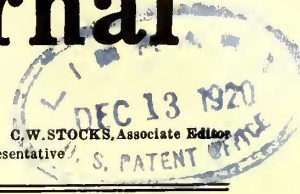


# Electric Railway Journal

Consolidation of Street Railway Journal and Electric Railway Review

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## C. E. R. A. Hears How to Sell Service

ANOTHER very much worth while meeting of the Central Electric Railway Association is a matter of history. Even without the addresses of two prominent men on the program, who were unable to be present, the meeting at Indianapolis seems to have been adjudged a decided success. Particular interest was manifested in the appeal made by W. L. Goodwin for sales co-operation within the industry and sales managers to sell electric railway service to the public. What seemed to "hit home" was Mr. Goodwin's statement that it is utterly impossible for an executive who is absorbed in all of the technical problems of producing service to be at the same time a successful salesman of his product, transportation.

There has been quite a good deal of talk in the industry the last two years about using merchandising principles in selling electric railway service, but much of this has been of a rather intangible character. It was something that should be done, but how it was to be accomplished was the part largely untold by the speaker and not understood by his auditors. Mr. Goodwin's ideas were more definite, and this fact, together with his demonstration of a sales talk, probably accounts for the unusual interest he aroused. It is apparent that he has a rare gift of salesmanship himself, and, having in mind the great work he has done in promoting co-operation among the several branches of the electrical industry, we hope that he may promptly be induced to apply further his genius along these lines to the electric railway field. He should be heard from again.

## Does Courtesy by Railway Employees Pay?

A CHICAGO Surface Lines conductor recently found that it did—at least to the extent of \$50 which he was awarded by a daily newspaper in a politeness contest. The experience of the newspaper reporter with this conductor was nothing unusual, but it revealed how an employee may make a favorable impression by the exercise of proper judgment in stretching one of the company's rules. In this instance the conductor accepted a transfer at a non-transfer point, but explained courteously what the passenger should have done and allowed him to ride a short distance to his destination. The company was possibly out one fare by the transaction, but it had gained much more through the courtesy of an employee.

This conductor's policy as explained in an interview quoted by the newspaper is as follows: "I try to treat them right. So many people get confused on this transfer business—there are so many different rules and regulations. But I size the man up. If he looks honest and his intentions seem good I usually give him the

benefit of the doubt. Sometimes I have to throw the dead beats off—I can usually tell them from the others."

Nearly every book of rules for trainmen has a sentence reading, in substance, "Use proper judgment in all cases." One difficulty in the selection of employees is to choose those capable of exercising proper judgment. Where the company loses an occasional fare through the stretching of a rule it should gain a hundred-fold through the friends made by courtesy. No company wants to be defrauded by unprincipled passengers, but if the trainmen report all cases of lenient construction of the fare rules by them there is little danger that such an attitude by the company will be abused.

## Keeping the Public Fully Advised on Labor Matters

IF A company is sure that its position in a labor controversy is absolutely on the square and thoroughly fair to public, employees and company, it seems to us that the plan adopted by the Virginia Railway & Power Company during its recent labor negotiations can well be taken as a noteworthy example of how to keep the public correctly advised. In Richmond and the other cities served by this company the full text of each proposal made to the men and the corresponding reply from the men were simultaneously published in each of the daily newspapers, the space used being paid for. In other words, all negotiations were made public as they proceeded, and there could thus arise no opportunity for a distortion of the company's intentions or the reasons for its position. It seems to be very generally agreed that a strike wins or fails as it has or does not have public sympathy. This being the case, why should not the companies see to it that the public, the jury, has all the facts all the time in the exact form in which they transpire. The public is the party most seriously inconvenienced by a strike and the one that must stand the bill if wages are increased. Hence, there is every reason why this party should be informed on every move, and the Richmond plan seems to be a good way of doing this.

## An Axiom for Public Relations

A GREAT DEAL is said from time to time about how to "get on" with the public and how to get the message across to the public. For some reason or other, it appears the public doesn't understand all that we wish it to understand. People seem to be awful fools because propositions which appear to be so simple are not comprehended at once.

How much of this is our own fault? We heard a slogan the other day, stated by Judge Reed of the Kansas Court of Industrial Relations, which appealed to us as pointing out the reason why much of this has not

"got across" and at the same time how we may accomplish what we wish. This slogan is:

"Treat the other fellow according to *his* understanding of your business and not according to *your* understanding of it."

### Is the C. E. R. A.

#### Slowing Down?

AT ITS recent meeting the C. E. R. A. adopted half-heartedly an amendment to the by-laws which provide for two meetings a year instead of three. One will be the annual meeting in January and the other the summer meeting, a boat trip usually, which is largely social in character. Without reference to the custom of, or what may be desirable for, any other association, we are inclined to think the Central Association is making a mistake by further reducing the number of meetings. The principal reasons that were assumed to be behind the proposed change, although no one present had any particular enthusiasm for the amendment, were that fewer meetings might be better attended and that the expense to the companies of sending their men would be less.

The members of this association are all within easy reach of any meeting place in the territory, so that the items of expense and time lost in getting to and from a meeting are of small consequence, an entirely different situation than that which surrounds meetings of the American Association. And as to this expense, one prominent railway member, who like a number of others was not present at the session when the matter was discussed and was very much disappointed when he heard of the action taken, expressed our feeling in a few words when he said: "The money spent in sending men to these conventions is the cheapest money we blow in." Any man who does not bring back information worth many times his expense account is one whose mind is not on his job. Even if there were no formal meeting and no program, the getting together with other railway men who are working on solutions to common problems is sure to be productive of an exchange of experience that is invaluable.

As to better attendance at fewer meetings, we are not at all "sold" on this idea and feel that arguments of as much weight could be made in support of a contention that one or two more meetings would improve attendance. As a matter of fact, the C. E. R. A. meetings were much better attended in the days when there were four a year than now. The reason that there has been less apparent interest the last year is perhaps very largely because of the pressure of many matters at home. And now with only two meetings a year, if an operating man is prevented from attending one of them, he then has only one opportunity a year for this personal contact with his friends in the business. With three meetings, should he be unable to attend one, there would still be two other opportunities to derive the great advantages of the association meetings.

A suggestion was made again at the Indianapolis meeting that opportunity be provided for the equipment, track and electrical men, respectively, to gather in separate meetings at which problems pertinent to their particular work could be freely discussed. We think this is a good idea, and particularly so if there are to be but two main meetings a year. There are many detail technical problems to which these groups can profitably direct their attention, and it seems reasonable to expect

that more can be accomplished when all present in a meeting are interested in the subject under consideration. Such group meetings should not interfere, however, with attendance of these men at the general meetings of the association, for it is there that the departmental men learn much of the problems of the companies as a whole and are thereby better fitted to do their part of the whole business of manufacturing transportation, or any subsidiary company-wide project.

One plan of handling these group meetings in the Central Association would be to have the mornings during a two or three day session given over exclusively to the general sessions, leaving the afternoons open for the several group sessions. This end can be accomplished without going to the formality of creating separate subsidiary associations for these respective groups, along the line of the A. E. R. A. organization. It seems to us that the object sought can be accomplished if the executive committee of the Central Association would simply authorize meetings, in the nature of committees of the whole, of these groups of men, appointing a chairman for each group. These chairmen could then appoint sub-committees to take up any special problems, and any matters requiring association approval could be brought up by the chairman in the general session, after approval of definite recommendation by the committee of the whole. Such an organization scheme would be simple, would increase the organization machinery of the association almost not at all, would lead to a greater interchange of detail operating experience, would result in greater accomplishment along engineering lines and, we believe, would meet the end sought by the operating men and manufacturers.

### Reach Out to Suburbanite with City Service

IT WAS to be expected that so thought-provoking a paper as that of Henry M. Brinckerhoff's on "Urban and Suburban Passenger Transportation" (see *ELECTRIC RAILWAY JOURNAL* for Nov. 27) would produce some interesting reactions. Not the least of these is that contained in the contributions from the steam railroad men, who were united in the opinion that their commuter business was being conducted for less than cost. For this reason they expressed their desire to have this business taken over by the rapid transit lines, leaving to the trunk lines more room in their terminals to accommodate their more profitable long-distance passengers. Indeed, one railroad operator went so far as to say that the average cost in the way of fixed charges, etc., per passenger for the use of the New York terminal of his company was so large that in many cases it exceeded the receipts from the commuter for his entire transportation.

This is not a new complaint on the part of the trunk line operator, who, as long as we can remember, has bewailed his commuter travel as unprofitable, largely on account of this terminal charge. Nevertheless, he continues to force the commuter to use the same expensive terminal as the long-distance passenger, although its marble passageways, spacious waiting rooms and beautiful frescoed ceilings are not only not necessary for the commuter but actually he would prefer to be without them. The reason for this is that when a railroad station is built the architect usually contrives to increase the distance which the commuter has to walk between the train platform and the street, although the chief

thought of this passenger is how to get most quickly between the train platform and the street. Hence, a system of bookkeeping which charges any considerable proportion of the fixed charges of these marble palaces to the commuter business is erroneous. If trunk line managements doing a commuter business would take a leaf from the experience of the electric roads they would find that there are many better ways of providing for the commuter than to put him on a par as regards terminal facilities with the long-distance passenger.

One of these ways of caring for the commuter is to provide a simple terminal designed primarily to accomplish (1) speedy switching of trains, and (2) saving of time to the passenger in passing through the terminal. The Brooklyn Bridge terminal of the Brooklyn elevated railways is an early though good example of such a structure. It is used now somewhat less than formerly, owing to the construction of new rapid transit routes between New York and Brooklyn, but a few years ago about 100,000 elevated railway passengers a day passed through this station each way. This compares with about 55,000 daily one-way passengers at the Grand Central Station for both the New York Central and New Haven and Hartford roads, and of about 74,000 for all of the city terminals of the Long Island Railroad. Examples of other compact terminal stations without excessive investment may be found at several points on the Boston Elevated Railway, at Hoboken on the Public Service Railway and elsewhere.

Another solution for the problem of the delivery in the city of incoming passengers is to have a distributed rather than a concentrated terminal. This is now followed for all of the Brooklyn traffic that enters Manhattan over the Manhattan and Williamsburg bridges by the Center Street loop, from which passengers can leave the cars at any one of a number of points. Another example of a distributing terminal is the elevated loop in Chicago, used for both interurban and city traffic. Indeed, this plan of a distributing rather than a concentrated terminal was proposed for New York a decade ago when it was suggested that the Lexington Avenue Subway, then under contemplation, should be built large enough to admit standard railroad coaches from without the city limits. While such a plan was not to be recommended on account of the added expense for excavation, it suggests the third way of caring for suburban traffic, to which we have already referred.

This is to extend the service of the rapid transit line out onto the trunk line tracks, thus doing away altogether with any terminal for the commuter. This plan is followed largely in London; in fact, it was followed there even before the electrification of the underground railways. Since the change to electricity of the Metropolitan and District Railways and the construction of the tube lines the practice has been greatly extended. With the further electrification of the trunk lines extending from London a still greater expansion of this practice may be expected.

The construction of a terminal in the Hackensack Meadows for the steam suburban traffic now being taken into Jersey City, Hoboken and Weehawken, as suggested by Mr. Parsons of the Erie, with rapid transit service in from that point, would be in line with the development mentioned above. The service supplied to commuters on the Pennsylvania Railroad by the Hudson & Manhattan Railroad from Manhattan Transfer is another example.

### Europe Will Now Push Electrification, Profiting by Our Experience

MANY persons who look forward eagerly to the convenience and facility of electrification of our steam railroads ask why there is so much more interest abroad in the matter than here. A moment's reflection would show them that conditions on the two sides of the Atlantic are not analogous, that the dominating forces acting to make electrification a reality in the two places are quite different. And they are not the same, either, in all European countries. Different as conditions may be, however, here and there, many valuable lessons will be furnished us by the next few years of electrification progress abroad. And as present practice there shows the effects of the past few years' developments here, so we may expect a reciprocal effect upon our own practice a few years hereafter. It therefore behooves us to watch carefully every electrification move made abroad, to analyze the reasons for the economic pressure forcing it and to study the technical principles applied in working out its problems. Americans are not particularly familiar with the situation abroad; they lost interest in it on account of the slump caused by the war. It is now time to gather up the loose ends of information in order that we may intelligently keep our hold of the situation.

Before the war there was much talk in European countries regarding electrification, and not a few far-reaching plans were made. The governments which owned or directly controlled railroad lines were particularly active. They foresaw what actually came to pass during the war, a condition in which the existence of the countries depended upon the facile movement of trains. Fortunately, they were able to muster their fuel resources to meet the emergency, but it was at frightful cost. The resolve was then firmly made to secure comparative independence of coal for transportation as soon as possible and to stretch the meager supplies of fuel to the limit by the exercise of the best obtainable technical skill. This resolve is now being carried out, at least as far as planning is concerned. Government commissions are actively at work; as soon as the money stringency loosens a bit there will be some real action.

This whole subject was recently presented in a convincing way by Sir Philip Dawson before a group of engineers at Liège, Belgium. His address was abstracted in last week's issue. It shows quite clearly why and how the transportation and power problems of every country are individual. Sir Philip occupies a vantage point for observation of this situation.

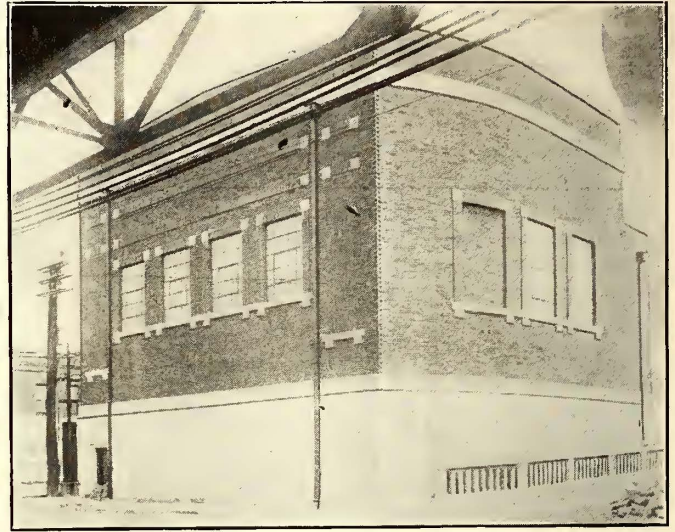
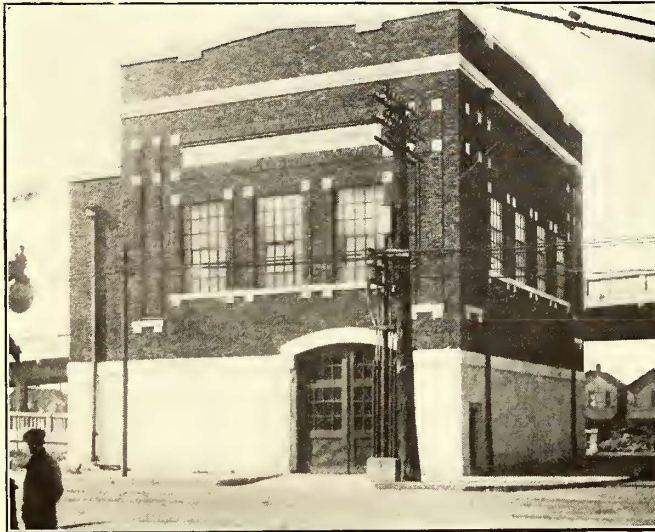
Now as to reasons why our neighbors across the water are more stirred up about electrification today than we. Here are some of the salient ones: Enormous cost of fuel, which in some cases must come from outside the country; presence in many countries of water powers, proportionately large with respect to transportation and industrial needs, and to the area over which distribution has to be made; general and vital interest in programs of economy and reconstruction following the waste and devastation of war; need for increasing track capacity by means involving the least capital expenditure. Although the handicaps of expensive capital, disadvantageous exchange rates, shortage of supplies and multitudinous demands upon money, men and materials render the carrying out of an electrification program a Herculean task, this task will be accomplished if we are to judge by what has already taken place since November, 1918.

# Electrical Layout in New Substation

Kansas City Railways Has Incorporated Several Unusual Features of Building Design and Equipment in Recently Completed Station—But One Oil Switch Used for Each Pair of Incoming and Outgoing High-Tension Lines

BY S. H. GRAUTEN

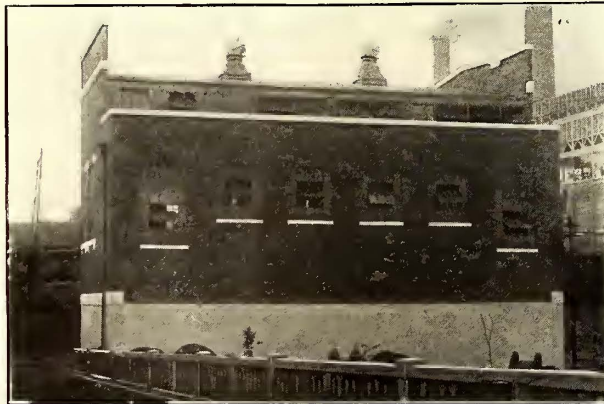
Electrical Engineer Kansas City (Mo.) Railways



A NEW substation recently placed in operation by the Kansas City Railways is of particular interest because of the peculiar building design, forced by topographical conditions, and the unique layout of the high-tension circuits, resulting not only in the saving of equipment but in improving operating conditions at other substations subsidiary to this one.

In general this new substation was built to supplant the old Kaw River power house and it thus forms a switching center for the entire west side of the city, feeding two other more remote substations and a heavy interurban line. It is also a tie-in point with the Kansas City Power & Light Company's system. Because of the importance of the station as a high-tension switching center it was deemed advisable to build it as a manually operated station, despite the fact that the company now has four automatic substations in operation. However, provisions were made for the installation of automatic devices at a later date, when the separation of the railway and lighting systems will have been completed, thus simplifying the operation of the station.

The new substation is located in the west bottoms industrial district at an intersection of the elevated line and two surface lines. The station is known as the James and Central substation, from the adjacent streets. The location of the station in the bottoms had a very important bearing upon the design of the building. This district was inundated in 1903 and by previous floods, and even though flood preventive measures



FIGS. 1, 2 AND 3—FRONT, REAR AND SIDE VIEWS OF NEW SUBSTATION OF KANSAS CITY RAILWAYS

have been taken along the Kaw River since that time this past history had to be given serious consideration. Consequently the level of the main operating floor was placed at an elevation slightly above the 1903 high-water level and the station laid out so that no equipment which could be damaged by water would be installed below this line.

This high elevation of the main floor gave considerable basement space, part of which was utilized for the oil-insulated transformers, so installed that the bushings are above the high water line, and part by having the machine entrance at the sidewalk level. An opening was left in the main floor over this machine entrance, forming an entrance well which permits the trucking of heavy parts directly into the building under the craneway. This entrance well also provides a convenient station for tower truck or emergency wagon, a desirable arrangement from an operating standpoint.

Some complication was encountered in providing suitable foundations for the building, inasmuch as the soil in the bottoms is principally of quicksand, with rock only at great depth. The building was therefore set on a reinforced concrete mat ranging in thickness from 16 in. to 42 in. The entire structure up to the first floor level, including machine foundations, was built of solid concrete. Above the floor line the building is of brown matt brick with native Missouri Carthage stone for base course, sills, name panel, cornices and coping. The effect is dignified and in keeping with the purpose of the building as well as its surroundings.

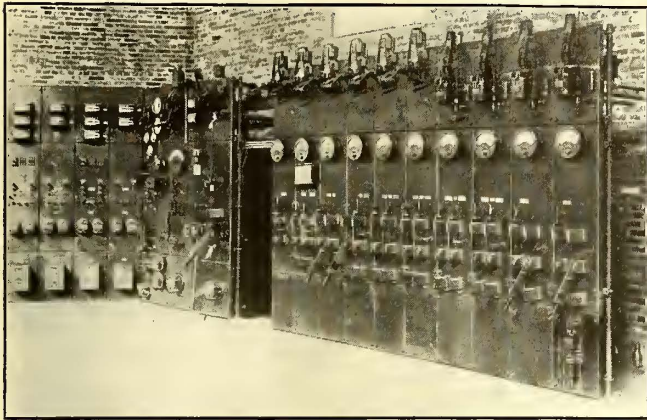


FIG. 4—A CLOSE-UP OF THE SWITCHBOARD, SHOWING THE FOUR HIGH-TENSION PANELS SET ON AN ANGLE TO THE REMAINDER OF THE BOARD

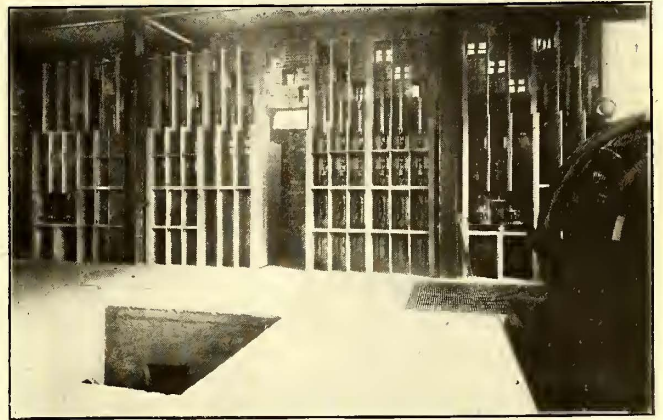


FIG. 5—FRONT OF HIGH-TENSION BUS STRUCTURE, THIS VIEW BEING TAKEN BEFORE INSTALLATION OF THE THREE-COMPARTMENT-WIDE DOORS

The substation was laid out to accommodate three machines of any size up to 3,000 kw., the initial installation consisting of one 2,000-kw. rotary converter. The floor plan and general location of equipment are shown in an accompanying drawing.

