of the ground.

While during the next four months there will not be sufficient track and other construction work to require a large volume of tools, it must not be forgotten that many of these tools are also required in building construction. Contractors with excavation work to start early will not wait until the last minute to order tools. Also if the railroads are returned to their owners of the first of the year they also will be in the market for tools.

PRESENT STOCKS MODERATE

Present stocks of picks, hammers, sledges, mauls, wedges, bars, tongs and miscellaneous track tools are only moderate and on account of present orders on hand, manufacturers are unable to keep them up to their expected capacity. Under normal sales, it is estimated that present stocks are sufficient to last sixty days.

Production is better now than for some time past. Several plants, recently tied up with strikes, have resumed operation and reports indicate that the men are working much better than before the trouble occurred.

Buying is regular and a considerable number of inquiries are being received. Although there are no large individual orders, sales are showing improvement. Sales for the first six months of this year are but slightly less than for the first six months of last year.

Prices have advanced approximately 10 per cent. This increase, however, was not unexpected and it is not known whether another advance will be announced before spring.

Reasonable deliveries on some lines can be made in thirty days. Picks, sledges, bars, chisels, tongs and mauls can be delivered in quantity from stock now although no promises are held out that these conditions will exist in another month. Six weeks ago, labor was slowing up manufacturing and causing longer deliveries but with the plants gradually returning to normal working conditions, it is expected that deliveries will be permitted to be made on some important tools now on order by the different companies.

Effect of Return of Steam Roads

Indication that Deliveries Will Be Lengthened and that Prices, Particularly of Premiums, Will Be Higher

Should the present plan to turn back the railroads to their owners Jan. 1 be realized the market for supplies used by both the railroad and the electric railways will probably undergo a marked change.

At this writing the railroads are sending out inquiries for large volumes of materials, principally track supplies, pending the return of the roads. So far as can be learned manufacturers are not eager to do business on this basis.

It is very evident, however, that should the roads be returned that these inquiries will result in considerable business. In that event the visible supplies will be quickly absorbed.

Some increases in price undoubtedly will occur. Even in lines where prices are not advanced, it seems probable that premiums for spring delivery will follow closely the return of the roads.

To those electric railways planning track work the situation is of considerable interest. Many railways, requiring only a small amount of such supplies rely on the stock of the jobber. Should the supply be tied up by the requirements of the steam roads the jobber will be forced, under all the rules of the game, to pay more for his stocks and these higher prices must naturally be passed on to the consumer. While of course the entire situation depends, on the action taking in Washington and therefore is uncertain, still there is sufficient cause to make preparations for requirements for the first half of 1920. Even if orders for future delivery are placed now and the roads are not returned, there is no loss to the buyer for all signs points to prices for the first half of the year at least as high as these now prevailing.

Scrap Prices Higher

Demand Is Strongest for Foundry Cast Scrap—Large Sale of Shell Scrap by the National Government

Scrap car wheels, cast iron and heavy steel scrap continue to advance. The market is less active in Pittsburgh than in East and South where the mills are bidding for heavy tonnages due to the scarcity of pig iron.

According to quotations on Nov. 11 wrought iron scrap is up 50 cents a ton, heavy steel and cast iron scrap have each advanced \$1 per ton, while car wheels are selling at an advance of \$3 per gross ton. The supply of available scrap is limited. Cast borings are being disposed of quickly at \$16 to \$17 a ton delivered, although there is little demand so far for turnings which are quoted at \$13 per ton.

Old material dealers have just purchased 141,000 tons of shell steel from the government. This represents all the material the Ordnance Department had left over in the different depots. About 50 per cent of this material, consisting of shell forgings, is reported to have brought \$24.50 per gross ton.

Rolling Stock

Tidewater Power Company, Wilmington, N. C., is in the market for four 50-ft. interurban cars to be equipped with two motors each and multiple unit control. Delivery is required in the spring.