ARRANGEMENT OF ELECTRICAL EQUIPMENT

One of the most interesting features of the station is the arrangement of the high-tension lines and their connection to the station bus in a manner which reduces the number of oil switches required to one-half that usually employed for such installations of incoming and outgoing high-tension lines. Four incoming and four outgoing lines are grouped in pairs and con-

sidered a unit, each pair being in effect a through line with a tap-off to the bus of this substation. This arrangement requires but one oil switch for two lines, which is obviously a saving of one oil switch together with the accompanying bus structure and corresponding floor space. Each incoming line is provided with reverse power relays and current transformers. Each outgoing line is provided with induction type overload relays and current transformers. The combination has the advantage that it permits operation of any line as a radial line direct from the generating station to the remote substation, independent of the bus at this substation. Economy of cable capacity dictated that the several lines be ordinarily operated in parallel on this

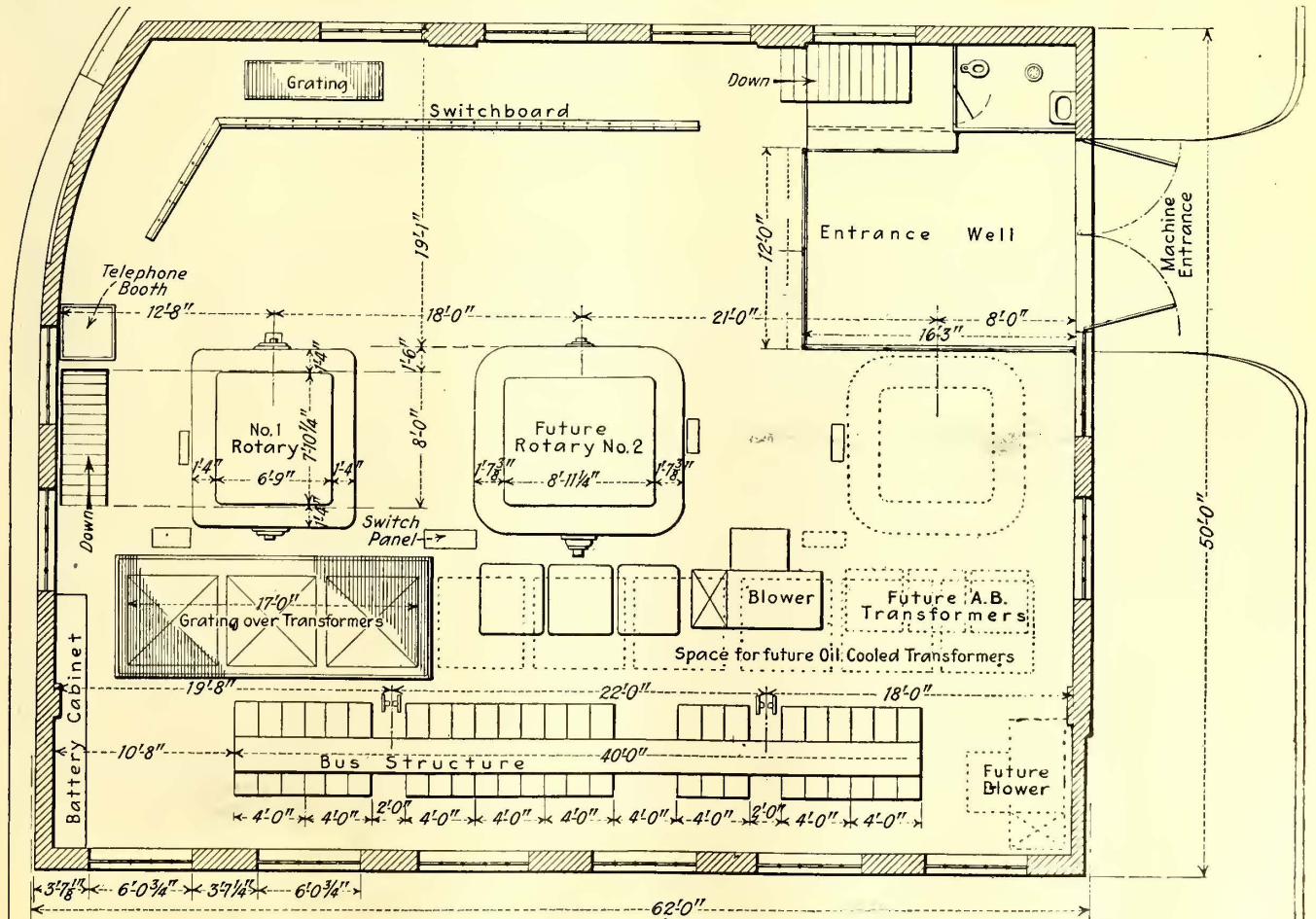


FIG. 6—FLOOR PLAN AND LAYOUT OF EQUIPMENT IN NEW KANSAS CITY SUBSTATION

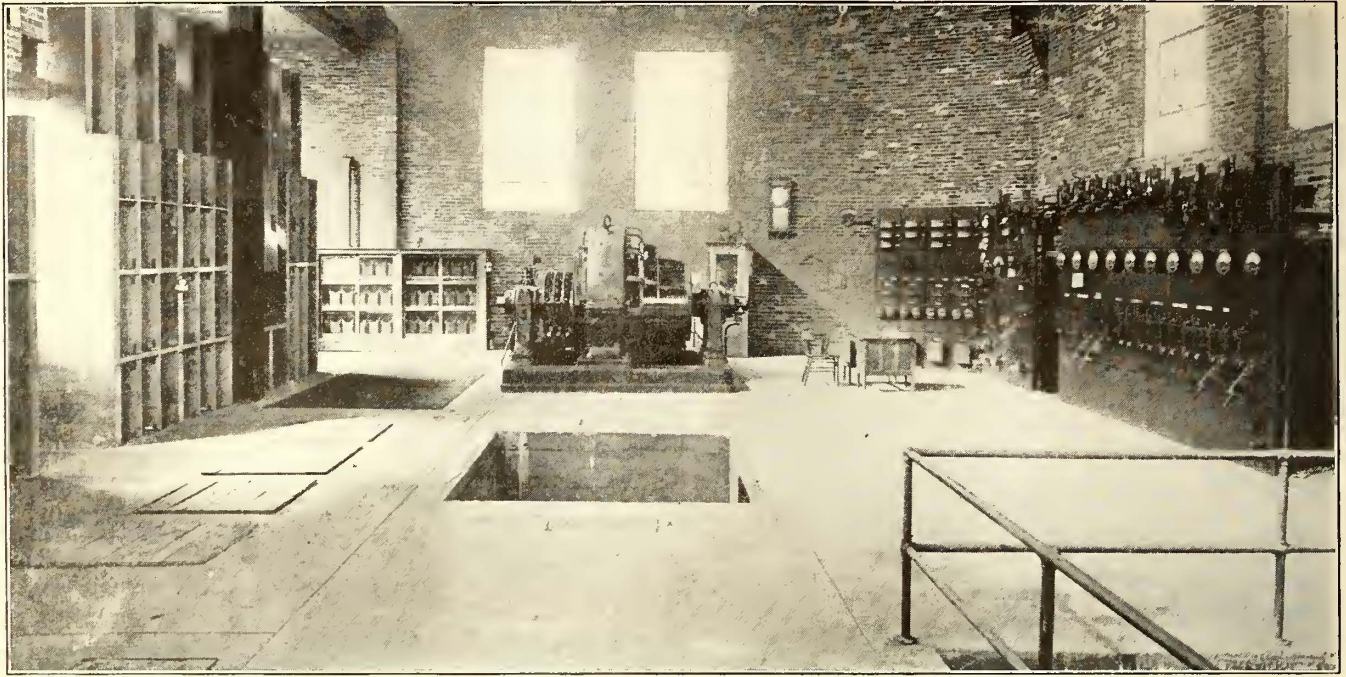
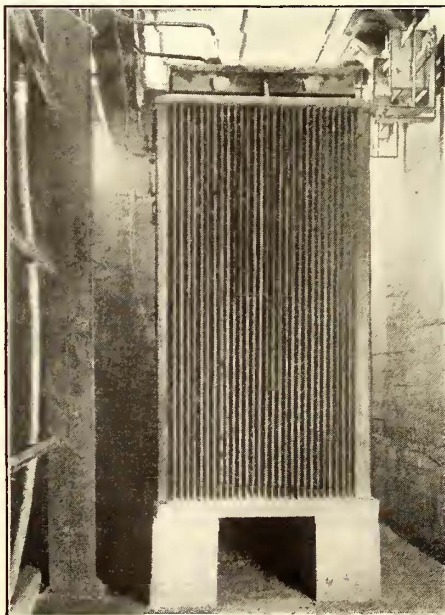
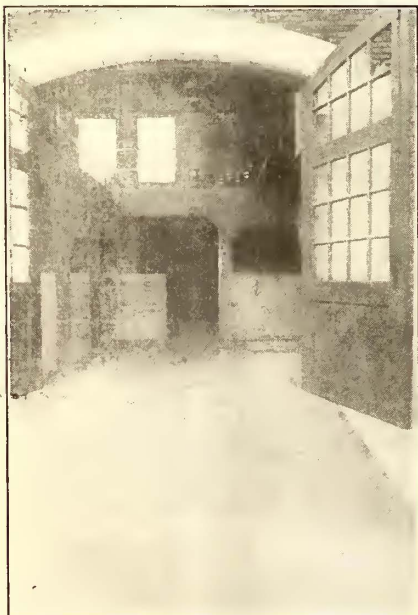


FIG. 7—THE GENERAL LOCATION OF SWITCHBOARD, CONVERTERS, STORAGE BATTERY AND HIGH-TENSION BUS AND SWITCH STRUCTURES CAN BE SEEN IN THIS PICTURE

substation bus, with the outlying substations feeding from this point in tandem fashion. The arrangement of relays is such that when operating in this manner, should there be trouble in this substation, the line oil switches to the bus would open, thus cutting off this station but leaving the cables connected direct to the more remote substations and probably avoiding an interruption of service to these other loads. The number of spare cables required is considerably reduced and with the diversity obtained by the combination of the three substations and interurban load the saving in cable capacity is not less than one full cable. A study of the accompanying circuit diagrams will make this arrangement more clearly understood.

The high-tension bus structure and the oil switches and disconnects are located on the main floor, which places them in a convenient place for operating. There are three sections of the bus, one of which is for future use. Each bus section provides for one rotary converter, two incoming 6,600-volt lines, two outgoing 6,600-volt lines, one electrolytic lightning arrester and one set of potential transformers. The structure is of composite construction, the oil switch valves and main barriers being of concrete, while the barriers between phases are of transite. The bus compartments themselves are made of gray pressed brick with precast concrete horizontal slabs. The transite doors are unframed and are arranged so that one door covers all three dis-



VIEWS SHOWING DETAIL CONSTRUCTION IN KANSAS CITY SUBSTATION

Fig. 8—The machine entrance and well at the front end of the building.  
 Fig. 9—The single-phase oil-insulated transformers are located

in the basement, with the bushings placed well above the high-water line.  
 Fig. 10—Rear of the high-tension bus structure.

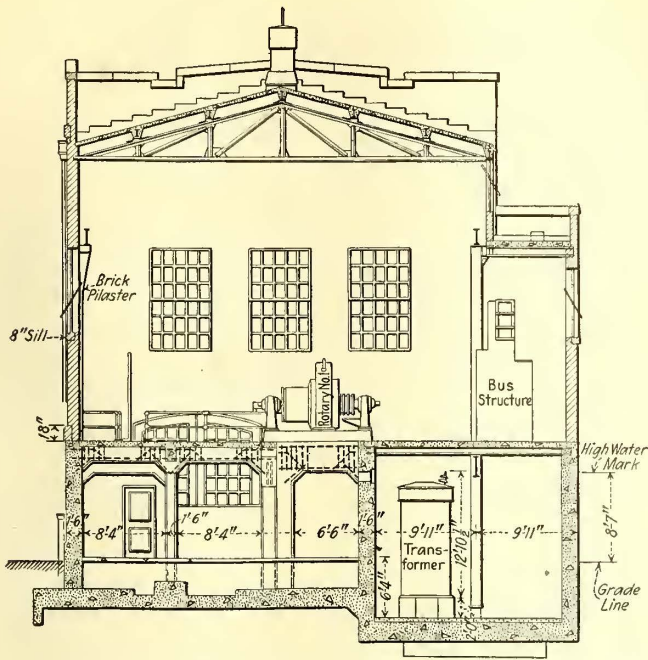


FIG. 11—A LATERAL CROSS-SECTION THROUGH NEW KANSAS CITY SUBSTATION

connects of a given set, so that the removal of the proper door uncovers the three switches which the operator is to handle without exposing other live parts.

The oil switches used are the General Electric Form K-52, 400-amp., 1,500-volt, solenoid-operated remote control. They are operated by a fifty-six-cell Exide storage battery mounted in a cabinet having sliding glass doors. The inside of the cabinet is protected from the acid fumes with acid-proof paint and the cabinet itself is ventilated by a duct through the wall of the building.

The initial converter installation is of standard Westinghouse design. The transformers are single phase, oil-insulated, self-cooled type, and are located in a large room in the basement, over which there is a grating in the main floor.

**SWITCHBOARD CONSTRUCTION AND ARRANGEMENT**

The switchboard is made up of seventeen three-section panels of marine black slate, manufactured, with the exception of the panels for No. 1 converter, by the General Electric Company. The line of the high-tension panels is placed at an angle of about 60 deg. to the line of the other panels, since this position helps in distinguishing these panels and also makes the instruments more easily read from the middle of the main

switchboard. Each high-tension panel provides for an incoming and outgoing line, a reverse power relay being mounted on the bottom section of the board and the overload relay on the lower part of the middle section.

One ammeter is provided for each incoming line and one for each outgoing line, three plug jacks being provided so that the ammeter can be cut in on any phase, and also for convenient calibration of meters and relays. One voltmeter is provided for each bus section.

A battery panel is provided for the oil switch battery and control of the motor generator set for charging the battery. The feeder panels are each arranged for two feeders of 1,000 amp. capacity each.

**MAIN BUS IS IN TWO SECTIONS**

There are two main buses, which may be connected together by a tie panel. For convenience of operation, the connection of

feeders to these two buses has been so arranged that all feeders to the west are on one bus and all extending to the east are on the other, this arrangement being of considerable value during emergency operation. An auxiliary bus and panel is also provided so that any feeder may be thrown on the auxiliary bus while repairs or inspection are being made on the circuit breaker. On each positive bus section there are two tie feeders and two independent feeders. The independent feeders are equipped with automatic reclosing circuit breakers. The tie feeders, which connect through a section of another sub-

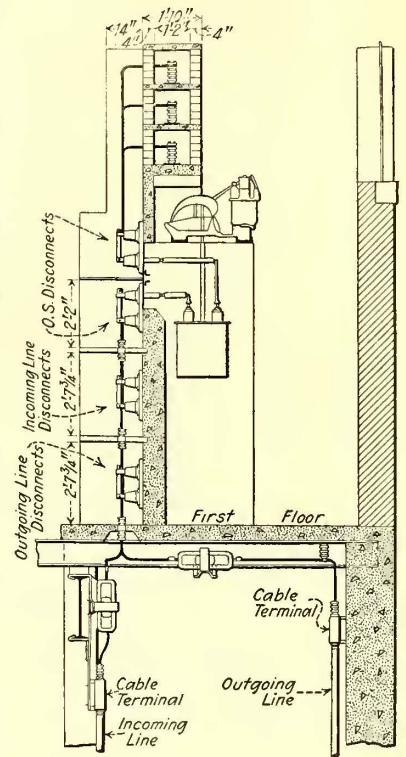


FIG. 13—CROSS-SECTION OF HIGH-TENSION BUS STRUCTURE, SHOWING ARRANGEMENT AND CONNECTION OF OIL SWITCHES AND DISCONNECTS

station, are equipped with the usual automatic circuit breakers. The use of the reclosing circuit breakers permits the station to be without an attendant during the off-peak hours, when the number of cars in operation permits a reduction in the rotary converter capacity on the line. All feeders are taken out of the substation underground, either to a pole serving the surface lines or an elevated column for the elevated lines.

From the standpoint of negative returns, the substation is very fortunately located, for the number of surface and elevated lines radiating from this point provide an excellent return circuit. These tracks, together with the guard rails on the elevated structure, which are bonded, make a total of twenty-eight bonded rails, averaging 90 lb., radiating from the location of this substation.

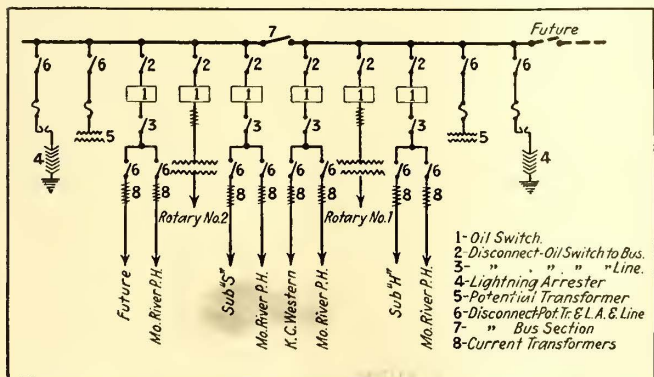


FIG. 12—A SINGLE LINE DIAGRAM OF HIGH-TENSION CONNECTIONS, SHOWING MANNER OF PAIRING INCOMING AND OUTGOING HIGH-TENSION LINES

# Norfolk's Traction Situation—II

Determination of Value Made by a Judicial Decision Based Upon the Consideration of Several Indices of Value Such as Reproduction Cost at Both Present and Pre-War Prices, Historical Investment and Past Deficiency in Earnings

THE valuation of the railway property is an interesting part of the Taylor-Cooke report on the Norfolk traction situation, a review of which was started in last week's issue. Franchise recommendations formed the subject of the first installment; a third part will give the operating analysis and recommendations for rerouting and other service improvements.

Fixation of value for rate-making purposes as one of the guides toward an equitable result with respect to the over-all program was predicated on doing practical justice to the riding public, local property owners and to investors in the property as well as in the securities of the railway company. Valuation is admitted to be a matter of judgment, which in the Norfolk case was guided largely by four partial or incomplete measures provided by historical costs, estimated deficiencies in past earnings and by reproduction costs at 1914 and 1920 prices.

Stone & Webster had previously been employed by the Virginia Railway & Power Company to make a valuation of the property and had reported figures for reproduction costs at 1914 price levels and at 1920 price levels and had also reported on the historical investment. The figures thus reported were checked and accepted with modifications in the Taylor & Cooke report. The following table shows the original Stone & Webster figures and the modifications made:

	Stone & Webster Inventory and Appraisal		Taylor & Cooke Modification	
	1920	1914	1920	1914
Land.....	\$1,149,549	\$919,639	\$730,049	\$584,039
Construction and equipment Organization prior to construction.....	9,116,732	4,651,500	9,116,732	4,651,500
Working capital.....	853,849	439,968	582,017	317,515
	223,269	97,960	223,269	97,960
Total.....	11,343,399	6,109,067	10,652,067	5,655,1014
Portion of power plant chargeable to railway on basis of 16 per cent use....	472,000	259,604	472,000	259,604
Grand total (A).....	11,815,399	6,368,671	11,124,067	5,910,618
Estimated omission (Note A) inventory being incomplete.....			175,000	100,000
(A) Excludes portion of transmission line between Norfolk and Richmond.				

The historical investment as developed by Stone & Webster was accepted without modification by Taylor & Cooke. In the determination of the final value to be recommended as a consideration for the base rate the following factors were then set up in a table:

ESSENTIAL FACTORS IN RATE BASE DETERMINATION		
	Taylor & Cooke	Stone & Webster
1. Cost to reproduce at 1920 prices.....	\$11,124,067	\$11,815,399
2. Cost to reproduce at 1914 prices.....	5,910,618	6,368,671
3. Historical investment excluding going concern and the increment of land value.....	7,077,400	7,077,400
	(accepted)	
4. Past deficiency in earnings below an 8 per cent return (a) excess power earnings not deducted.....	9,016,000	
(b) Excess power earnings deducted.....	5,118,000	
5. Minimum going concern value in case of company rendering good service is considered by Mr. Taylor to be.....	15 per cent of item 3	
6. Present going concern value considered to be.....	250,000	
7. Three-year construction program recommended.....	1,269,395	
8. Portion of Item 7 required 1920-1921.....	854,713	
Note:—Portion on order or under contract	551,831	
9. Deferred maintenance.....	830,572	
10. True deficit, year to April 30, 1920, after allowing adequate reserves for renewals, not including amortization of item 9.....	157,839	

With these various "indices of value" thus set up a judicial determination of value was made, the figure arrived at being \$8,750,000.\*

The arguments in support of a determination of the value for rate purposes in such a manner are then set forth in detail in the report and an abstract of them is here given.

## HISTORICAL INVESTMENTS AND EARNINGS

Great emphasis is laid upon the equity and necessity of recognizing unavoidable deficiencies in past earnings as an element of value to be incorporated in the rate base where the existence of such deficiency can be established. This is regarded as a practical measure operating to assure capital in public service that there will be no denial of the right to earn in excess of the usual 8 per cent as and when profitable years occur following the lean period of development in which the property either produces unreasonably low returns or none at all. The considerations of equity which justify recognition of this principle are clearly set forth in the report.

Major causes responsible for past deficiencies in earning power of the Norfolk property were specified as follows:

1. Construction of unnecessary and competitive lines by earlier independent companies under franchises unwisely granted by the city and the necessary inheritance of operating and of fixed charges thereon by the present company and public.

2. Unjustifiable neglect of the company's property and inefficiency of its management during the early years of its operation.

3. Burdensome franchise conditions imposing heavy annual charges upon the company for purposes which are in no sense connected with the function of the street railway.

To such extent that losses of return on the historical investment have been the fault of the companies then or now on the premises they cannot be admitted as part of the legitimate historical cost of the property or considered as an element of value in determining the rate base.

To the extent that such losses have been due to compliance with franchise provisions imposed by the city and to the unavoidable inheritance of fixed and operating charges originating in the construction of unnecessary and competitive transit lines they must be regarded as investment and considered as a legitimate element of value.

While the report attaches major importance to total historical investment plus suitable additions for intangibles as a principal index of the rate base value, the development of historical figures necessarily based on the incomplete records of fifty-one underlying companies, requiring in many cases the subdividing of property and income accounts as between the railway and power business of such companies, did not produce figures representative of investment and deficiency in earning power of sufficient accuracy and reliability as to provide an acceptable and defensible rate base.

Under the heading "Cost to Reproduce as a Basis of Value" the report analyzes the strong and weak points of this theoretical measure and develops its limitation

\*This value was questioned by the company before the Norfolk Public Utilities Commission and the \$11,000,000 figure argued for, as reported in the JOURNAL for Oct. 2, page 688.



as a practical guide toward an equitable result. The dangers and fallacies lurking in the advocacy of "Present Day Reproduction Costs" as value for rate making are fully presented from the standpoint of public service companies. The following quotations and comments embody the argument on this topic:

Even if it be admitted that theoretically the present day "reproduction costs" may reflect, from the standpoint of abstract economic equity, a fair present value for present rate making, it should, of course, be considered only as in the nature of an index and not as the actual numerical basis for computing the "return" to which the capital value of the property is entitled. To do so would evidently be to disregard the apparent fact that we are now on or near the peak of "values" as expressed in dollars and cents and that this peak is not likely to be of sustained duration to the extent that it would be either equitable, wise or economically sound to elevate service rates to a peak equivalent to this unstable "value" peak.

In other words, the interest of public utilities is to establish the "return" to which they are entitled upon a stable and defensible foundation, and not to have it based upon unstable peak conditions, the recession of which to lower levels would immediately lay the service company's rates open to attack. While it is stated that the "return" under present day conditions should be greater than in pre-war times in order to recognize specified economic factors bearing upon supply of and demand for capital, it is not believed sound policy to fix the return on a maximum peak basis, particularly as, in order to support the contention, resort must be had to an argument that cuts both ways. On this point the report says:

It may also be pointed out here that if reproduction costs were to be adhered to in determining the numerical rate base, then in future valuations and adjustments of service rates, which might be made in a period of low reproduction cost of a property built in a high cost period, the result would be an unwarranted reduction of rates and confiscation of property investment equivalent to such reduction. Conversely, if patrons of a property built in low cost periods were charged rates based on abnormally high and presumably non-permanent reproduction costs, such as at present existing, such rates could not be otherwise than excessive and beyond the reasonable worth of the service sold.

The inherent inability of cost figures developed under the reproduction theory to represent and interpret "value" in the broad sense which must be considered if valuations are to be used as a measure of the reasonableness of rates is summed up as follows:

One of the important factors to be regarded in establishing such a value centers about the ability of the property to give the service to which the community is entitled. Determination of costs upon the "reproduction" theory must necessarily be based upon the property as it exists, at the same time realizing that if the service facilities were to be reproduced today the property providing them would be of substantially different character than that which is actually in use.

Following development of factors centering about the value question, as outlined in the foregoing, a conclusion is reached that:

Consideration of such factors further emphasizes the truth that reproduction cost figures are of weight only for judicial and judicious use as a guide toward fixation of value of a proper and fair order of magnitude.

#### BOND DISCOUNT TO BE AMORTIZED

The company is conceded the right to amortize bond discount out of earnings as part of the cost of operation in order to provide for refinancing security issues upon maturity. If earnings are insufficient to provide for discount reserves the amount of shortage which a company would have to pay out of its treasury upon

maturity of the bonds is considered as part of the cost of developing the business and should be included in the rate base until it can be amortized and withdrawn from permanent capitalization.

Going concern value is "essentially the difference between the 'cost value' of inert property and the value of that property enlivened to service through application of human energies." It is recognized to be present in the Norfolk railways to a much less extent than in others which have maintained service of a character which begets maximum patronage with corresponding profits. In the absence of special conditions entitling it to more it is considered that 15 per cent of the established rate base represents a minimum allowance for going concern value for a property furnishing good service. While in view of local service conditions in Norfolk only nominal allowance is made for this item it is recommended that it be included in the company rate base in full amount following required improvement in service.

#### "SERVICE" DEPRECIATION ALONE CONSIDERED

The point of view taken with respect to depreciation as a factor in rate making is an interesting chapter of the "value" section of this report. It states in the preamble:

For the practical purpose with which we are herein concerned, physical property in public service may be considered as subject to two broad classes of so-called depreciation:

1. That theoretical depreciation which sets in and accumulates between the condition now of a physical item and the condition at which its practical serviceability begins to become impaired, and is replaced as a matter of maintenance.
2. That real deterioration in service value which begins to occur at the limit of good service life, accumulating rapidly thereafter through stages of poor service and bad service life to a point where the physical item ceases to function as an element of property useful in the public service.

Theoretical depreciation is discarded as an academic factor and in view of the truth that the theoretical computations on which it must be based can be put to no practical use. The doctrine tending to support it as an element of weight is believed to be faulty on economic reasoning, but aside from that question the theory itself, it is stated, cannot be correctly incorporated in its numberless refinements in any practical system of accounting yet devised. As to its effect on the broad question of "value" the report says:

Any real conception of the sweep of economic tides and of the forces making for obsolescence which underlie the "value" question shows clearly that these transcend in effect and importance all such petty correction factors as would result from an attempt to work out practically such a theory of depreciation to a logical conclusion.

As such depreciation is a theoretical liability which never matures so long as the property continues to function, a street railway company should not be required, from the public viewpoint, to accumulate out of earnings and maintain a fund equivalent to it which burdens the company with an additional needless expense to no useful purpose.

Deterioration below good service condition as a kind of depreciation, being a matter of vital concern to both public and company, was made the subject of extensive field surveys to determine the practical physical things which have to be done in Norfolk to provide the basis for satisfactory and efficient service. The rehabilitation program thus developed shows, by street locations, necessary repairs and resurfacing of track, necessary relocations of track and portions which require complete rebuilding, together with the cost of this work and of

necessary rehabilitation of passenger cars. Total cost of restoration to be effected through the specified program aggregates \$830,572.

GOING CONCERN VALUE PRESENT ONLY  
AS JUSTIFIED

While it is stated as a basic proposition that fares should be made sufficient to establish adequate reserves to provide for renewal of property not taken care of by current maintenance it is, on the other hand, considered that in the Norfolk case it would be unjust in principle to concentrate the above cost of correcting deferred maintenance on the present riding public through a fare increase for that purpose. Referring further to this subject the report says:

It is also necessary to give great weight to the cause of deterioration, *i.e.*, whether it has been allowed to accumulate as a result of unjustifiable inefficiency of management and as a result of diverting earnings to pay unjustified dividends at the expense of proper upkeep of property, or whether past earnings have been insufficient to permit of adequate current maintenance and setting aside of proper renewal reserves to take up the invisible accumulation of physical wear and obsolescence when these have matured at the limit of good service life. It is also essential to consider the effect of inescapable physical conditions inherently affecting operation of the property, in their tendency to shorten the life thereof and to exact heavy expenditures for its proper upkeep. Such conditions exist in the Norfolk situation in the character of the subsoil and drainage underlying track foundations. These are such as to prevent the maintenance of good track surfacing except at the cost of constant abnormal expenditures for this purpose.

Earnings have been insufficient to provide for the abnormal amounts which company should have spent on such work, resulting in poor surface of track and bad joints characteristic of the past, and of today, in the streets of Norfolk and on county lines.

For the above and other reasons set forth deterioration below good service condition as measured by cost of restoration was not considered as a deduction in arriving at the rate base value. The position was taken that cost of restoration simply represented an element of value now absent from the property but which must be promptly incorporated and maintained therein out of company resources amplified and strengthened through means specified in the comprehensive program, and not out of proceeds from a fare increment designed for that special purpose.

AMOUNT OF VALUE ESTABLISHED

After consideration of all factors conceived to bear upon value for rate making of the property and going business organization producing street railway service covered by the report the rate base was established at \$8,750,000 as of Jan. 1, 1920. Upon this the company should be entitled to earn a return of 8 per cent, and upon subsequent investment it should be entitled to a return at a rate commensurate with interest cost of new capital plus a just profit thereon. The above valuation is at a rate of approximately \$89,000 per mile of equivalent single track operated and is about midway between reproduction costs at 1914 and 1920 prices, and about \$1,700,000 in excess of estimated total historical investments in physical property. Provision is made, presumably as an expedient to get practical results, that when the company completes the new construction and rehabilitation program and is rendering the service so provided for it shall be entitled to add 15 per cent to its rate base for minimum going concern value, instead of the nominal amount of \$250,000 which was temporarily allowed.

## Snow Costs Money

**Snowfighting Is a Serious Problem for Most Electric Railways, but a Well-Organized Force with the Proper Equipment Will Solve It**

WHEN snow is not removed from city streets and main trunk highways the public pays the bill. New York's vehicular paralysis during twelve days of February, 1920, meant an economic business loss of \$60,000,000. Figuring conservatively, the nation's business loss due to the snow invasion of last winter was at least \$500,000,000, states the *Commercial Vehicle*, New York, a motor truck fleet owners' magazine.

The seriousness of the snow removal problem is perhaps greater this year than ever before. What are we going to do about it? The first requisite is a public realization of the problem, and that snow can be removed and money saved by removing it. True, snow is one of Nature's greatest problems which man must solve. But its solution is not an impossibility if we first admit that snow is a problem and then attack that problem in a businesslike way.

Snow removal is essentially an emergency work. The snow battle consists of three main phases, the attack, the battle and the clean-up. The campaign must be worked out months in advance. Plans cannot be made the day the storm arrives. Then it will be too late. More snow battles have been lost on account of a delay in the attack due to a lack of a prearranged plan than for any other cause with the exception of inadequate apparatus with which to make the fight. There must be a plan worked out months in advance.

Additional labor and private vehicles and other equipment must be employed during the emergency. Labor must be paid at a rate in excess of the average in order for the city to compete with industries.

Owners of trucks suitable for snow removal work must be paid in excess of the rate which can be obtained from ordinary industries in order that contracts can be made for such equipment in advance and such contracts kept. Heretofore such contracts have been broken because the vehicle owner could make twice as much money hauling for private interests after a storm as he could in helping to remove the snow.

It also seems necessary that the vehicle drivers should be paid a bonus over and above their wages as paid by the vehicle owners in order that they can be called and actually put into service immediately the snow has reached a certain depth, be it 4 o'clock in the afternoon or 4 o'clock in the morning. Greater progress can be made in removing or plowing the snow in two hours after it has started falling than can be made in ten hours after it has become packed by vehicular traffic.

Machines instead of manual labor should be employed to the greatest possible extent. The hand shoveler should be eliminated wherever practicable. Motorized plows, mechanical loaders, steam shovels and other forms of contractors' equipment usually idle during the winter months should be employed to greatest possible extent.

In a report received from the American Embassy in Argentina by the Bureau of Foreign and Domestic Commerce of the United States, the statement is made that the Argentine Minister of Public Works is investigating the possibilities of electrifying the Central Norte Argentino Railway from Cordoba to Cruz del Eje, a distance of 93 miles.

# Selling and Safety Occupy C. E. R. A.

**W. L. Goodwin Arouses Great Interest by Address on the Need for Sales Managers and Co-operation—  
Bernard J. Mullaney Urges Policy of Publicity—Safety Is Discussed—Association  
Votes to Have but Two Meetings a Year, Though Discussion Points to Desire for  
Separate Group Meetings of Equipment, Track and Electrical Men**

**D**ECLARING that the electric railway companies are the only big organizations in the world in the business of selling a product that do not have sales managers, W. L. Goodwin aroused the one hundred members attending the Indianapolis meeting of the Central Electric Railway Association on Dec. 2 and 3 to a new conception of the idea of applying merchandising principles to the business of selling transportation. His address on co-operation within the industry and how to sell its product to the public proved to be the outstanding feature of a program interesting and instructive throughout. Addresses were also made by B. J. Mullaney, on publicity, and by Charles B. Scott and Edward C. Spring on safety work.

The only business matter of importance passed upon by the association was the adoption of a by-law amendment whereby there will be two meetings a year instead of three. These two are to be held on the fourth Thursday and succeeding days of January and July, the January gathering to be the annual meeting. An important executive committee matter was the election of L. E. Earlywine, assistant secretary, to succeed A. L. Neereamer, deceased, as secretary of the C. E. R. A. and of the subsidiary accountants' association, as well as chairman of the subsidiary traffic association.

Mr. Goodwin, General Electric Company, though thoroughly well known in the electrical field as the genius behind the great co-operative movement between the central stations, electrical manufacturers, jobbers, dealers and contractors which started on the Pacific Coast and is spreading over the whole country, came to the meeting of the electric railway men almost an unknown, save to the program chairman, Harry Reid, president Interstate Public Service Company, Louisville, Ky., who is active in the power field as well as the railway. Judging by the discussion that followed the session at which Mr. Goodwin talked, the thanks of the association are certainly due Mr. Reid for bringing this speaker's ideas and personality into the railway field.

## SALES CO-OPERATION IS NEEDED

Getting into his subject, scheduled on the program as "Co-operation," Mr. Goodwin said that the test of business men over a long period of years is whether they are a success or a failure. If they are not making a profit in their business, he declared they are failures. He said there had been a tendency in the electric railway field to assume that all the wrong was on the side of the public, whereas in the light of the above test, the large number of electric railway properties in the hands of receivers might point out that there were some things wrong within the industry.

Co-operation within the industry itself, as the groundwork necessary for placing the industry in a position to sell its produce to the public successfully, was urged by the speaker. But co-operation cannot be successful unless the individuals co-operating are successes, he said, otherwise the effort results in a group

of co-operating failures. No matter what a product may be, how good or how useful, it has no value unless there can be agreement on the fundamentals of the product. He thought that the notable lack of agreement in the electric railway industry was the principal reason that the street railway companies are so misunderstood by the public. The public does not understand this mysterious thing called "service" and does not appreciate that it is receiving what is actually good service or poor service, because a yardstick for measuring the quality of service has never been found. And somehow electric railway men have never been able to give the story of their service to the public in a way understandable by it.

He compared this inability of the layman to understand that what he was getting might really be good service, though condemned, to the contract for power which the average central station requires a man to sign. The contract has printed matter on both sides of the form containing a lot of technical terms and conditions about load factor, kilowatts load, volts and amperes, about which he knows nothing. But since the company is the only one in the community from which he can buy power, he blandly signs the contract and permits what he considers a "meter cheater" to be installed on his premises to record what his bill shall be, and he has no measure that he can use to check the meter. The speaker said that the difficulty is that the men in these utility businesses are technical people, all absorbed in the engineering problems, and they deal with so many things mysterious to the public that it looks upon them with suspicion. It is as though they talked a different language. There is no way to explain street car service, and we can't say to the public, as a prominent railway man of another day is reported to have done after a period of ceaseless criticism, "If you don't like our service why the h— don't you walk?"

This suspicion of the general public about things electrical, including the street railway, Mr. Goodwin said, has been intensified by the fact that the utility men have for years been at discord with one another and have been trying to sell their own product by discrediting that of the other fellow. As practical business men in the business to make money, we must agree in the family on how our product shall be sold, he argued. The reason people are unwilling to pay a fair price for our product is because we are poor salesmen—we have not learned how to sell transportation. The first thing to do is to get the house in order, agree on a common story and then go out and tell it. And in going out to get the people to help solve our problems, we cannot expect much success unless we help them solve theirs. By this, the speaker meant that not only should the railway officials be members of the Kiwanis, Rotary and other civic clubs, but they should be leading spirits in those clubs and in every other civic movement and any general cause of the public.

Mr. Goodwin said that the electric railway companies

hold the singular position of being the only business in the world that does not have a sales manager. He thought this was why there were so many companies in receiverships. In this connection he pointed out that the railway officials have been completely occupied with the problem of getting the cars over the lines, and there has been no one whose duty it was to sell the service. He said the companies have got to have sales managers whose sole duty it is to go out and sell rides and make the people like them and pay a lot more for them. Publicity, he said, is only one of ten thousand ways of selling the commodity, though it is an exceedingly important method. Of all the methods, the spoken word is the best, for it starts the mind going and the printed word keeps it going.

Mr. Goodwin said that a man who has a commodity to sell and does not talk about it is lacking in faith in it. One cannot sell anything unless he believes in it, and he cannot believe in it unless he "has got the goods."

Continuing his argument, Mr. Goodwin said that no man in the electric railway business can be an operating man, an engineer, a mechanic, a financial man, and in addition be a sales manager. This simply is an impossibility. The mental attitude of mind of the man who sells and the man who manages are entirely different. He insisted that one cannot compromise principles, and that sales work and management are two different principles and cannot be compromised. A sales manager must be an enthusiast, he must know all of the good points about the thing he is trying to sell, and while knowing any possible flaws, he must be skillful in keeping the customers' mind on the good things so that they won't think of the possible defects, and he must go out and talk his product from morning until night. On the other hand, the executive must be a cool, calm man who will direct operations and watch results.

Henry Ford and John Wanamaker were referred to by the speaker as the greatest of all business men in the country, yet each has included in his organization the best sales manager that he can secure. A man may be ever so good an operating railway man and yet as a salesman be nothing. Mr. Goodwin expressed a very earnest desire to see a sales manager brought into the organization of the electric railways.

He then told the audience how he had talked about the utility business to some four hundred business men of South Bend, Ind., a few days before, gathered under the auspices of the Rotary Club. In repeating part of the speech he had made, he demonstrated how the problems of the utilities can be told to the public and how the public can be sold on the utility by one who is free from all the operating responsibility and has the salesman's instinct. He concluded by saying that if every one would do his bit in thus selling the industry, the effort would ultimately create a psychological state of mind that would enable the electric railways to win.

#### MR. MULLANEY TALKS ON PUBLICITY

An address on publicity by Bernard J. Mullaney, public relations manager People's Gas, Light & Coke Company, and director Illinois Committee on Public Utility Information, was presented to the association at the beginning of the afternoon session on Dec. 2, and was followed by Mr. Goodwin's talk. Harry Reid presided at this session.

At the outset of his address Mr. Mullaney declared that he did not particularly like the term "publicity," the title of his address on the program, but he said that

up to this time no better word has been invented to describe the idea which he meant to convey. He then outlined ways and means of educating the public, but the best channel of all, in his opinion, was the newspaper. The utility manager is seldom a good judge of what the newspapers want. He sees only one side of the case and is apt to see that so earnestly that his judgment of the other side is obscured. It is practically essential to get the assistance of men who are used to looking at the public side and who have had training and experience in writing for the public, and facts, not arguments, should be the foundation of all publicity efforts in behalf of the public utility industry. From them will come the kind of public opinion that is wanted—an informed and well-grounded and stable public opinion.

The place to start giving educational publicity matter used, established and made effective is in the home town newspaper, and the person to get it started is the local utility manager. The way for him to start in the home paper is by using the columns of that paper to advertise his business. Many managers of public utilities think they have nothing to advertise unless they happen to have gas or electric appliances to sell, that the use of their transportation or other utility service comes automatically and that the public must use it or do without. This is an error, because advertising in the columns of the home town paper cultivates goodwill on the part of the public. The newspapers also want news, and if the company is doing anything or if the officers as individuals are doing anything that will be news to the community, the newspaper publisher should be told about it. The manager should also be an active factor in the community life of the town where he operates.