Birmingham Railway, Light & Power Company, Birmingham, Ala., has been authorized to purchase 144 65-hp. motors. The General Electric Company and the Westinghouse Company will furnish the motors which will cost, including installation, approximately \$200,000. In addition trucks will be given complete overhauling.

Recent Incorporations

Albright & Bruceton Railway, Albright, W. Va.—The Albright & Bruceton Railway with a capital stock of \$5,000, has been incorporated at Albright, W. Va., by E. G. Calfisch, Albright, J. C. Calfisch, F. C. Chapin, W. B. Fulton and Fred J. Maurer, all of Union City, Pa. The road will run from Albright, Preston County, along Cheat River to Sandy Creek, and thence to Bruceton Mills, a distance of about 18 miles.

Track and Roadway

Municipal Railway of San Francisco, San Francisco, Cal.—The Public Utilities Committee of the Board of Supervisors of San Francisco has passed a motion requesting the city engineer to make a recommendation to the Board of Public Works as to the advisability of extending the Municipal Railway on Taraval Street from Thirty-third Avenue to the ocean.

Cincinnati (Ohio) Traction Company.—The Rapid Transit Commission of Cincinnati has received the following bids for the construction of the second section of the proposed rapid transit loop; The Hickory Brothers Construction Company, Columbus, Ohio, \$498,540; E. G. Yawger Company, Indianapolis, Ind., \$509,501, and Hinkle & Sullivan, Cincinnati, Ohio, \$563,935. The engineer's estimate was \$513,560. The section includes the portion of the loop between Charles and Oliver Streets, most of it underground construction, with a station building at Liberty Street.

Houston, Richmond & San Antonio Interurban Association, Houston, Tex.—Engineering work preparatory to the construction of the Houston-San Antonio Interurban Line, as planned by the Houston, Richmond & San Antonio Interurban Association, will begin shortly under the terms of a contract awarded at Houston to R. E. Gurley & Sons, Chicago. It is estimated that the engineering work will cover 186 miles and that it will cost \$186,000. The proposed line passes through Richmond, Rosenberg, Wharton, Gonzales, Sutherland Springs and San Antonio. H. A. Halverson of Houston is president of the company.

Seattle (Wash.) Municipal Street Railway.—The Seattle Municipal Street Railway system is to be improved by the re-routing of several important car lines, which will greatly reduce running time and cost of operation of these lines. New double tracks on Leary Avenue will shortly be completed, providing a short, direct route for the Fremont-Ballard car lines, and reducing running time eight

minutes each way. The double track on Avalon Way and 36th Avenue S. W. from Spokane Street to Alaska Street, will be completed soon. The company will double track its Division A line from 24th Avenue, N. W., to 28th Avenue, N. W.

Edmonton (Alta.) Municipal Street Railway.—The Alberta Utilities Commission will recommend to the Edmonton City Council the construction of extensions of the line of the Edmonton Municipal Street Railway along Brandon Avenue from the present terminus at Calder Street to a point not less than five blocks easterly. Construction is to be completed this fall.

Guelph (Ont.) Radial Railway.—Engineers from the Ontario Hydro-Electric Power Commission are going over the property of the Guelph Radial Railway and will report on the cost required to place it in good condition.

London & Port Stanley Railway, London, Ont.—The London Railway Commission will request the City Council to issue debentures to raise \$200,000 for improvements to the London & Port Stanley Railway. A by-law to this effect will be voted upon next January.

Toronto & Eastern Radial Railway, Toronto, Ont.—Pickering Township, Ont., the first of the nine municipalities interested in the construction of the Toronto & Eastern Radial Railway by the Ontario Hydro-Electric Commission, at a referendum election on Oct. 12 passed the necessary by-law in favor of the line by a large majority.

Power Houses, Shops and Buildings

Birmingham Railway, Light & Power Company, Birmingham, Ala.—The Birmingham Railway, Light & Power Company will erect a new substation equipped with one 1000-kw. rotary converter, together with switchboard, to supply 250-volt energy to Edison service. L. L. Newman is engineer in charge.