In conclusion, the speaker told about the work of the Illinois Committee on Public Utility Information, after which had been patterned eight or ten similar enterprises in neighboring states. The Illinois committee has been at work for about a year and a half and sends out regularly informational material ready for use in the newspapers, prepares speakers' bulletins and is prepared to furnish other information about utilities on request. The State University has asked for and receives 300 copies of everything the committee prints. Results are effected in a multitude of ways, and those obtained in Illinois can be duplicated whenever or wherever an effort is made. The Illinois plan may not be the only one or the best one that can be found, but it is a plan which works and it is the only plan that is producing observable results anywhere in the country. These results, the speaker thought, would be cumulative and ultimately the public utility industry should be made as safe and immune from unfair political attack as the churches and public schools.

#### BUSINESS SESSION ON THURSDAY MORNING

At the opening session on the morning of Dec. 2, President Robert I. Todd and both vice-presidents of the association were absent because of engagements with local authorities or the state commissions, from which they could not be excused. C. N. Wilcoxon, president Chicago, Lake Shore & South Bend Railway, and a former president of the association, was therefore invited to preside. The chairman explained that the principal speaker on the program for the morning, James P. Barnes, president Louisville Railway, had been unable to be present on account of important fare hearings.

H. H. Buckman, master mechanic Interstate Public Service Company, Scottsburg, Ind., made a progress report as chairman of the standardization committee of the C. E. R. A. At the time of the Ottawa Beach meeting last June he had been forced to report his inability to get the members of the committee together, and by motion of the association the president had been instructed to impress upon the members of the committee the importance of this work and their duty to take active part. Mr. Buckman reported that following this meeting President Todd discharged all members of the committee and then later reappointed the same men. The effect was helpful, Mr. Buckman said, but he had yet been unable to get a full attendance of the members. He pointed out that one of the first things the committee was endeavoring to do was to make available in proper form for use by manufacturers the standards of the association already adopted. He said that when C. E. R. A. standards were now specified to the manufacturers, the latter were unable to find out what these standards were because the records were incomplete and no drawings available. This applied to wheels in particular. Consequently, in order to use the standards, it was necessary for each company to make up its own drawings, which was an expensive process.

#### C. E. R. A. STANDARD WHEELS HAVE GOOD RECORD

In reference to the value of the C. E. R. A. standard for wheel contour, he said that records had been taken to show that wheels purchased with the A. E. R. A. standard contour had given 47,000 miles of service, and upon the first turning, at which time the wheels were brought to the C. E. R. A. standard contour, they had given 54,000 miles service before the second turning was necessary, showing the relative efficiency of the two contours. He pointed out that the association had adopted standards for axles, wheels, brake shoes, trolley wheels, end connections, couplers and several other things, and that the records should be made available so that these standards could be freely used if good, and if not, the committee should be so instructed. These old records of the company must also form the basis for any new work the committee may undertake, and the chairman felt that not much could be done until this matter had been cleared up, except perhaps for work on the controlling dimensions of cars used in interchange service.

R. N. Hemming spoke of the great need of a standard stop sign for use in cities and the advantages that would be derived therefrom. He told of the very exhaustive study made of this subject some ten years ago, which had been presented to the association and no action taken.

Mr. Buckman then asked the association to give an expression as to whether the committee should work on a design of sign to be used on the span wire on trolley pole, a special sign set in the sidewalk, paving mark or what. Chairman Wilcoxon suggested that the committee submit different designs, pointing out the merits and deficiencies of each, and let the association vote upon the committee recommendations.

Mr. Hemming also called attention to the imperative need for a nationalization of the design of railway crossing warning signs. He said that special attention should also be given to the location of the numerous advertising signs, some of which are combined with a warning sign, for it has been demonstrated that these

were sometimes the cause of considerable confusion to the motorist.

#### REDUCTION OF MEETINGS DISCUSSED

The proposed amendment providing for two meetings a year instead of three, which had been presented at the Ottawa Beach meeting and held over in accord with the constitution for action at this meeting, was then brought up for action. In order to get the matter before the association in proper order for discussion, L. G. Parker, Cleveland Frog & Switch Company, who said he did not know what the idea of making the change was, moved that the amendment be adopted. It was duly seconded and the matter was then discussed by S. D. Hutchins, Chairman Wilcoxon, G. T. Seely, Myles B. Lambert, W. S. Rodger, S. W. Greenland, John Collins, S. W. Crawford and E. F. Schneider, practically all of whom were called upon by the chairman in an effort to bring out the consensus of opinion. Some of these men inclined to three meetings a year and some to the proposed amendment for two meetings, but no one seemed to have any strong conviction either way. When the question was called, the amendment was carried.

The association then took action electing R. R. Cunningham, James C. Jamison, Nelson E. Baxter, Albert L. Wescott, William Visel, G. E. Bell, W. B. Finchert, C. W. Rhodes, J. E. Slimp, William Anderson and A. M. Hartzog as supply members of the association.

In the course of the discussion on the proposed amendment regarding the number of meetings, the suggestion was made by Mr. Lambert, Westinghouse Electric & Manufacturing Company, that it might be desirable to have an independent meeting, either at the time of one of the main meetings or at a separate time, for the equipment men, another for the engineers of maintenance of way, and another for the electrical men. This gave rise to considerable discussion later on, after it had been decided that there should be but two meetings. In this connection, reference was made to the great success of the recent Iowa Electric Railway Association meeting, at which only operating men were in attendance, and to the semi-annual meetings of the equipment men alone of Pennsylvania, Ohio and West Virginia, under a loose organization called the Association of Electric Railway Men. W. G. Brooks gave a brief account of the manner of conducting the Iowa meeting and the highly successful results. This meeting was reported in the issues of this paper for Sept. 25 and Nov. 20, 1920, pages 585 and 1046.

The idea of group meetings wherein men of common interests would get close together in informal round-table discussions to talk over common problems without the restraint which some feel in the presence of the general managers was also discussed by Mr. Parker, C. Dorticos and J. E. Cockran, Lima, Ohio. It developed that there was a strong feeling among some of the members that such meetings were highly desirable for the Central Electric Railway Association. However, no action was taken, though Chairman Wilcoxon remarked that if such meetings were really desired it was up to the electrical and equipment men to make definite proposals of what they wanted.

#### FREIGHT HANDLING, MARKET PROSPECTS AND MEN

In the absence of the speaker of the meeting, Mr. Barnes, the session was thrown open to the discussion of any subject that any one might have on his mind and M. B. Lambert was called upon. He spoke of the

opportunity the railways now have to take an active part in the solution of the transportation problem of the country. He pointed out how exceedingly slow the movement of freight by the steam roads had been. In view of this situation and the fact that inadequate transportation is charged with from 15 to 30 per cent of the cost of living, he pointed out that the time seems particularly propitious for the interurban railways to expand their facilities and relieve the situation by handling more freight and thereby derive more profit from operation.

He felt that the public has come to understand the reason why increases in fares have been necessary and that the crowd psychology is now more favorable than ever to the electric railways. He thought that this also was a reason why the electric railways should take steps to handle more freight, and that if they did not the shippers were going to be more inclined to favor the motor-truck people, who are expanding their facilities at a tremendous rate. In other words, if the electric lines will give the service which they can there will be no disposition to go to the motor truck for shipping facilities. He also expressed the thought that if electric railways show an indifferent attitude toward the needs of shippers for more service there will be a reaction against the electric lines.

Turning to the subject of market conditions, Mr. Lambert said that he was continually asked whether prices for electrical equipment were going to come down. Speaking for his own company, he said that it did not know what the course of prices might be, but as far as could be seen now the only reduction in prices expected is that to come from the greater efficiency of labor.

However, Mr. Lambert said, a company in need of equipment now, but holding off six months for lower prices, should consider this question: Supposing prices would be 10 per cent lower in six months, would this saving offset the loss of revenue which the new equipment would earn in the meantime if the order for it was placed now?

Mr. Lambert directed his further comments to the subject of training men for responsible positions. He said he was constantly asked to suggest some one to fill a vacancy, and as he looked about the country he could not but be impressed with the absence of men being trained and made ready for the day when the men now in charge would be gone. In reference to master mechanics in particular he wondered who there would be to succeed some of the men who now stand out so prominently, for there was no one in their organization "coming along" to fill these possible vacancies. He urged department heads and officials to give this question serious thought.

J. E. Cockran pointed out a very significant situation in connection with the adoption by the electric railways of the Bureau of Standards safety code, which covers the specifications for electrical construction. He said that nine out of ten of the electrical men in the electric railway field do not know the specifications laid down by the Bureau of Standards and that the only reason that steps had not been taken by the bureau to enforce these was the intervention of the war. He said that loss of life, damage to property and delay to traffic were resulting from improper construction and lack of care in adhering strictly to the provisions of the safety code. He urged upon the members of the association that they inform themselves and take steps to bring about

the observance of the code voluntarily, rather than to wait until steps are taken to enforce it.

#### SAFETY DISCUSSED AT FRIDAY'S SESSION

President Todd was able to be present and preside at the final session Friday morning. Charles B. Scott made an address on "Safety," of which an abstract appears elsewhere in this issue. Martin J. Insull, it was learned, who was to have made an address at this session, was prevented from coming by sickness. It had also been planned that George F. Fonda, general supervisor of employment, compensation and welfare, Bethlehem Steel Company, would address the association on Friday on the safety-first movement. An unexpected turn of events made it impossible for him to attend.

Edward C. Spring, general superintendent Lehigh Valley Transit Company, Allentown, Pa., and first president of the Central Electric Railway Association, then addressed the association briefly on the safety drive which his company had put on in a safety week campaign extending throughout the valley served by the property. This drive was described at length in the *ELECTRIC RAILWAY JOURNAL* for July 10, 1920, page 78, and a number of pictures of the campaign appeared on page 420 of the Aug. 28, 1920, issue. A point of particular interest made by Mr. Spring at the Indianapolis meeting was that the railways are forced by their financial condition to confine their activities almost wholly to those things which cost no money. They cannot go into the safety movement as they ought to and as they would like to, and consequently the time has come for them to place their dependence in what they can induce other industries and the people generally to do in safety-first work, the electric railways acting only as one constituent of all industry.

This was what was done in the splendid Lehigh Valley drive, which is said to have been the most successful and of the greatest magnitude of any safety campaign yet attempted. The significant thing here is that while the campaign cost about \$12,000, the electric railway company, with all its subsidiary utilities throughout the valley, had to expend only \$300. It should be said, however, that Mr. Spring was the guiding spirit behind the movement, although he made it a point to keep the railway company in the background by appointing a general manager and so organizing the movement as to give the National Safety Council all of the credit and, incidentally, a large share of the responsibility. Mr. Spring urged all the electric railway companies to give active support to the local safety council in their community, and if there was not such an organization at present to take steps to bring about one. The greatest good can be accomplished by getting the people of all lines of activity to talking about safety, rather than to have only the railway employees talking about it.

Mr. Hemming then spoke briefly on the recent statewide safety drive in Indiana, which had been got up on such short notice that there had not been time to make the no-accident week a very comprehensive campaign. However, the way had been blazed for a real drive next year and it was therefore felt that the effort had been well worth while. Mr. Hemming reiterated a thought which Mr. Spring had made, that the people are eager to co-operate in reporting any safety-first activities.

Safety matters were also briefly discussed by J. E. Cockran, James Harmon, New Albany, Ind.; H. A. Nicholl, Anderson, Ind., and Harry Reid.

# E. M. Walker Talks on Safety Cars

In Address Before New England Street Railway Club He Gives a Review of Their Service in Terre Haute—Discussion Brings Out Points of New England Practice—Paper on Track Maintenance Also Presented

TWO enthusiastic sessions of the New England Street Railway Club were held upon the subjects of "Track Maintenance" and "Safety Car Operation" at the American House, Boston, Mass., on December 2. At an afternoon meeting Frank B. Walker, chief engineer maintenance-of-way Eastern Massachusetts Street Railway, gave a lantern-slide talk describing recent construction and maintenance work on the lines of that system. Extracts from Mr. Walker's paper and the discussion which followed will be published in a later issue.

After the usual dinner E. M. Walker, general manager Terre Haute Traction & Light Company, Terre Haute, Ind., read a paper on his experience with safety cars vs. the jitney bus.

## WHY THE SAFETY CARS WERE INSTALLED

The paper by E. M. Walker in the evening was devoted largely to an account of how the safety car happened to be introduced into Terre Haute and how competition between the railways and jitneys was affected by this change.

According to Mr. Walker the earnings of the Terre Haute city lines had grown steadily through successive years until 1913, after which, yielding to the competition of the jitney, they declined for the next five years. The percentages of decline, based on the 1913 figures, for these years were 2 per cent, 22 per cent, 15 per cent, 13 per cent, and 14 per cent. During the year of greatest decline in earnings a trial was made of the effect of reducing the street railway service, but this only served to increase the popularity of the jitney bus. An attempt was then made to introduce one-man operation on the line of lightest traffic and a few old cars were remodeled for that purpose, but this move was promptly met by the passage of an ordinance requiring two men to a car. An effort was then made to have the jitneys restricted as to routes and schedules and licensed and bonded as to their accident liabilities. This met with no success, and the number of jitney buses continued to increase. Indeed, the drivers formed a union and affiliated with the Central Labor Union, although most of the drivers were owners of their own cars; in other words, were proprietors or capitalists as distinguished from workers. This distinction was not thought of, however, and the effect of the organization was to insure strong support from the friends of organized labor.

A petition was then presented to the Public Service Commission of the State asking that body to assume regulatory control over the jitney bus as a common carrier, but the commission refused to take jurisdiction. At that time commission regulation in Indiana was in its early days and the jitney business was a new business. By 1918 there were 200 jitneys in operation. To use a figurative expression, the streets had grown too small for them, and it was evident that something would have to be done to restrict their use in the downtown streets. At length the City Council on its own initiative

passed a restrictive ordinance which was so unpopular that the jitney drivers went on strike for two weeks and the ordinance had most of its teeth pulled when it was repealed.

By that time the railway company had lost hope of any assistance from without and decided to approach the matter solely on a competitive basis. It proposed to the Council that it would purchase thirty new Birney safety cars if the two-man ordinance of an earlier date was repealed, and this was done on Dec. 1, 1918. Results from the first were very encouraging, and the company quickly found that it needed more cars, so it kept on buying them until now the city has 100 per cent safety car operation and a total of sixty-eight cars. The number of cars operated has been increased 55 per cent, the car-miles 60 per cent, the gross revenues over 65 per cent, and the earnings per car-mile over 10 per cent. In the meantime the jitneys dropped in number from 200 in 1918 to the present number of twenty-three. Of this number only seven are operating in competition with the street railway lines and they only during the hours of heavy travel. The sixteen others operate on a non-competitive line. All of these jitneys carry taxi signs and are generally on the lookout for that sort of work.

The speaker did not claim that this experience could be repeated anywhere or everywhere. He said it took a little patience, a little courage and a whole lot of faith, but the results justified the mixture. Doubtless also the high costs of gasoline, oil, tires and general repairs had their share in discouraging jitney competition, but this does not detract from the efficacy of the safety car as a successful competitor.

In his opinion restrictive or repressive measures will not be permanently effective in overcoming jitney competition. Regulations putting the jitney buses on the same operating basis as the street cars can be made much more effective, as, for example, the requirement of a payment of a fixed tax on a measured mileage basis for repair and maintenance of street pavements, the requirement of adherence to fixed schedules and routes, the operation of a fixed number of hours per day every day, and lastly the giving of transfers from line to line. These measures, if resorted to, would make more nearly equal the basis of operation and there would be little room for doubt as to the final outcome.

At the close of his address Mr. Walker explained, in answer to questions, that there had been no increase from the 5-cent fare during the period described in his talk, that the men, who were not unionized, took kindly to the car and that the total number of employees was now really larger than in the two-man period, owing to the increase in traffic and shorter extra lists.

## DISCUSSION ON MR. WALKER'S PAPER

Walter Jackson, New York, being called upon by the chairman, declared that one-man operation has reached the stage where it is no longer a debatable subject. Any man who does not believe that a company can save

money by running a car by one man instead of two and can create traffic by running two cars instead of one is hopeless at this time. The one-man car, of course, is not suitable for all situations. Where there are great tidal waves of traffic big cars and even trains are necessary, but there is room for some one-man car service in every city. Where it is possible to eliminate the awkward collection of odd cash fares or where people can pay their fares before they come on the car, as in prepayment areas, the field of the safety car is widened. It is even possible in large cities where the prepayment area idea has been worked out extensively to use very large one-man cars because the operator of the car has little else to do but to run it, the passengers having paid their fare before they got on. It is an anomaly to have a conductor on that car at all, because there would be nothing for him to do. The speaker also called attention to the fact that Terre Haute had had an enormous increase in the number of private automobiles during the period considered by Mr. Walker and coincidentally with the increase in safety cars there had been a corresponding decrease in the number of jitneys. The private automobile, instead of injuring the street railway, has increased the street car riding habit in Terre Haute. A man who owns a car is the very man who will take a street car for three or four blocks because he is used to stepping into a vehicle and being carried a trifling distance.

H. F. Fritch, assistant general manager Eastern Massachusetts Street Railway, Boston, said that that company was also headed fast toward 100 per cent one-man operation. The company now has about 200 Birney cars, 200 double-truck cars fitted for one-man operation, and about 250 double-truck two-man cars in daily service. One hundred of these cars will be converted to one-man operation. In addition 50 more Birney cars are being put in service as rapidly as possible. The Birney cars are being used in the main on the short lines where there is one fare or at most two fare collections. The double truck cars in general are being used on the longer lines. These cars seat from forty to forty-four passengers. They are fairly modern cars with either hand or pneumatic appliances for operating the doors. The only change made in them for the collection of fares was to change the location of the box stanchion so that it would be more in front of the operator, and to put in an arrangement so that in case of emergency the rear door could be opened by the man in front. The operation of these double-truck cars by one man has been approved by the Public Service Commission with the proviso that before May 1, 1921, they should be equipped with certain safety devices. At present, therefore, the company is making very rapid progress toward 100 per cent operation of safety cars. The ideas of the company as to the possibilities of one-man car operation have changed since it started to put this style of car on the road. The company began with the car on city lines, but it has now been extended to all sorts of lines, city and suburban and interurban. The cars have been successful on all. One of the hardest problems was the question of the collection of multiple fares. The company has zones of practically 2 miles in length. In city service the collection problem usually can be solved according to the condition of each particular line. At present the company has very few lines which it does not anticipate can be made one-man car routes.

George E. Haggas, chief engineer Cumberland County Power & Light Company, explained that that company had twenty-seven one-man cars, of which twenty-three are of the Birney safety type and four are remodeled two-man cars, equipped with safety devices. Where these cars were introduced on lines formerly operated by two-man cars the service was increased, in some cases it was doubled. On the whole the operation of the cars has been quite successful. During the severe snowstorms of last winter the company was able to operate safety cars as easily as two-man cars.

Frank I. Hardy, manager Salem division Eastern Massachusetts Street Railway, pointed out that in certain country sections on that system there had been no increase in population during the past twenty years and that a safety could not only handle all the traffic but would be the only means of preventing the abandonment of lines. The use of one-man cars had been followed also by a decrease in the peak load demand at the power stations. The speaker cited a case of a line 9.15 miles in length with four fare zones. During the summer months there is heavy riding on this line, yet there has been no trouble in operating small safety cars and collecting four fares on this line. The distance, 9.15 miles, most of which is in some settlement or village, is covered in fifty-seven minutes.

B. C. Richmond, general manager Berkshire Street Railway, Pittsfield, Mass., said that he had had for about a month fifteen safety cars in operation and was substituting that type of car for the double-truck car as rapidly as possible. Some of these cars ran on routes where there were more than two zones. The double-truck car was still being used on the long interurban lines and to some extent in rush-hour service. The company and public are well pleased with the safety cars.

Carl H. Beck, Safety Car Devices Company, spoke of an address which he had made before the club two years ago on the subject of safety cars. Now all the testimony in regard to the operation of these cars is favorable, and members were speaking of the operation by one man of double-truck cars.

Charles H. Johnson, superintendent of railways Bangor (Maine) Railway & Electric Company, said that that company had operated sixteen safety cars for the past two years. They are equipped with scrapers. During last winter they gave better service than the heavy cars. The company would not think of changing back to the old cars.

E. M. Walker, the speaker of the evening, then, at the request of one of the members of the club, explained how the purchase of the cars in Terre Haute was financed. The first thirty cars cost about \$165,000 or \$170,000 and were bought on a car trust equipment plan through bankers in Indianapolis. When the next twenty-five cars were purchased the bankers asked that 25 per cent of the money should be raised in Terre Haute. This was done. The next order, for ten more cars, was in March of this year and all the money required was borrowed for five years at 6½ per cent from Terre Haute bankers. In this case the company furnished 10 per cent of the money, and as there have been three increases in the prices of the cars since they were bought the equity is even greater than that per cent.

Commenting then on the paper presented during the afternoon by Frank B. Walker, E. M. Walker said that while there is not very much cold weather in Terre Haute the company had fifty-five rail breaks last win-



ter, and of these only four occurred on the 55 per cent of trackage over which safety cars are used exclusively.

He also said, in reply to a question on accidents at Terre Haute, that while the total number of accidents reported for the safety cars has been slightly more than with the two-man cars, the cost per thousand car-miles has been just half of what it was with two-man cars. Personal injuries, which are the hardest to settle, have practically disappeared because of safety car operation.

#### SAFETY CARS IN EASTERN MASSACHUSETTS

Frank B. Walker, chief engineer maintenance-of-way Eastern Massachusetts Street Railway, said that he had not taken up one-man cars in his talk during the afternoon because he knew they would be considered in the evening. He explained that when these cars were being considered the company was uncertain as to how much work would be needed on the track because the cars had a very long wheel base, whereas the track had many curves of as low radius as 50 ft., 40 ft., and even 35 ft., with some low joints and special work in the condition in which it would naturally be on an old railroad. Actually it was found that the safety cars were very easy on the track and the repairs required light. In some track formerly discontinued but now being rehabilitated for one-man car operation the company is putting in ties 5 ft. apart.

A rising vote of thanks was then extended to "the team of Walker and Walker" for the addresses of the day. The meeting then adjourned.

## Engineers Discuss Burning of River Coal and Culm

### River Beds of Pennsylvania Anthracite Region Contain Vast Store of Valuable Fuel Once Considered Practically Worthless

ON DEC. 3 the Engineers' Club of Philadelphia held a meeting devoted to a discussion on utilizing fuel formerly considered as waste. Interest centered in "river coal," of which there is a vast supply in the beds of the rivers which flow through the Pennsylvania anthracite region. The recent development of apparatus for pulverizing and burning river coal, culm and other "waste" fuels lends special interest to this subject at this time.

The first speaker at the meeting was Dr. George Ashley, State Geologist of Pennsylvania, who explained that the vast supply of coal now available in the river beds was washed there by the discharge from the mine washeries. The coal is carried long distances in the rivers, especially during high-water periods. In many cases the tributaries of the main rivers have become practically filled with this coal. Much of the river coal is of the grades known as "rice" and "barley," although a large part of it is merely dust. For some years this coal has been reclaimed on a small scale, but only during four or five years has the reclamation reached large proportions. In 1919 a total of 2,000,000 tons was reclaimed.

One of the largest sources of the coal is the bed of the Susquehanna River near Harrisburg, where 750,000 tons is recovered annually. In fact, practically all of the coal used in Harrisburg for industrial power and utility power purposes is pumped from the river bed.

The preferred method of recovering the coal is to pump it from the bottom of the river by means of a steam-driven centrifugal pump mounted on a flat-bottom boat. The pump discharges onto a screen which rejects sand and very fine coal, delivering the larger sizes to a barge. In the river tributaries the method is to build small dams, behind which the coal is pumped. Clamshell buckets and steam shovels are utilized to gather up the coal.

Dr. Ashley's opinion was that at the present rate of mining there is enough river coal now in sight to last for from four to ten years. The supply will be added to as the dumps of the mines are worked over. J. P. Edwards followed Dr. Ashley, differing from him in estimating the available tonnage of river coal. From Mr. Edwards' experience, he estimated that coal is being deposited at the rate of 8,000,000 tons per year and he told of one of his reclamation stations where the deposits are 10 ft. deep. A crane which he installed on a river bank to operate a 1½-yd. clamshell bucket with a 25-ft. digging radius has in three years removed 140,000 tons of coal from the comparatively limited area which it commands.

#### RIVER COAL IS OF HIGH GRADE

Mr. Edwards felt that the supply of river coal has only begun to be utilized. It is of good grade and can be secured at less than one-half the cost of bituminous coal. Tests show a heat content as high as 14,000 B.t.u., although in general it will run around 11,000 to 12,250 B.t.u. with an ash content of 13 per cent. Mr. Edwards' arguments were confirmed by D. R. Delamater, who emphasized the necessity of equipping boilers to burn smaller sizes of coal than at present and even coal dust. He said that he had seen river coal burned with only 10 per cent waste in ash.

Taking up the subject of pulverizing anthracite coal, R. M. Vail said that success in burning anthracite would be found in taking advantage of its brittleness and avoiding its abrasiveness. Touching the burning of powdered anthracite, J. R. Wyllie told of obtaining more than 400 per cent rating from boilers with this fuel and operating them for days at 300 per cent rating. He had been able to obtain very high percentage of CO<sub>2</sub>, but thought that excessive CO<sub>2</sub> is hard on the furnace. He said that in burning powdered anthracite 90 per cent of the coal should go through a 200-mesh screen.

W. W. Pettibone gave experience of the Bethlehem Steel Company, Lebanon, Pa., in burning pulverized coal. This company has four 520-hp. boilers in operation, burning pulverized bituminous coal. The pulverizer used satisfactorily on bituminous coal was soon worn out with anthracite, but Mr. Pettibone believed that pulverized anthracite can be burned successfully. He had obtained boiler efficiencies averaging more than 80 per cent in regular service, with coal ranging from 11,000 to 13,000 B.t.u. At times efficiencies from 82 to 87 per cent were secured.

At the meeting there was discussion on the use of briquettes, and J. H. Kennedy outlined the requirements of a successful briquette. This, he said, must be waterproof, hard but not brittle, and able to "stand up" in the fire while burning. He told of some briquettes that are being manufactured from 92 per cent culm and 8 per cent binder, the latter containing twelve parts water, two parts asphaltum and one part starch. Such briquettes can be sold at \$8 per ton f.o.b. factory. This fuel requires less draft than common grades of coal.

## Technical Features of the Motor Bus\*

Fuel Economy, Standardized Equipment and Bus Types Are Discussed by an Experienced Motor Bus Engineer

FUEL economy in motor bus transportation is a fundamental problem and also a business barometer, in the opinion of George A. Green, general manager of the Fifth Avenue Coach Company. The newly installed research department of this company has completed experiments which indicate a net gain of 18 per cent in the yearly fuel bill, which in round figures represents a saving of \$90,000 annually. The changes necessary to obtain this economy are comparatively inexpensive and may be tabulated as follows:

1. The adoption of thermostatic hot-air control.
2. The adoption of a system permitting more complete control of idling speeds.
3. The employment of automatic instead of fixed spark advance.
4. The elimination of gasoline tank evaporation losses by the use of a proper valve.
5. The introduction of a little exhaust gas into the inlet manifold.
6. The modification of the exhaust pipe and silencer layout with the object of reducing back pressure.

Mr. Green states that 18 per cent is a very conservative estimate of the saving that can be obtained by the above methods. A greater saving is obtained by attention to fuel economy than can be obtained with any other item in connection with maintenance. The two factors in such economy are the machines and the operators; the machines should operate at maximum economy and the employees should have the idea of high gasoline averages instilled in them. The greater problem is encountered in dealing with the employees.

### DIFFERENTIATE BETWEEN JITNEYS AND ORGANIZED COMPANY

In dealing with jitneys Mr. Green points out that there are marked differences between a jitney company and the Fifth Avenue Coach Company, which caters to a lasting business and gives service at all times. There is more to the operation of a motor bus company than the purchase of stock vehicles and the operation of these vehicles only when traffic is heavy. Such a procedure can only result in failure and in causing a setback to a promising industry. In general the Fifth Avenue Coach Company loses money on 30 per cent of the mileage. In wet and cold weather the seating capacity is cut in half, and it frequently happens that an entire day's operation results in a monetary loss.

Mr. Green states that the motor bus industry is in its infancy, with almost unbounded possibilities for improvement, which is not true of other forms of surface transportation. In connection with transportation he points out such features as the large amount of time and money required to secure a competent operating personnel, the large and expensive supervisory force, the complexity of schedule making and its direct effect on income, the volume of motor bus traffic on streets

that are already congested, and the difficulties of winter operation. He lays stress on the fact that unified control, a highly trained technical organization and a 10-cent fare are fixed and necessary factors.

### PNEUMATIC TIRES EXPERIMENTAL

The pneumatic tire has been tried out as an experiment by the Fifth Avenue Coach Company on the double-deck buses and Mr. Green states that many of its disadvantages result from its large diameter. Among the disadvantages of the pneumatic tire from the motor bus standpoint are:

1. The center of gravity is made higher, with resultant greater possibility for overturning.
2. The increased height makes more possibility of injury to passengers on the upper deck because of striking overhead obstacles.
3. There is very great difficulty in obtaining a low level loading or unloading platform.
4. The weight of the pneumatic tire equipment is greater than for solid tire equipment of the same carrying capacity.
5. The inside seating capacity is decreased because of the large size of the wheel pockets.

The pneumatic tire is much more comfortable for the rider, but no great increase in speed can be obtained because of street congestion and traffic rules, especially on Fifth Avenue. The pneumatic tire permits of fuel economy and lower maintenance costs, but for the Fifth Avenue Coach Company these economies would not offset other increased costs introduced by the use of pneumatic tires. Mr. Green states that there is, however, a very fruitful field for the pneumatic tire in connection with the single-deck bus and suggests two improvements in the design of pneumatic tire equipment:

1. Over-all diameters should be nearly equal to those of solid tires on the same carrying capacity basis.
2. Demountable wheels and not rims should be used.

From the standpoint of the motor bus 8, 9 and 10-inch tires are out of the question. The small diameter pneumatic tire on demountable rims will reduce the unsprung weight which is a vital factor, and Mr. Green suggests the use of aluminum hubs to obtain still less weight. The present weight per passenger of the double-deck bus is 200 lb., which includes all equipment on the bus, even to oil, water and fuel. Each bus makes an approximate yearly mileage of 30,000.

In concluding his discussion Mr. Green states that more attention should be paid by the Society of Automotive Engineers to the human side of organizations, as the experience of his company indicates that bad design or material does not mean failure so much as a bad organization. Where co-operation and team work are lacking all the engineering skill of the best men in the industry will not make for success, where success means a condition which permits of satisfied workers and at the same time a fair return on capital.

H. M. Crane in his discussion of the paper by Mr. Green points out that the truck today is a side line in that it is not a thing that makes money for a business, but an accessory where the matter of economy in operation is not serious. He states that a very successful truck might lack almost every good engineering point except the important feature that it transported its load over the road. The fact that a 10-cent fare is fixed for the transportation business is the stimulus that should and does bring out improvements in motor bus design and operation.

\*An abstract of a paper on motor bus transportation delivered at the summer meeting of the Society of Automotive Engineers by George A. Green, general manager and engineer of the Fifth Avenue Coach Company of New York, was published in the July 24, 1920, issue of the ELECTRIC RAILWAY JOURNAL. The discussion of the paper published in the November issue of the *Journal* of the Society of Automotive Engineers brings out some added points of interest which are abstracted for the benefit of the readers of the ELECTRIC RAILWAY JOURNAL.

# Echoes of the P. C. A. A. Convention

## Pacific Claim Agents' Association Held Annual Meeting at San Diego—Abstracts of Several Papers Are Given This Week

THE annual meeting of the Pacific Claim Agents' Association was held at San Diego on Sept. 22 to 24. Abstracts of the following papers which were read at the meeting are given below: "The Carelessness and Negligence of a Driver Cannot Be Imputed to His Passenger or Guest," by Arthur L. Levinsky, claim agent Stockton Electric Railroad; "The Best Method of Obtaining Statements of Accident Witnesses Whose Names Are Not Secured by the Trainmen," by J. H. Handlon, claim agent United Railroads of San Francisco; "Should Accident Prevention Standards Be Adopted?" by H. G. Winsor, claim agent Puget Sound Electric Railway, Tacoma, and "The Claims Man and the Public," by B. F. Boynton, claim agent Portland Railway, Light & Power Company.

As a result of the election and of the holding over of officers and executive committee members whose terms did not expire, the list of these governing groups for 1920-1921 now stands as follows: President, Charles A. Blackburn, Butte Electric Railway, Butte, Mont.; first vice-president, John S. Mills, San Francisco-Oakland Terminal Railways, Oakland, Cal.; second vice-president, Frank D. Oakley, Tacoma Railway & Power Company, Tacoma, Wash.; third vice-president, S. A. Bishop, Pacific Electric Railway, Los Angeles, Cal.; secretary and treasurer, B. F. Boynton, Portland Railway, Light & Power Company, Portland, Ore.; executive committee, J. H. Handlon, chairman, San Francisco, Cal.; Thomas G. Aston, Spokane, Wash.; C. M. McRoberts, Los Angeles, Cal.; A. M. Lee, Seattle, Wash.; H. G. Winsor, Tacoma, Wash.; J. W. Grace, Sacramento, Cal.; W. H. Moore, San Diego, Cal.

### SITUATION REGARDING CONTRIBUTORY NEGLIGENCE ON PART OF VEHICLE PASSENGER NOT SATISFACTORY

The question as to whether the carelessness and negligence of a driver can be imputed to his passengers or guests was discussed by A. L. Levinsky, claim agent Stockton (Cal.) Electric Railroad. He said that courts of different states have adopted the rule that the carelessness or negligence of a passenger or guest cannot be imputed to the driver of whatever vehicle the passenger or guest may be in. Hence, large sums of money are annually paid by transportation companies in settling damage claims and this will continue unless steps are taken to obtain relief. The mushroom growth of the jitney and auto-stage service has placed additional burdens on railway companies, which are compelled to pay damages to passengers carried by their competitors on account of injuries occasioned through the carelessness of the drivers of these vehicles.

Mr. Levinsky said that he could not understand the theory upon which the court holds that negligence cannot be imputed to a passenger or guest. To show the attitude of the court toward the matter, he cited a number of decisions. In one Utah case the court granted a non-suit as to the owner and driver of a vehicle but returned judgment in favor of the passenger, because the latter had neither the right nor the power to

substitute his judgment for that of the owner as to the operation of his vehicle. The fact that the conveyance was a private one was construed not to affect the question. In a California case involving a collision between an automobile and an electric railway car a passenger for hire was held not to be negligent because the chauffeur was not employed by her and she did not undertake to direct the manner in which the automobile should be operated. It was not denied that a passenger in a vehicle operated by another is bound to exercise ordinary care for his own safety, but in this case, the passenger being a stranger in the city (San Diego), it was held that she was not negligent in failing to call the attention of the chauffeur to the fact that the road crossed a railway track and that there might be danger from an approaching car.

Mr. Levinsky said that in Pennsylvania there is a different rule, a decision cited holding that in a certain case a guest riding with the driver was precluded from recovering for injury received in a collision at a railroad crossing because, being familiar with the necessity for caution at this crossing, he did not warn the driver of his duty to "Stop, look and listen" when the latter failed to do this. In a New York case also it was held that the mere fact that a guest had no control over the horse which was drawing a vehicle did not relieve him of the responsibility of looking and listening for himself and doing all that a careful and prudent man should do under similar circumstances.

Mr. Levinsky quoted at considerable length from a case of *Ellis vs. Central California Traction Company*, in which he had represented the defendant, because here he had explained clearly his understanding of this whole situation. He pointed out the hardships which are imposed upon a transportation company by inability to impute negligence to a passenger, even though he may be logically responsible to a degree. The District Court of Appeal in and for the Third Appellate District of the State of California ruled that "here as in these cases the plaintiff was a passenger in the vehicle which was struck by a railroad train. He was not the driver of the machine, nor the owner, and had no authority or control over the driver. Assuming the driver to have been guilty of negligence, there is no evidence that the plaintiff participated in or was a party to such negligence. There is no evidence that he volunteered advice to the driver as to the course he should follow after the moving freight train hove in sight of the driver and the passengers. In fact, there is no evidence that he did or said anything which contributed in any measure or in any way to any negligence of which the driver might have been guilty."

Mr. Levinsky's contention was thus not sustained by the court. He said, however, that in accordance with the decisions which he had cited it would seem that if the driver be so negligent that he cannot recover, it is but a fiction of the law to say that the passenger has no control over and cannot direct the driver, and by reason thereof notwithstanding the negligence of the

driver the injured passenger or guest can recover. The corporation does not know who the owner of the vehicle is, and were it not for the rule which is now being opposed it would really make no difference whether the owner was driving the car or stage or not; but by virtue of the rule electric railways are placed at the great disadvantage complained of.

Mr. Levinsky closed by suggesting that the members of the association take the matter up with their respective law departments, looking toward the formulation of an amendment to the statute covering the matter. He recognized the difficulty of drafting a law that would be constitutional, would not be too sweeping in character, and would accomplish the purpose of the electric railways in decreasing the number of claims that seem to them unwarranted.

#### GETTING THE NAMES OF POSSIBLE WITNESSES

Mr. Handlon said that when the topic concerning the best method of obtaining statements of witnesses to accidents when their names are not secured by trainmen was assigned to him he thought that it might be beneficial to enlarge it to cover original methods used in obtaining additional witnesses' names. Therefore, he included some comments as to the importance of locating and interviewing persons who were not eyewitnesses of an accident but who have knowledge of the conditions existing at the time of the accident and of developments immediately thereafter.

Others than passengers are often the best witnesses, especially as to such accidents as collisions with vehicles and pedestrians. A person on the street has a better general view of collisions than a passenger. He can more accurately determine such things as speed of vehicles, their direction, the exact location of the accident, the point of contact, the distance that vehicles traveled after a collision, etc. In the event of pedestrians being struck, fellow pedestrians are more likely to give an accurate detailed description of the occurrence than passengers, and their testimony is very convincing. Trainmen, therefore, should be urged to secure the names of street witnesses immediately after the occurrence of an accident.

Another point made by Mr. Handlon was that claims department representatives should visit the scene of an accident to obtain the names of additional witnesses. If this cannot be done the same day it should be done at about the same hour the following day, because drivers of vehicles, newspaper carriers, mail carriers and others who might have witnessed the accident are likely to be found in the vicinity at about the same time the following day. Again, a house-to-house canvass may produce results, as it is not unusual to locate witnesses on streets parallel to that on which an accident has occurred, especially where the rear of a building faces the scene of the accident.

The testimony of persons who may not have seen an accident is often valuable, especially in verifying other testimony. Police reports and hospital records should also be carefully scrutinized to secure names of witnesses, and in the most important cases advertisements can be inserted in the newspapers. The names of persons riding on cars at points other than that at which an accident occurred should be secured. Passengers who did not witness an accident can give valuable testimony as to speed of car, ringing of warning gong, exact location of an accident, etc.

Mr. Handlon said that considerable trouble is experi-

enced in locating witnesses where the address given is either incorrect or illegible. Hence trainmen should be instructed carefully to examine the witness' signature and address in the presence of the witness. They should also be requested to obtain the local addresses of out-of-town witnesses. He had found certain instructions to investigators to be helpful when addresses seem incorrect: Examine city and telephone directories, see whether street has been renumbered, try transposing house numerals, examine address under microscope, etc.

Finally, Mr. Handlon said that witnesses will usually make a statement if their sense of fairness is appealed to. As to the signing of statements which witnesses have made and approved, in case the witness refuses to do this sometimes he will tear off and retain a corner of the sheet on which the statement is made as a means of identification.

#### BIG PROGRAM FOR SAFETY STANDARDIZATION

Mr. Winsor began his paper with an affirmative answer to the question: "Should accident prevention standards be adopted?" He outlined his paper as divisible into three parts relating respectively to: (1) Some of the conditions which appear to make such action imperative; (2) the efforts that have already been made, together with the results secured, and (3) suggestions regarding methods which could be employed in working out suitable standards.

Under the first head he gave numerous statistics to prove the seriousness of the accident situation in this country today. He said that there must be many descendants of the famous King of Israel named Jehu, who was blamed for fast driving. Once the reputation of this king was reflected in the remark of the watchman on the tower of the city of Jezreel who saw a company of warriors approaching the city and who said, "I see a company and the driving is like unto the driving of Jehu, the son of Nimshi, for he driveth furiously."

As to the progress made in accident prevention, Mr. Winsor traced the history of the National Safety Council and told of some of its accomplishments. He said that fatalities resulting from industrial accidents had been reduced from 35,000 in 1918 to 25,000 in 1919.

Again, the state governments have passed laws which tend toward the standardization of safe practices. In Washington, for example, the State Safety Board has adopted the following provisions as standard: (1) A safe place to work, to be termed "safe place" standards; (2) the making of machinery, apparatus and appliances safe to work with, to be termed "safety device" standards; (3) the education and training of employer and workmen to avoid danger and to appreciate the advantage of compliance with the principles of the safe-place and the safety-device provisions of the safety act, to be termed the "educational" standard. Since the passage of this law the state board has issued two safety codes covering respectively general safety standards and educational safety standards.

Mr. Winsor referred with appreciation to the action of the American Electric Railway Claims Association, at its 1920 Atlantic City convention, in ordering the reprinting of a paper read by C. M. Talbert at the 1919 National Safety Congress, a paper which described the St. Louis plan of public safety.

As to the production of safety standards, he quoted Charles E. Oakes of the United States Bureau of Standards, as follows: "A truly national standard can be secured only through an agency which can co-operate

with all interests and can co-ordinate their thoughts and efforts. The nationalization of safety methods and practices should be brought about by co-operative means and the body charged with this work should have no legal status whatever in the enforcement of its standards. They should stand on merit alone. This is distinctly a public service. That it is a monumental task cannot be doubted, but assurance must be given that it will be promoted without danger of lapses in activities. It will be realized that the initial preparation of a set of standards is only a beginning of the work. It must be developed and revised from time to time and its application and practice followed up by an agency which can make interpretation whenever necessary."