Rock Island Southern Railway, Rock Island, Ill.—Arrangements have been made whereby the Rock Island Southern Railway will secure power from the Keokuk, Ia., dam and will abandon its power house at Matherville, Ill.

Northern Ohio Traction & Light Company, Akron, Ohio.—Mayor Poorman of Canton, Ohio, has taken up the subject of a terminal station with the Northern Ohio Traction & Light Company. Such a terminal would relieve the traffic congestion in the Public Square.

Trade Notes

H. V. McKedy, assistant to the vice-president in charge of sales of the American Locomotive Company, has severed his connection with that company. He has been appointed Eastern representative of the Glidden Company, Cleveland, Ohio, with headquarters at 636 West Thirty-fourth Street, New York City.

Parsons-Moorehead Machinery Company, Hostetter Building, Pittsburgh, Pa., has been organized to do a general machinery business. William L. Moorehead was formerly vice-president of the Duquesne Electric & Manufacturing Company, while Mr. Parsons has been doing a general machinery business for several years.

Ohio Brass Company, Mansfield, Ohio, announces that Dr. Leonard F. Fuller has been made assistant manager of its insulator factory at Barberton, Ohio. During the war Dr. Fuller did some notable wireless work in connection with the laboratories of the Federal Telegraph Company at Palo Alto, California, for which he was honored by Leland Stanford University.

Atlantic Sales Company, Philadelphia, Pa., has been organized by M. F. Knapp and J. C. Vogel as manufacturers' agent with offices and warehouse at Fifty-ninth Street and Woodland Avenue. The new company will act as distributors for the Kentucky Electric Lamp Company; A. F. Daum Manufacturing Company's renewable fuses; Hart Manufacturing Company's mica insulation; and Arts Electrical Company's "Safety First."

New Advertising Literature

Macbeth-Evans Glass Company, Pittsburgh, Pa.: An illustrated folder on its Alba light No. 5350.

Pyroelectric Instrument Company, Trenton, N. J.: Bulletin No. 8 describing its quadrant electrometer.

St. Louis Electric Works, St. Louis, Mo.: Bulletin A on its type M U alternating-current battery charger.

Western Electro-Mechanical Company, Inc., Oakland, Cal.: A booklet describing its load and meter-testing equipment.

Caille Brothers Company, Detroit, Mich.: A booklet describing its electric ticket sellers and electric ticket choppers.

Rawson Electrical Instrument Company, Cambridge, Mass.: Bulletin No. 1 on its type 501 portable single-pivot meters.

Trumbull Electric Manufacturing Company, Plainville, Conn.: Bulletin No. 3, dated December, 1919, on "Safety" externally operated switches.

Belden Manufacturing Company, Chicago, Ill.: Bulletin No. 1214 on coil-winding machines has been issued in advance of its new catalog No. 8.

Conneaut (Ohio) Metal Works Company: Bulletin B on automatic valve-closed watertight electrical plug receptacles and attaching plugs.

Herman H. Stiche and Company, New York, N. Y.: Bulletin 105 AA, on its mono-pivot galvanometers, micro-ammeters, milli-voltmeters and milli-ammeters.

Cutler-Hammer Manufacturing Company, Milwaukee, Wis.: Publication No. 479 covering electric heaters and entitled "Miscellaneous Applications of Electrical Heat."

Packard Electric Company, Warren, Ohio: Bulletin No. 200 describing its distribution transformers. Also Bulletin No. 202 on series regulating transformers for street lighting.

De Laval Separator Company, New York, N. Y.: A twenty-four page booklet on the De Laval method of purifying and reclaiming lubricating, cutting, hardening and fuel oils.

R. D. Nuttall Company, Pittsburgh, Pa.: Bulletin 25 on the heat treatment of steel gears for industrial mining and electric railway purposes. Also, Bulletin 26 on the application and use of helical type of gearing for electric railway service.