While Mr. Winsor expressed appreciation of the work on safety standards which is being done through the United States Bureau of Standards, in co-operation with representatives of the National Safety Council and the American Engineering Standards Committee, he thought that this movement is principally devoted to standardizing the various codes which apply to industrial safety. He felt that the federal government should take steps to provide adequate safety laws, calling to its aid any agencies required and seeking the co-operation of organizations and individuals best equipped to assist in the work. Failing of this, he suggested that the scope of the work now being undertaken by the National Safety Council and others to establish safety councils be enlarged, and a general conference called; this in addition to representatives from national associations interested, to include such other representation as progress in the work demands. This conference, he thought, should meet annually and its purpose should be to create and develop suitable standards which can be adopted and enforced locally.

Mr. Winsor's final suggestions were that the Pacific association go on record as favorable to immediate and continued action which will establish suitable and practicable accident prevention standards, both industrial and public; that the National Safety Council be requested to use its best efforts toward that end, and that the association pledge to such an undertaking unqualified support.

#### CLAIMS MAN MUST BE A GOOD MIXER

In speaking of the relation of the representative of the claims department and the public, Mr. Boynton specified that the claims man must be both firm and reasonable. The type of people who are constantly trying to "put something over" on the electric railway must be taught that fraudulent claims will be contested from start to finish; but if a meritorious claim is presented it must be settled equitably, not only because this is right but because such action will improve the standing of the claims man and his employer in the community. It is important that a claims representative of a utility company affiliate himself with civic organizations and take an active part in their proceedings, thus making friends for himself and company.

The claims man, said Mr. Boynton, is naturally interested in the prevention of accidents, and he can, through continued effort, show the public that he is employed not only to save his company's money in the settlement of claims but to help to standardize safety methods that will result in saving of life, limb and property. The claims man must not confine himself to the prevention of accidents on the railway property, but must be broad enough to work along all safety lines.

Referring to the results of the safety efforts made in Portland, Mr. Boynton said that the educational work done in the schools has proved very effective and the public testified to the fact that this work was beneficial to the community as a whole. In Portland, also, the railway co-operated in fire prevention work, as a logical development of the safety effort. A fire prevention committee was organized, which in three years reduced the fire loss from \$7.50 to \$1 per capita.

## Accident Prevention\*

**Safety Should Be Made Fundamental Part of Operation — Requires Carefully Planned Though Not Necessarily Expensive Organization**

BY CHARLES B. SCOTT

General Manager Bureau of Safety, Chicago

IT SEEMS remarkable that any electric railway company should be skeptical, indifferent or inactive with reference to accident prevention. The safety work done by many industries, and particularly by the steam roads, has proved conclusively that a material reduction in accidents is possible and that the burden of accident costs can be made less. Why are not the electric railways as a whole awakened to the importance of the subject? Perhaps it is because of the error in which many companies have fallen of adopting plans which were not thorough. If the manager of any property believes that he can bring about safe operation of his property and co-operation from the public by any inexpensive and spectacular plan of publicity only he is doomed to disappointment. It is also a mistake to believe that the work of accident prevention can be delegated to some particular individual within the organization and that thereafter it need have no further thought by those in a supervisory capacity.

A great majority of those electric railway accidents for which the employees of the company are responsible are due to a laxity in enforcement of rules. There is an inclination upon the part of electric railway employees to supplant certain rules with habitual customs, and for this reason a frequent and careful check-up of dispatching systems, obedience to rules governing the trainmen and rules adopted by the mechanical departments is absolutely necessary. Until this has been done other usual efforts, such as enlisting the co-operation of the public, are of very little avail.

The successful road with respect to accident prevention is the road that makes safety fundamentally a definite, businesslike part of its operation and one that involves the attention of the executives, the supervisory force and the employees and public generally. Such a proper intermingling of safety with operation requires a carefully planned though not necessarily an expensive organization whose chief function must be an everlasting drive. Sporadic efforts are really harmful to the cause of safety, causing the employees and the public to lose faith in the efficacy of the safety movement.

The problem which usually discourages the management of a company from making any definite, systematic and sincere effort toward lowering accident costs by preventing the accidents is the supposed indifference of the public. This is another problem that is not so difficult of solution as is imagined, and the public utility

\*Abstract of address presented at meeting of the Central Electric Railway Association, Indianapolis, Ind., Dec. 3, 1920.

interests should be the leaders in the safety movement in their respective localities. The necessary expense would be small in comparison with the cost of the preventable accidents caused by public negligence. I know of no better way in which to begin this work than to bring the subject to the attention of the public schools, and in such an effort the utilities will find a prompt and hearty spirit of co-operation from school officials, school teachers and school children.

Your present big problem in accident prevention is the automobile, but here again careful organizational plans are necessary and the support of the executive is most helpful. On one of the principal electric roads entering Chicago, a road passing through a thickly populated district and along and across a trunk highway with extraordinarily heavy vehicular traffic, automobile accidents have been reduced 60 per cent, or \$50,000, a year in three years, with a 30 per cent increase of traffic. This saving is being maintained, but not without a continuous functioning of its safety organization and the continued interest of its chief executive.

### New Montreal Transfer

The Time of Leaving Terminus Is Punched and the Color Change Is at 5 p.m. Instead of at Noon

ON AUG. 1 the Montreal Tramways Company put into use on all of its lines a form of transfer which had been on two months' trial on the Ste. Catherine Street line. This transfer contains a number of novel features, as will be seen from the accompanying reproduction.

One of these features is that the time punched is not the time at which the car reaches the transfer point, as on most transfers, but is the time at which the car left its terminus. Then, the time during which the transfer is valid is shown by the time punched plus the number of minutes printed on the front of the transfer opposite the name of each intersecting route. The principal advantage of this plan is that the time of departure and direction can be punched at each terminus, when the conductors have ample time to punch enough transfers for the half trip. On the trip, the conductor has to punch only the transfer point desired, so that the number of punches required during the trip is only one. If a passenger has to transfer twice, there is provision for it at the bottom of the transfer which contains under the words "additional" the names of all routes which do not directly connect with the line from which the transfer is issued.

The second distinguishing feature of the transfer is that different colors are used for day and night transfers rather than for a.m. and p.m. transfers. Thus, in Montreal a white transfer is good from 4 a.m. to 5 p.m., and a blue transfer from 4 p.m. to 4 a.m. This time also is indicated at the top of the transfer, the night transfer being similar to the day transfer shown except as to this line and as to color. An overlap of sixty minutes is allowed between 4 and 5 p.m., for the reason that conductors stop issuing white day transfers at 4 p.m. and sixty minutes is sufficient to permit passengers to make the full half trip on any of the lines in Montreal. The change is made at the close of the afternoon rather than in the middle of the day, because 5 p.m. marks the beginning of the rush hours, and it is less convenient for conductors during the rush hours to examine trans-

**Ste CATHERINE**

**WED. 23 JUNE**  
**MER. 23 JUN**

**DAY 4 A.M. (1920) to 5 P.M. JOUR**

<b>N</b>	<b>BEARER STARTED FROM</b>	<b>S</b>
<b>CAR LEFT TERMINUS AT</b>	<b>035510</b>	<b>Est/West B'd/B'd</b>
<b>LE TRAMWAY EST PARTI DU TERMINUS A</b>	<b>TRANSFER POINTS de Correspondance</b>	<b>Vers/Vers L'Est/O'Est</b>
<b>1</b>	<b>Victoria</b>	<b>60</b>
<b>2</b>	<b>Glen</b>	<b>5</b>
<b>3</b>	<b>Greene</b>	<b>10</b>
<b>4</b>	<b>Clos'e, Atw'r</b>	<b>15</b>
<b>5</b>	<b>Guy</b>	<b>15</b>
<b>6</b>	<b>Peel</b>	<b>20</b>
<b>7</b>	<b>University</b>	<b>25</b>
<b>8</b>	<b>Bleury</b>	<b>25</b>
<b>9</b>	<b>St. Laurent</b>	<b>30</b>
<b>10</b>	<b>St. Deols</b>	<b>35</b>
<b>11</b>	<b>Amherst</b>	<b>35</b>
<b>12</b>	<b>Papineau</b>	<b>40</b>
	<b>Delorimier</b>	<b>45</b>
	<b>Frontenac</b>	<b>45</b>
	<b>Lasalle</b>	<b>55</b>
	<b>Letourneux</b>	<b>55</b>
	<b>1st Avenue</b>	<b>60</b>
	<b>Dom. Park</b>	<b>60</b>
	<b>ADDITION'L</b>	
	<b>Cartierville</b>	
	<b>Centre</b>	
	<b>Craig</b>	
	<b>Davidson</b>	
	<b>Mt. Royal</b>	
	<b>Mc Gill</b>	
	<b>N. Dame-Lachine</b>	
	<b>Ontario</b>	
	<b>Sault</b>	
	<b>St. Antoine</b>	
	<b>St. James-S. Jacques</b>	
	<b>Wellington</b>	
<b>VOIR CONDITIONS AU VERSO</b>		
<b>SEE CONDITIONS ON THE BACK</b>		
<b>MIDNIGHT</b>		
<b>MINUIT</b>		
<b>SCHOLAR</b>		
<b>ECOLIER</b>		
<b>SPECIAL</b>		
<b>E</b>	<b>LE PORTEUR VIEN DE</b>	<b>O W</b>

Form of transfer approved by the Montreal Tramways Commission. Modèle de correspondance approuvé par la Commission des Tramways de Montréal.

This transfer will be valid on this date only and within the time indicated thereon. It does not give to its holder the right to "stop-over." It will be accepted only at the first or last point of contact on cars of other lines running over portion of same route. Transfer from one car of a line is not valid on another car of same line unless punched "special." In case its validity be contested by the conductor, the holder thereof must pay his or her fare and file a claim with the Company, at its head office. It is forbidden by law to sell, exchange or give away a transfer issued by the Company.

Cette correspondance est valable aujourd'hui jusqu'à l'heure indiquée. Elle n'autorise pas l'arrêt en cours de route. Elle ne sera acceptée qu'au premier et au dernier point de contact sur les rues où circulent des tramways de différentes lignes. Elle sera refusée sur un tramway de la même ligne à moins qu'elle ne soit poinçonnée "special." Si sa validité est contestée par le conducteur, le voyageur doit payer le prix de son voyage et réclamer au bureau-chef de la compagnie. La négociation de cette correspondance est interdite sous peine d'amende.

J. E. HUTCHESON,  
General Manager—Gérant-Général.

**Transfer will be issued ONLY at time of payment of fare.**

**Les correspondances ne sont émises QU'AU moment de la perception.**

FRONT AND BACK OF MONTREAL TRANSFER, WHICH REQUIRES ONLY ONE PUNCH EN ROUTE

fers for the time punched. Under the plan described they know at a glance by the color if the transfer is good.

Provision has been made on the transfer for emergency use under the heading "special," which is used only in emergency. Thus, if a car is diverted from its route for a trip on account of blockade, fire or to make a special trip for some hurry-up traffic, the conductor is required to make two punch marks at the head of the transfer, which indicate that the car is off its route. If a conductor on the road accidentally runs out of transfers and has to obtain some of another line, the same procedure is followed.

There are also places to punch "after midnight" and "child," the latter being especially needed as school children travel at reduced fares and they number about 60,000 each day.

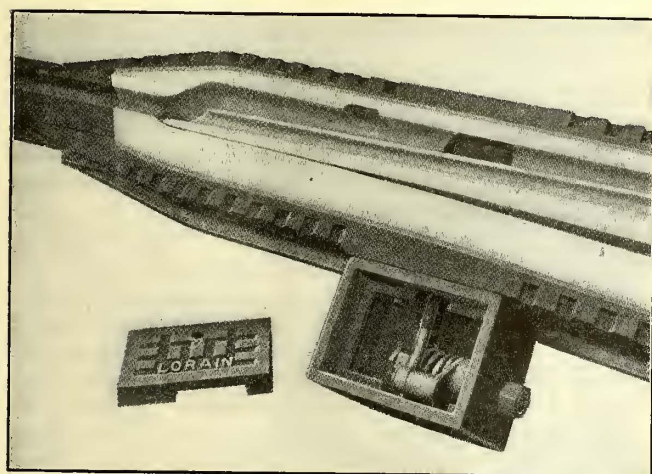
Another interesting feature of the transfer is that it is printed in both French and English, although in size it does not differ from most transfers in other cities, being 5 3/4 in. long and 2 in. wide.

In the transportation of freight, various plans have been set forth for the use of containers which can be loaded by the shipper and carried to their destination by means of one vehicle or another. One such system is that of the River & Rail Transportation Company of St. Louis, Mo., which uses a container of such size that five can be loaded on a specially designed flat car. These containers are suitable for transportation by truck, or they can be unloaded on the flat car through suitable openings on top or side.

# Preventing Splitting of Switches

## New Track Switch Automatic Locking Device Designed to Prevent Changing to Opposite or Neutral Position While Car Is Passing

THE splitting of switches by street cars may be overcome, it is claimed, by the use of an automatic locking device, attached to the switch tongue, which has been invented by A. Taurman, superintendent of equipment Birmingham (Ala.) Railway, Light & Power Company, and placed on the market by the Lorain Steel Company. The device, in general, comprises a two-way cam which works against a coil spring in a manner that holds the switch tongue firmly in either running position. A bell crank is mechanically connected to the switch tongue, so that a movement of the switch point in either direction is accompanied by a rotation of the crank. The outer face of this crank

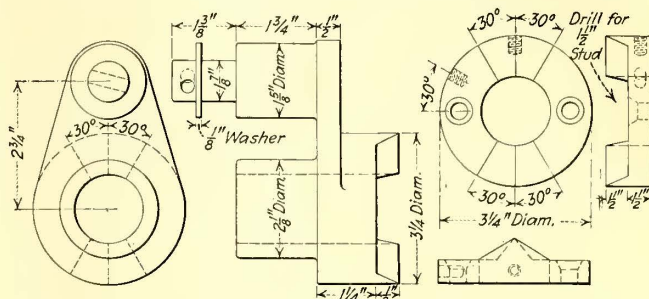


A NEW TRACK SWITCH LOCKING DEVICE

is made with a double 30-deg. cam, machined and case-hardened, which works against the face of a corresponding cam fastened to the end of the steel containing box and supported by the crank stud. The rotation of the crank causes the cam to act. As the switch point moves to a central position the crank is shifted along its axis by action of the cam, compressing a heavy coil spring. The switch point thus resists being moved away from either running position. As the switch point is forced over beyond the central position the spring and cam act together to snap the switch point to the opposite running position. It is thus seen that the switch point is firmly held, virtually locked, in either running position, and that it cannot fly over to the opposite or to a neutral position while a car is passing

over it. The position of the switch point can be changed only upon application of a substantial lateral force.

The amount of pressure exerted by the spring upon the cam is adjustable. Sufficient travel is provided on



DETAIL DRAWING OF CRANK AND BOTTOM CAM, WHICH FORM THE MAIN PARTS OF THE LOCKING DEVICE

the cam to take up for wear in the mechanism and to hold the switch tongue firm and steady in either position. The cam faces are protected from grit and dirt by a shield mounted on the top of the cam block and extending out over the crank boss. All wearing parts of the mechanism are made of machined steel and hardened. The whole device is mounted in a standard Lorain Steel Company track box, which is securely bolted to the switch casting.

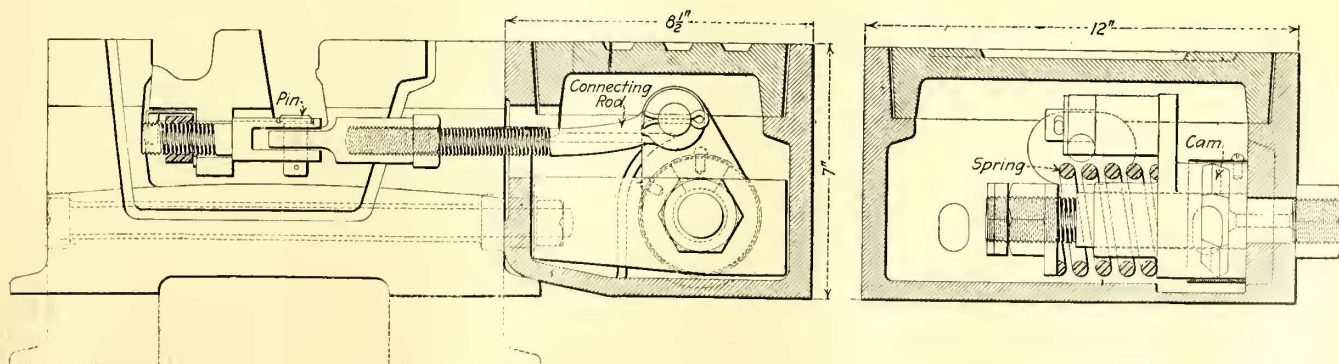
This Taurman track switch locking box is in use by the local companies in Richmond, Norfolk and Hampton, Va.; Cincinnati, Ohio; Covington, Ky., and Birmingham, Ala.

## Twentieth Century Freight Haulage

AT A RECENT meeting of the Society of Terminal Engineers held in New York City Col. J. C. Bonner presented a paper under the title of "Twentieth Century Freight Haulage." The paper was principally a presentation of the rail wagon which was described in *ELECTRIC RAILWAY JOURNAL* Oct. 12, 1918, page 658.

The rail wagon was likened by Colonel Bonner to the English and French  $3\frac{1}{2}$  to 10-ton goods lorries. It is designed so that it can be drawn by a team of horses, or rest astride an auto chassis; again, two or three of these vans may be vestibuled snugly, end to end, astride a chassis trolley car or a similar freight car.

By the use of these containers or rail wagons it is claimed that much of the expense of terminal loading and unloading would be obviated. Another advantage is that this is a practicable means for utilizing electric railway trackage at idle or off-peak hours. Colonel Bonner estimates a saving of 50 per cent of the present cost and time of transportation where freight rehandling in transit is required.

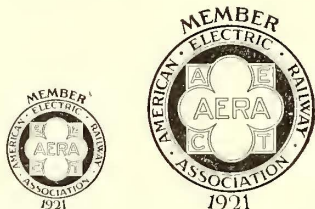


TWO CROSS-SECTIONAL VIEWS OF TRACK SWITCH LOCKING DEVICE

## Association News

### Emblem Cuts Ready

SECRETARY BURRITT has sent a notice to manufacturer members of the association, calling attention to availability of the cuts recommended by the 1919-1920 committee on company membership for use on members' printed matter.



EMBLEM FOR USE ON MEMBERS' PRINTED MATTER

The cuts are available in the sizes shown in the accompanying illustrations. To illustrate the use of the emblem in a practical way it has been incorporated in the layout of the "Contents" page, the one facing the inside front cover, in this issue of the JOURNAL.

### Recommendations on Mail Pay

A MEETING of the committee on mail pay of the American Electric Railway Association was held in New York on Dec. 9. Those in attendance were L. H. Palmer, chairman; Charles L. Henry, W. S. Rodger, G. K. Jeffries.

As a result of the meeting the committee will make two recommendations to the executive committee. One is that the association should ask the commission for permission to reargue the case on the failure of the commission to award the increase of pay for the transportation of mails from the date of the passage of the act in 1918.

The other recommendation of the committee was that the electric railways urge the commission to make a re-adjustment and increase in mail pay rates on June 6, 1921, the date upon which the next mail pay period begins.

### Connecticut Company Section Elects Officers

AT THE monthly and annual meeting of Company Section No. 7, held at New Haven on Dec. 2, F. P. Harlan, manager New Haven division, was elected president, while V. S. Curtis, secretary and general traffic agent of the company, was re-elected vice-president. C. K. Savery, secretary, and George H. Crosson, treasurer, were re-elected, and J. M. Hamilton was re-elected director for three years.

The first speaker was L. S. Storrs, president of the company, who gave a frank talk concerning company matters, past, present and future, including reference to the jitney situation and to the company's financial condition. He gave an opportunity for the asking of questions and the meeting developed into an informal one. J. K. Punderford, vice-president and general manager, was the next speaker. He congratulated the men on the

work done in keeping the lines open during the winter of 1919-1920, which he stated had been the most severe in his railway career of twenty-eight years.

In addition to the speaking there were several good musical numbers. The meeting was preceded by the usual dinner.

### Coming Committee Meetings

Meetings of the executive committee of the Committee of One Hundred and the publicity committee of the American Association are scheduled for Dec. 15 in New York.

## Letter to the Editors

### The Limit to Riding in Large Cities

84 PINE STREET

NEW YORK, Dec. 1, 1920.

To the Editors:

The paper by H. M. Brinckerhoff at the recent A. S. C. E. section meeting and the resulting discussion raise the important questions "How big is New York City going to grow?" and "How far in the future can further transportation economically be planned?"

Regarding the first question, Mr. Brinckerhoff goes no further than to say that this future growth must have some limits. Mr. Turner, on the other hand, estimates the urban traffic of New York in 1945 at 5,000,000,000 passengers and says that in seventy-five years the traffic may amount to somewhere around 9,000,000,000. The writer proposes to show briefly what the traffic figures predicted by Mr. Turner really mean.

It is well known by students of urban transportation that the Mattersdorff rule, that traffic will increase in the ratio of the square of the population increase, can be confidently applied within certain limits only, and where the number of "rides per capita" approaches 400, the rate of traffic increase will approximate the rate of population increase. This statement can be proved by the following consideration:

The average American family in large cities consists of five members, three of whom are, as a rule, engaged in useful occupation. Of these three, two may be assumed to ride and one to walk to and from his place of employment. In very large cities, where ample and rapid transportation is available, the proportion of walkers is reduced. The 1916 canvass in Chicago showed about 25 per cent walkers. No actual data are available for the habits of New York workers, but the writer believes that the proportion of walkers is not and will not be less than 20 per cent. The number of habitual rides per annum for a family of five would therefore be, making the customary assumption of 330 riding days,

$$330 \times 2 \times 0.8 \times 3 = 1,584 \text{ rides per annum.}$$

Four rides per week for the two other members of the family, a liberal assumption, gives 416 rides per year. A yearly total of 2,000 rides results for a family of five—in other words, 400 rides per capita.

Of course, in a large city the daily influx of suburban residents and the transient population will increase the total number of rides and consequently the number of rides per capita of resident population. Based on pres-



ent Greater New York statistics (as far as they are available) this increase amounts to about 10 per cent, so that a figure of 450 rides per capita of resident population is probably the maximum which can ever be expected. On this basis, Mr. Turner's traffic prediction of 9,000,000,000 passengers means that he expects a population of 20,000,000 within the boundaries of corporate New York seventy-five years hence, and a population of more than 11,000,000 in 1945.

In the writer's opinion it is altogether unwarranted to assume that Greater New York ever will reach a population of 20,000,000 people. It seems certain that the housing and feeding of, and the supplying of such utilities as paving, sewerage, water, light and power to, this tremendous hypothetical aggregation of humanity cannot be accomplished without increasing the living cost (through taxes, distributing expenses and middlemen's profits) far beyond the figure which the people would be willing to pay for the comforts and attractions offered by the metropolis. There is no doubt that the increase of the cost of living will be one of the principal agencies which will stop the further growth and eventually cause a decrease of the city's population. The result of the last census is indicative in this respect. It not only shows a decreasing rate of population increase, but actually a decreasing numerical increase, suggesting the thought that the saturation point of Greater New York cannot be very far in the future.

Another element which should receive careful consideration in this connection is the fact that the Atlantic Ocean is evidently beginning to lose its overwhelming importance as the highway of international commerce. Broadminded manufacturers, business men and well-informed bankers seem to be of the opinion that Europe, as a consequence of the war, has fallen into another period of decadence and they turn their eyes toward the Far East as the future market of American products. The unprecedented increase of the population of certain Western cities, especially that of Los Angeles and San Francisco, should not be overlooked.

Finally, the writer believes that should the next decade indicate a growth of the city toward the figures predicted, or implied, by Mr. Turner, the safety of the residents would require action to stop this growth by economic pressure. There would be no way to prevent, for instance, famine, due to accidental breakdown of transportation facilities, should the city grow to 20,000,000 people living on an area of less than 300 square miles. At the present time already continued bad weather is almost catastrophic to the welfare of New Yorkers. Imagine now the plight of four times as many people dependent on food, every ounce of which must be imported, should floods or snow or ice demolish or damage all or even only some of the avenues of incoming supplies. Furthermore, from a strategic point of view, it would be almost criminal to permit the aggregation of perhaps 12 or 13 per cent of the country's population and possibly 50 per cent of the nation's wealth in a location exposed to enemy attack. The writer cannot conceive of the possibility of supplying the necessities of life to a New York of 20,000,000 people under conditions which may arise should the country be forced to carry on a defensive warfare.

All of the foregoing arguments, in the writer's opinion, point toward the necessity of applying extreme conservatism in predicting the future growth of New York City. He believes that a damper should be placed upon the fantastic figures appearing in papers dealing

with the city's transportation problem, at least when this problem is seriously considered by a scientific body. The conditions are such that predictions made beyond a very few, say five or six, years have little, if any, value.

Regarding the second question: "How far in the future can transportation in New York be economically planned?" It follows from what has been said that it would be unwise, at the present time, to consider any radical extension of the city's rapid transit lines. The efforts of the competent authorities should rather be turned toward righting the mistakes made in the planning and in the make-up of the present facilities.

Mr. Turner states that the present rapid transit mileage has an estimated capacity of 3,000,000,000 passengers. It is fair to assume that when this capacity is reached, the surface lines and buses will still carry one-third of the city passengers—in other words, the total number of passengers will be about 4,500,000,000. Based on the limiting number of rides per capita as determined above, the population necessary to produce this figure is 10,000,000, which is probably very near, and possibly above, the magnitude that the city will ever reach. It appears, therefore, that all that should be done is to make such changes in both the layout and the operating methods of the present lines as would enable the use of the present trackage to the best advantage.

For this purpose the actual movement of the passengers should be accurately determined. It seems unbelievable, but nevertheless a fact, that no dependable traffic check has ever been made in New York City. The Public Service Commission in analyzing the traffic characteristics of the rapid transit lines bases its figures on the flimsy information furnished by station ticket sales, while there are practically no data by which such important factors as the length of haul or the density of traffic on different sections of the several routes could be determined for the surface lines. It is no wonder that the "dual system" operated at present appears to be already saturated, as it was planned without the knowledge of fundamental conditions. This mistake should be avoided in the future and no further planning done unless reliable data are made available through a thorough traffic count and other studies fundamentally pertinent to the traffic problem.

After the passenger movement throughout the city is so determined it should be comparatively easy to make physical plans for necessary changes in the present layout and equipment and possibly for some unavoidable extensions of the lines of both rapid transit and surface systems.

At the same time, the legal and financial questions included in the unification of all transit lines should be carefully studied and a plan devised by which a new period in the history of the city's transportation could start, based on the principle of: "One transit system and one fare for Greater New York." E. E. HALMOS.

The Bureau of Standards has recently issued a circular letter describing the properties found from tests made on proprietary light aluminum alloys. The conclusions reached are that the claims for superiority of these light alloys over standard alloys are not fulfilled. Many of the compositions tested were not new because their properties had been recorded many years ago during systematic investigation. The available standard alloys have well-defined properties superior to those of all present competitors.

# News of the Electric Railways

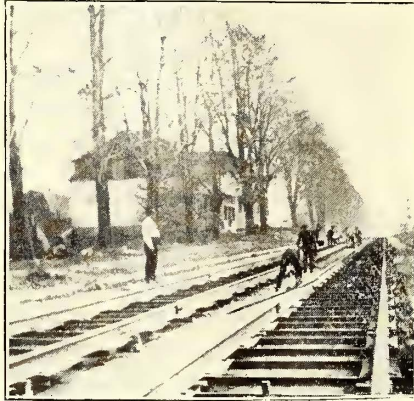
FINANCIAL AND CORPORATE • TRAFFIC AND TRANSPORTATION  
PERSONAL MENTION

## Construction Progressing

Municipal Road at Detroit Suspends Evacuating Work for Winter—Continues Overhead Construction

In order that traffic can be resumed on streets which have been closed because of construction work on the municipal railway lines at Detroit, Mich., excavation work on the streets along which new lines are being built has been suspended by the city for the winter.

The work of the municipal railway is being done by the city of Detroit, Department of Street Railways, James Couzens, Mayor, under a Board of Street Railway Commissioners consisting of Ralph B. Wilkinson, chairman; William B. Mayo and G. Ogden Ellis. The general manager of the system is Joseph S. Goodwin. Other officers are: William C. Markham, construction engineer; A. C. Colby, superintendent of equipment; W. D. Edge-



STEEL TIE CONSTRUCTION ON THE ST. JEAN LINE SOUTH FROM WARREN AVENUE, OCT. 22

superintendent overhead lines, and H. B. Stowe, chief draftsman.

According to the report of the general manager for the week ended Nov.

27, 49,053 linear feet of concrete base has been completed—all of which is for double track except the 3,610 ft. of single track road bed on Harper Avenue. Double track in place to gage amounted to 39,490 linear feet. The 3,610 feet of single track on Harper Avenue has also been placed to gage.

Of the total amount of track laid, 23,429 linear feet of double track and 2,610 feet of single track has been finished and paved in.

Twenty-five cars have been ordered and are

being built according to the specifications furnished by the municipal street railway officials. Arrangements have already been made with the Detroit Edison Company to furnish energy.

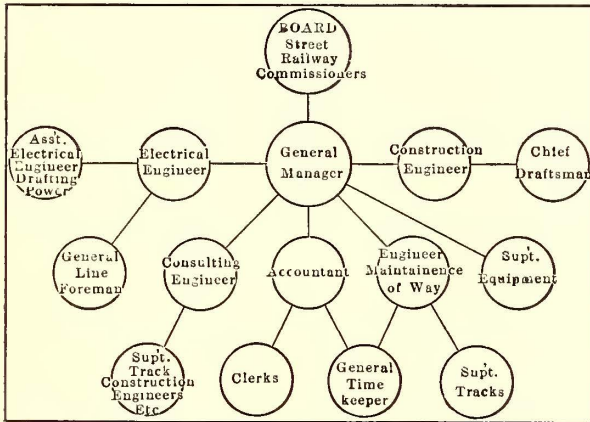
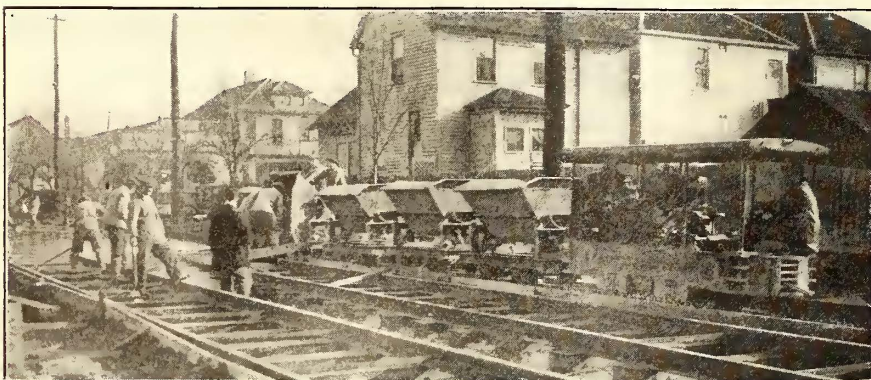


CHART OF ORGANIZATION OF DETROIT MUNICIPAL RAILWAY

comb, engineer of maintenance and way; H. M. Gould, electrical engineer; I. N. Merritt, accountant; H. P. Hevenor, consulting engineer; C. J. Conway, superintendent of tracks; E. M. Booth,



POURING CONCRETE ON CHARLEVOIX AVENUE EAST OF SEYBURN AVENUE

Work is progressing on the overhead line, all the equipment and material having been purchased except the trolley wire. Bids are to be opened soon by the city purchasing department for 30 miles of cold drawn copper wire. Poles are set on the Shoemaker section of the St. Jean line.

## Semi-Annual Safety Banquet

Successful Gathering of Union Traction Company Employees at Anderson on Dec. 3

The 100 members of the safety organization of the Union Traction Company of Indiana gathered for their regular semi-annual safety banquet in Anderson on the evening of Dec. 3. H. A. Nichol, general manager of the company and general chairman of the safety organization, acted as toastmaster, as is the custom. Dinner was prepared by C. S. Keever, superintendent of transportation. After dinner there were songs and other entertainment and speeches on safety. A local orchestra, a soloist and a reader from the company's own organization livened the interest in the meeting. The reader was Mr. Patton, who was introduced as a life-long personal friend of James Whitcomb Riley. His reading of two of Riley's best poems brought him an ovation. Other members of the company organization who addressed the meeting were H. A. Nichol, J. A. Van Osdol, general attorney; Arthur W. Brady, president; James Hesler, chairman of the shop safety committee, and R. E. Luellen, safety engineer.

For the first time at these banquets outside guests were placed on the program. The principal speaker was Edward C. Spring, general superintendent of the Lehigh Valley Transit Company, Allentown, Pa., whose highly successful and extensive safety work with his own company enabled him to make a very interesting and inspiring talk. The other outside guest on the program was H. L. Brown, Western editor of the ELECTRIC RAILWAY JOURNAL.

The spirit of enthusiasm for the safety work of the company displayed at this banquet was noteworthy. These banquets have become an institution with the Union Traction Company and new members elected to the safety organization each year look forward with great interest to this event. The dinner, the speeches about safety and the entertainment produce enthusiasm for the work that may explain in a measure the reason for the winning of the Brady safety award by the Union Traction Company on two occasions, and for the apparent continuing success of the safety work of this company.

## Railway Wins Tilt With City

### Davenport Officials Blocked in Attempt to Prevent Service Curtailment—Court Enjoins City's "Strong-Arm" Methods

In the face of unabated opposition on the part of the city authorities of Davenport, Iowa, the Tri-City Railway has instituted a program of financial retrenchment as a means of putting its Davenport lines on a partially paying basis. Service has been curtailed by the cutting off of one line, the shortening of others and the stopping of "owl" cars at midnight. The company has secured from Judge A. P. Barker an injunction restraining the present administration of Davenport from employing "strong-arm" methods to force the railway to abide by the provisions of its franchise. The court action has brought about a cessation of open hostilities between the city and the railway pending an appraisal of the company's property.

**T**HE battle between the city and the railway was precipitated when the company, which has operated at a loss for many months, discontinued service on the Fourth Street line and cut off the "owl" cars at midnight. This action occurred Dec. 1. The City Council had previously turned down the company's plea for an experimental operation of one-man cars as a means of reducing cost of operation and giving better service.

#### COMPANY FACING BANKRUPTCY

The railway did not take the action in cutting service until a conference was held with the city officials to bring out the fact that the company was facing bankruptcy. The company asked for relief through the elimination of non-paying lines. This conference secured no unbending on the part of the City Fathers, who stated that they would enforce the old franchise to the letter.

The fare in Davenport is now 9 cents, with free transfers, as fixed by a court injunction several weeks ago. The rate was raised to 9 cents from 7 cents, a fare also made through injunction. The franchise rate is 5 cents. The party now in control of the city government won its offices at last spring's election largely on the promise that if elected it would reduce the fare to the old 5-cent base specified by the existing franchise.

It is improbable that the audit and appraisal of the traction lines for which the city is paying \$25,000 will be in the hands of the authorities before Jan. 1.

Following the cut in service City Attorney U. A. Screechfield, representing the majority members in the City Council, immediately filed warrants for the arrest of President B. J. Denman, Vice-President J. G. Huntoon, Assistant General Manager T. C. Roderick and ten trainmen.

#### A PLAY TO THE GALLERIES

The warrants were served by the city police with all of the demonstration which might accompany the seizing of noted criminals. With bells jangling the patrol wagon was driven to the general offices of the traction company, the officials were taken into custody by policemen and the patrol was then driven through the downtown streets before the traction officials were taken to the station house.

Arriving at the police station the officials were taken before the police

magistrate, who imposed a fine of \$100 each on five counts. Two trainmen were fined \$25 each. Appeal bonds for the three officials were fixed at \$1,000 each and were posted after notice of appeal to the District Court was filed.

Messrs. Huntoon and Roderick were arrested twice and the arrests threatened to become a daily occurrence until Judge Barker of the United States District Court intervened by signing a temporary injunction restraining the city authorities from a continued attempt to enforce the old franchise requirements through the medium of the strong arm of the law. The traction company then shortened the Bridge line loop by several blocks, cutting out much dead territory, and put into effect the full retrenchment program previously announced.

Judge C. M. Waterman, dean of the Davenport bar, severely criticized the action of the city authorities in making the arrests, saying that the use of the patrol wagon was "calculated to humiliate and disgrace" the officials of the traction lines. The latter bore the action with good grace. As a means of preventing the curtailment of service the city's course proved a dismal failure.

Local newspapers also roundly scored the city's tactics in their editorial columns.

#### Monorail Seeks Rights in Michigan

Requests have been made by the Michigan Elevated Railway for permission from the State Public Utilities Commission to do business in Michigan. The company proposes to construct an experimental monorail elevated electric line in or near Detroit. Under the plan outlined by the incorporators, the general public would be solicited to pay the cost of an experimental line, to be constructed on Woodward Avenue between Detroit and Royal Oak or on some street designated by the City Council. This would ultimately become a part of an elevated system running from the center of the city to the northern suburbs.

Pedestals supporting the monorail would be placed from 40 to 60 ft. apart and based where the present curb line runs. Coaches would run on a single I-beam rail on top of the pedestals, 14 ft. above the curb. Another I-beam would be held above the coach and

guide wheels on the top of the coach would be closely fitted into this rail to assure stability and keep the coach from tipping to one side. The number of cars included in a train could be varied to meet the demands of traffic. The cars would be of modern fireproof construction. They would weigh approximately 80,000 lb. each. The trucks would be made to follow the rails by means of guide wheels which make it impossible for a car to leave the rail. The brakes would be made to operate directly on the lower rail, relieving friction from the driving wheels. A composition rim made practical because of the width of the rail on which the drive wheels run would permit the cars to operate almost noiselessly.

#### New Depots and Yards Planned for Hollywood

Final steps toward the establishment of a new freight station and yards for the Hollywood district of Los Angeles have been announced by the Pacific Electric Railway. The company has completed arrangements to file with the California State Railroad Commission applications for the vacation of its present station facilities at Hollywood and Cahuenga Boulevards, while a new freight station, with adequate trackage to serve same, will be erected and constructed at a relocated site in the Hollywood district known as Santa Monica Boulevard and Highland Avenue.

It is planned to have the new station facilities ready for service shortly after the first of the year, and construction work will be undertaken as soon as the approval of the railroad commission has been received. The new site provides a greatly enlarged area over the present facilities, and the acquisition of additional ground will permit the company to provide a layout that will meet the needs of the community.

The tract of ground is just beyond the city limits of Los Angeles and in a district in which a number of important industries have recently located. For the location of the depot and trackage to be constructed a portion of the tract needed requires a 285-ft. frontage on Santa Monica Boulevard and extending to a depth of 340 ft. The estimated cost of the removal of the old layout and construction of new depot and trackage is \$20,000, exclusive of the cost of acquiring the new site.

Vacating of the present freight depot site will serve to make the property available for a further building up of the business section of Hollywood, which has rapidly developed around the old station during the past eight years. It was because of this rapid growth of business that the company saw fit to seek an enlarged site that would permit of development as a freight depot without encroaching upon the natural development of the business center of the town.

## State Commission Reports

### Connecticut Body Says Electric Railways Are in Bad Way Financially—Appraisal Being Completed

The State Public Utilities Commission of Connecticut, in its ninth annual report, issued on Dec. 5 at Hartford, declared that the electric railways of the State were in a bad way financially and that they had not been kept up to the standard of previous years. The commission says:

During the present calendar year the commission will have made a physical valuation of most of the electric railways of Connecticut. We did not have the money nor the employees to make a minute appraisal such as would have been made at an expense of approximately \$100,000 by an expert appraisal company, but we believe the result obtained by the commission's valuation will be equally satisfactory and reliable and in the final analysis check up closely with a detailed scientific appraisal.

CONNECTICUT COMPANY EARNED  
\$11,043,804

The following statistics were given out concerning the twelve electric railways operated in the State for the fiscal year just closed:

The total balance on Dec. 31, 1919, was \$1,299,889, a decrease of \$844,595. The aggregate assets in 1919 were \$107,879,988, a slight increase over the previous year. An increase of \$875,667 in operating revenue was more than offset by an increase of \$1,047,433 in operating expenses, the net revenue being decreased \$171,766. The net revenue from the transportation of passengers totaled \$948,775.

Figures for the Connecticut Company show that, up to the time that the zone system went into effect on Nov. 2, 1919, the road carried 143,934,704 passengers at an average fare of a little less than 5 cents, because of free transfers. Between Nov. 2 and Dec. 31, 1919, 22,632,171 passengers were carried at an average fare of about 7 cents.

The total operating revenue of the Connecticut Company for the year ended Dec. 31, 1919, was \$11,043,804, of which \$10,908,328 was from transportation, while \$135,476 was revenue from other railway operations. The increase over revenue of the previous year was \$1,108,054. Railway operating expenses amounted to \$9,210,376, an increase of \$1,059,942 over the previous year. The net revenue from railway operations was, therefore, \$1,833,428, an increase in net operating revenue of \$48,111. Taxes amounted to \$619,657, making the net operating income \$1,213,770 and with non-operating income the gross income was \$1,446,601.

\$53,046,568 IN PERMANENT INVESTMENT

The Connecticut Company had a liability to the Connecticut Railway & Lighting Company on Dec. 31, 1919, amounting to \$625,287. Its floating indebtedness, represented by demand and short term notes, is \$3,130,313, of which amount \$3,071,038 was due the New York, New Haven & Hartford Railroad and \$59,305 to the Wason Manufacturing Company.

An amount in excess of \$400,000 was expended by the Connecticut Company

last year on its plant, according to the report. Of this sum, \$162,242 was for road and equipment and \$241,479 for improvements, additions and betterments.

The total permanent investment of the company is \$53,046,568.

## Buffalo Railway Demurs

### Says Wage Increase Should Not Be Retroactive and Must Be Contingent Upon Fare Advance

Efforts are being made to break the deadlock existing in the wage controversy between the International Railway, Buffalo, N. Y., and its union employees. The latest hitch in the arbitration proceedings came at a meeting of the board in New York City. At that time the company demanded that the arbitration proceed only upon the condition that any further wage increase shall be made effective only from the date that a further increase in fare is allowed. This stipulation was added in order to make the payment of such increased wage possible.

James A. Vahey, general counsel for the Amalgamated Association, who represents the platform men on the board, objected to proceeding under this stipulation and the meeting was adjourned. Since then sessions have been held in Buffalo at the call of Charlton Ogburn, New York, the third member of the board.

### MR. JOYCE STATES COMPANY'S ATTITUDE

In a letter to Mr. Ogburn written by C. J. Joyce, counsel for the Mitten interests and representative of the International Railway on the board, Mr. Joyce declares that he sees no good purpose to be accomplished by a meeting of the arbitrators until "we are sufficiently agreed to permit us to proceed with the actual work of arbitrating the question submitted."

Mr. Joyce reviews the disruption of negotiations which followed his presentation of Herbert G. Tulley's letter as president of the railway setting forth the company's insistence upon a fare increase as preliminary to wage increases.

The board was told by Mr. Joyce at its session in Buffalo that Buffalo cannot fairly be expected to pay increased wages at Niagara Falls, Lockport or on the interurban lines and that consequently if a general increase in wages were ordered by the arbitration board, the actual payment of these wages in each of the four separate divisions must await the collection of a fare in each separate location sufficient to meet the increased wages ordered.

## Seattle Investigation Continued

The grand jury at Seattle, Wash., reported to have been investigating the city's purchase of the Stone & Webster traction lines for \$15,000,000, has been recessed until Jan. 17, when, if Mayor Hugh M. Caldwell is prepared to continue the inquiry, it will resume its investigations. No indictments were

returned with the grand jury's report, nor was there any indication in the statement in regard to progress made.

The grand jury report says that in view of public dissatisfaction with the purchase of the lines, the jury "considered it its duty to tender to the Mayor of the city of Seattle its services and powers, so that he would have the benefit of its inquisitorial functions in the discovery of any facts that he desired to obtain."

The report sets forth that Mayor Caldwell requested the grand jury to adjourn its sessions until January, 1921, when, he has said, he expects to have ready for report to the Council the results of the investigation of the railway purchase which he is conducting in accordance with the resolution of the City Council.

## Two Railway Employees Win Courtesy Prizes

The Chicago *Tribune* is carrying on a courtesy contest by sending out a reporter in search every day of the most courteous and polite person he can find, this person being awarded a \$50 prize as the result. A Chicago Surface Lines conductor and a switch tender have been the recipients on two different days of the \$50 prize.

Conductor John Lynch won the prize because he honored a transfer which was not good according to a strict interpretation of the company rules, but chose to accommodate the passenger and win a friend for the company rather than to refuse the passenger the privilege for the few blocks he intended to ride. Later, in explaining his attitude, the conductor said that he always hoped to be polite, though with the crowded condition of cars it was a hard job. "But I try to treat them right, you know," he said. "So many people get confused on this transfer business—there are so many different rules and regulations, but I size the man up. If he looks honest and his intentions seem good I usually give him the benefit of the doubt. Sometimes I have to throw the dead beats off—I can usually tell them from the others."

The switch tender who won the \$50 prize was Thomas Heffernan, whose position of employment is in the Loop District at the corner of Dearborn and Randolph Streets. In this case the reporter noticed that this man was constantly being asked for directions about the city. The reporter approached him and asked, "Where am I?" The switchman answered him and asked him where he wanted to go. The reporter answered, "The railroad station." It return he was asked "Which one?" The reporter didn't know, and the switchman finally dragged out of him that he wanted to go to Milwaukee, and then explained in detail how to get to the proper station. To make his questioning more unbearable the reporter asked for a piece of paper on which to write down the directions. The switchman's temper was not ruffled, however, and he won the prize.

## New Attitude Suggested

**Commission's Letter to Governor Tells of Effect of Rising Costs on Electric Carriers**

The interurban and street railways have suffered more, perhaps, than any other class of utilities from the conditions brought about by steadily rising costs during the last few years, says the California Railroad Commission in its report to Governor William D. Stephens for the year ended June 30, 1920. With fares fixed at 5 cents, by custom and by franchise, the shrinking value of the dollar threatened disastrous consequences for practically all street railways. The report says:

And yet it is apparent that, in spite of the more severe competition of motor vehicles, the time is by no means here when our cities and rural territories can dispense with electric railway facilities. The automobile stage, the jitney and the privately-owned automobile are not a substitute for the city railway or the electric interurban railway. In the few places in the United States where this belief was prevalent, the consequences have shown its fallacy.

The commission says it has not hesitated to extend to the electric railway systems of the State such relief, by increase of fares or by establishment of the zone system, or by ordering radical operating economies, as would insure a continuation of reasonably good service. Continuing it says:

The commission has also taken opportunity to call attention to its belief that the relationship between street railway and the communities they serve should be radically changed and that a modification of obsolete franchise requirements would distinctly be in the interest of the public. No sound reason exists any longer, for instance, why the street car user should bear the total burden of the cost of paving a portion of the most expensive city streets, when in adjoining city streets, which do not have the advantage of street railway service, this same burden is borne entirely by the adjoining property owners. The change from unsatisfactory and obsolete term franchises to better indeterminate franchises is now being effected in several communities and is being given careful consideration in others. The commission, under the public utilities act, is called upon to take part in the creation of better franchise conditions and several proceedings of this nature are now pending.

## Trustees Seek to Spend \$4,421,000

The trustees of the Boston (Mass.) Elevated Railway have asked the Legislature for authority to spend \$4,421,000 for the erection of new repair shops, the building of a new powerhouse, the establishment of storage yards and the general improvement of the service.

The recommendations of the trustees are embodied in a petition filed with the Secretary of State, which says that "proper operation of a street railway calls for sufficient cars to carry passengers in reasonable comfort, and for shop facilities to keep those cars in repair." Continuing, the trustees declare that some of the present facilities of the Elevated are wasteful and inefficient, and must be improved in order to eliminate delays which may result in inconvenience to thousands of passengers at a time.

They ask for authority to spend \$3,000,000 for new repair shops at the Everett terminal, \$1,421,000 for increasing the power facilities, and an

unestimated amount for a storage yard at Forest Hills. They also reiterate the request made in their first annual report a year ago that the State be empowered to buy bonds to be issued for service improvements.

## Railway Problem Advertised in National Medium

The Western Electric Company, in the interest of electrical development and achievement, published the accompanying advertisement in a recent issue of the *Literary Digest*. The occasional rider and even the regular rider on an electric railway is transported from one place to another in sublime ignorance of just what that one trip has cost the owner



## The Public Be Jammed!

Nothing like a ride in the street car at rush hour, if you're feeling lonely. There you will find companionship aplenty.

Friendly elbows digging into your ribs, a foot or two placed affectionately upon your own, an umbrella handle caressing the small of your back.

This is the mode of travel we Americans apparently prefer. At any rate, it is all that we pay for.

Yet, though the brave effort of two or more bodies to occupy the same space at the same time may be interesting as a scientific experiment, to the health of the contestants struggling in the foul and germ-laden air, it holds a menace.

But after all, the street railway can't give us any better service than we pay for. Whatever extra cars, extra seats, extra speed we desire can come only from the money we furnish.

The service of street railways, whether owned by the public or by private interests, must be paid for by the people who ride.

So, how much we pay and what we consider worth paying for, are questions purely up to us.

In the face of rising costs for material and labor, shall we hold our railways down to the old fare—and watch the service become less and less adequate as their resources shrink?

Or rather, shall we spend a few cents more each day to keep the street railway equipment in good order, to build up a better service for our own comfort and convenience, and even for our health?

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

## Western Electric Company

No. 12. *Western Electric—an organization which through half a century has had a share in bringing the convenience of electric light, power and communication to millions of Americans.*

A MAGAZINE AD IN THE INTEREST OF FAIR PLAY

of the property. As the Western Electric Company indicates, the problem for the public to decide is whether in the face of rising costs it shall hold the railways down to the old fare and watch the service become less and less adequate or whether riders will spend a few cents more each day to keep equipment in good order so that service may be bettered for their comfort.

## Sectional Body Suggested

**Commissioners of Intermountain States May Arrange to Consider Problems Common to All of Them**

Members of the Public Utilities Commissions of Utah, Nevada, Montana and Idaho have concluded a conference at the State Capitol in Salt Lake with a general discussion of problems common to all. The matter of express rates, which was one of the reasons for the calling of the conference, was left to the individual commissions to decide, in the light of what had been brought out by the discussions at the conference.

The commissioners found, however, that the exchange of ideas and general discussions at the present conference had been so helpful and beneficial that the proposition of forming a sort of intermountain association of utilities commissioners was very much in favor. It was pointed out that problems common to all the intermountain country might be discussed at meetings of such an organization, and it was indicated that some sort of a sectional meeting might be held with a view to uniform presentation of views to the National Association of Railroad & Utilities Commissioners.

In the absence of other members of the visiting commissions no action could be taken. It was left with Judge Joshua Greenwood, president of the Utah Commission, to correspond with other commissions to ascertain if some sort of an association of the kind suggested would be agreeable to all.

The visiting commissioners and the Utah commissioners were guests of the Mountain States Telephone & Telegraph Company at luncheon at its cafeteria. After lunch the officials were taken through the plant and the details of traffic and operation were explained. Later some of the visitors inspected the plant of the Utah Copper Company at Bingham.

## Financing Interurban Found Difficult

Difficulties are being met in arranging for the financing of the Wichita Falls-Dallas Interurban line. There is talk to the effect that the project may not be carried through at this time. The Dallas (Tex.) Railways is committed to build the road in substitution for two lines each at least 30 miles in length as provided in the franchise granted to that company in 1917.

Under the contract entered into last spring Dallas and Wichita Falls raised \$1,500,000 of the \$7,500,000 needed to build the line. George Bishop, Cleveland, Ohio, agreed to dispose of the \$5,000,000 of first mortgage bonds of the company. The first agreement called for the disposal of these bonds by Oct. 15, but this was later extended to Nov. 25. Another extension will be granted.

J. F. Strickland, president of the Dallas Railways, is of the opinion that the line can be built with less than the

estimated \$7,500,000, as materials used in railway construction and the cost of labor are on the decline. Mr. Strickland says he believes the line can be financed on \$4,000,000 of first mortgage bonds and expresses a willingness to go ahead on that basis.

Mr. Bishop reported that he had disposed of \$3,500,000 of the \$5,000,000 first mortgage bonds by Oct. 1. It is believed that another \$500,000 at least can be placed.

The committee had until Dec. 1 to notify the city of Dallas of success or failure of efforts to dispose of the securities and complete details for financing the project.

### Kansas Industrial Court and Commission Functions to Be Separated

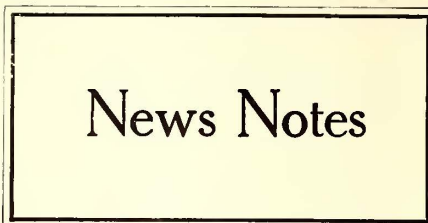
Governor Allen will ask the Kansas Legislature to separate the Industrial Court from the Public Utilities Commission. The plan suggested is to unite all the labor boards and industrial commissions of the state under the supervision of the Industrial Court and to restore the Public Utilities Commission for the administration of questions affecting the public utilities.

The Public Utilities Commission never has been able to keep up with its work even without the added duties of the Industrial Court. The commission is far behind now in its work as a public utilities commission, and because of that much important work of the body functioning as an industrial commission has suffered neglect during the past year. The court has been able to demonstrate the principle involved in the law and to show that such a court is entirely feasible, but it has only had time to establish the work of the Industrial Commission.

### Paving a Burden in San Diego

The fate of the San Diego (Cal.) Electric Railway is in the hands of the people themselves, whose co-operation and support are prerequisites for the maintenance of service in that city. This is the point of view of William Clayton, vice-president and managing director of the company, who discussed the solution of San Diego's transportation problem on Nov. 15 before representatives of various business and civic bodies. He said that the automobile was in a great measure responsible for the poor financial showing of the company. The possibility of the company spending \$1,000,000 on paving requirements was absolutely out of the question. Mr. Clayton further stated that paving obligations should be excluded from charter statutes by an act of the Legislature and that the Railroad Commission of California, with its comprehensive knowledge of public utilities, should review the paving question and other franchise burdens which the company must bear. He thought that abutting property owners and the city should bear the paving charges. In the final analysis the question was one for the

people to decide. Without the support of the people San Diego was likely to find itself without electric railway service.



**Seven-Cent Raise for Fitchburg Men.**—The Fitchburg & Leominster Street Railway, Fitchburg, Mass., has increased the wages of its employees to a maximum of 64 cents an hour. The new scale represents an increase of 7 cents an hour over the former rate.

**Ottawa Will Vote on Railway Purchase.**—The City Council of Ottawa, Ont., has decided to apply to the Provincial Government for power to borrow the necessary money to purchase the Ottawa Electric Railway should the ratepayers approve of its purchase by plebiscite in January. The price will be fixed by arbitration.

**Fourteen Years a Commissioner.**—The terms of Commissioners Loveland of San Francisco and Edgerton of Los Angeles of the Railroad Commission of California expire on Dec. 31, 1920. Commissioner Loveland has been holding office for fourteen years, and next to Commissioner Mills of the Minnesota Commission, has had the largest service in that respect of any man in the country. Commissioner Edgerton has held office for eight years.

**Toronto to Submit Motor Bus By-Law to Citizens.**—A by-law to authorize the expenditure of a maximum of \$500,000 on motor buses as an auxiliary to the electric railway system of the Toronto Railway when taken over next year by the city of Toronto has received favorable consideration at a private meeting of the Toronto Board of Control, the Civic Transportation and the Harbor Commission. The matter will be sent on to the City Council.

**Railway Loses Realignment Suit.**—The Belt Line Railway Corporation, New York, N. Y., has lost its fight against an order to relay its rails on West Fifty-ninth Street by a decision handed down by the Court of Appeals. The court reversed the order of the First Appellate Division, which had reversed an order of the New York Special Term in granting a peremptory writ of mandamus to compel the corporation at its own expense to conform its surface rails upon West Fifty-ninth Street between Fifth and Eighth Avenues with the level of the street when repaved. The order of the Special Term was affirmed.

**Further Retrenchment Planned.**—H. A. Orr, resident manager of the local branch of the Southern Public Utilities Company at Anderson, S. C., has returned from Charlotte, where he went to attend a meeting of the managers

of this company. Mr. Orr is quoted as stating that the consensus of opinion at the meeting in Charlotte was to the effect that further economies must be effected or a raise in rates be asked. He also states that while he thinks the company is economizing wherever possible, he hopes through judicious advertising of the service to bring about an increase in revenue, sufficient to make it unnecessary to seek an advance in fares from 7 cents to 8 cents.

**Receiver Greets Pensioners.**—An informal reception was held recently in the general office of the United Railways, St. Louis, when fifteen distinguished pensioners were greeted by Receiver Wells and Manager Perkins. The occasion was the last visit of these sturdy employees to the general office. Prominent among these pioneers was a man who had served under Receiver Wells' father, and another who had started to work for the old Union Line in 1869.

**Crosstown Line Must Wait.**—A rapid transit cross-town line in Brooklyn, N. Y., is not nearly so urgent as subway extensions in Staten Island, Manhattan and Flushing. This is the opinion of John H. Delaney, Transit Construction Commissioner, in answer to an inquiry about the Queensboro Plaza cross-town line, a recently revived improvement. The commissioner stated that the city has still to spend about \$50,000,000 on the completion of the dual system, and no new additional routes should be considered before the present construction problems are completed.

**Subway Plan Revived.**—A plan for short subways for downtown streets in Detroit, Mich., has been revived by Councilman Nagel and preparatory to resubmitting a plan for short dips, similar to the plan he proposed last year, Mr. Nagel has put through the Council a resolution asking the Corporation Counsel to give an opinion as to whether or not the city has the power to assess the cost of such a system against abutting property owners in proportion to the benefits. Subways in all street car streets in the section bounded by Cass Avenue, Randolph Street and Adams Avenue and the Detroit River at a cost of approximately \$12,000,000 are advocated by Councilman Nagel.

**A General Clean-Up in Muskogee.**—With the motto of "nothing to conceal, everything to disclose," W. M. Cutlip, now general manager Muskogee Electric Traction Company, has gone through the rank and file, and all employees guilty of "knocking down" fares have been "spurlös versenkt." It was shown at the November meeting of the Chamber of Commerce that the dismissal of the dishonest men increased the company's revenue \$100 a day. One of Mr. Cutlip's first accomplishments was a wage advance of 5 cents an hour. With the increased receipts to which the manager looks forward improved and extended service will be granted the patrons of the Muskogee Electric Traction Company.

# Financial and Corporate

## Stockholders Organize

Local Holders of Stock of Kansas City Railways See No Need for Foreclosure Now

Holdings of preferred stock of the Kansas City (Mo.) Railways resident in Kansas City held a meeting on Nov. 26, at the Hotel Baltimore, pursuant to informal suggestions. John I. Glover, elected chairman of this meeting, was asked to appoint a committee to take such steps as seemed necessary with reference to the present situation of the company. The committee, appointed since the meeting, consists of James E. Gibson, chairman; C. D. Parker, Robert M. Goodlet, Henry Florsheim and Edward J. Corrigan. Mr. Gibson was former general manager of the railway.

The immediate cause of the action by local stockholders is said to have been reports that first mortgage bondholders anticipated foreclosure. Such report seemed premature and doubt was expressed at any result of this nature.

It is made clear that there is no beligerent motive in the formation of a stockholders' committee.

There were about twenty-five holders of preferred stock at the meeting. Two or three large local stockholders not present had previously indicated their desire to co-operate.

Frank Hagerman has announced that he represents J. O. Armour, the largest

## \$32,000,000 Power Deal

Electric Railway Lines Included in Purchase of MacKenzie Holdings by Ontario Commission

After two years of negotiations, Sir Adam Beck, chairman of the Ontario Hydro-Electric Power Commission, on Dec. 4 concluded an agreement with representatives of Sir William MacKenzie to purchase the entire electrical interests of the various companies promoted, controlled or influenced by him in the Toronto and Niagara district for \$32,734,000. Sir Adam acted on behalf of the city of Toronto and the other Ontario municipalities comprising the hydro-electric power union.

### RAILWAYS INCLUDED IN PURCHASE

The properties purchased are the Toronto Power Company, the Toronto & York Radial Railway and the Schomberg & Aurora Railway lines. These three properties include the systems of the Toronto Power Company, the Toronto & Niagara Power Company, the Electrical Development Company and the Toronto Electric Light Company

The purchase will be financed as follows: \$6,971,295 of 6 per cent twenty-year bonds of the city of Toronto; \$2,375,000 twenty-year 6 per cent bonds of the Hydro-Electric Power Commission; \$613,528 twenty-year 5 per cent bonds of the Hydro Commission, and the assumption by the commission of \$4,355,000 of underlying bonds of the Toronto Power Company, \$13,558,917 bonds or debenture stock of the Toronto Power Company, \$4,103,200 5 per cent mortgage bonds of the Electrical Development Company, \$840,000 three-year 6 per cent notes of the Toronto Electric Light Company, and \$13,100 outstanding stock of the Electrical Development Company

Thus there will be delivered to the former owners \$9,958,823 of bonds and the new owners will assume responsibility for \$22,775,177 of obligations of the companies taken over. The consummation of this large deal was practically necessary if the undertaking of the proposed hydro-radial railways was to be continued. The taking over of the Toronto Street Railway by the city of Toronto at the expiration of the franchise next September involves the question of securing an adequate power supply for its operation.

### COMPLETING POWER SCHEME

Although assurances had been given from time to time that the Chipewawa canal scheme of the Hydro Commission would be far enough advanced to supply the necessary power for the operation of the street railway next September, there were grave doubts that this could be accomplished. In ad-

dition it was essential that the franchises owned by the Toronto & York Radial Railway be extinguished if the proposed hydro-radial scheme was to be a success. Some of these were granted in perpetuity and so long as they existed there would always be difficulty.

By the acquisition of the foregoing power plants the total capacity of the plants owned, acquired and under construction by the Hydro-Electric Power Commission will be more than 1,000,000 hp. and the total investment by the end of 1922 will be between \$160,000,000 and \$170,000,000, by the Province of Ontario and the municipalities.

## Cincinnati Going Behind on Eight Cents

The report of the Cincinnati (Ohio) Traction Company to W. C. Culkins, Street Railway Director, for the month of October shows a deficit larger than that for the month of September. The total increase in operating expenses over last year is 31.04 per cent. This increased cost is accounted for in the figures compiled by the auditor of the

STATEMENT OF EARNINGS OF CINCINNATI TRACTION COMPANY

October	1920	1919	Per Cent Increase
Passenger revenue.....	\$791,932	\$721,032	
Other revenue and income.....	12,999	11,228	
<b>Total.....</b>	<b>\$804,931</b>	<b>\$732,260</b>	<b>9.9</b>
Operating expenses.....	73,628	47,220	55.9
Equipment.....	71,144	45,695	55.6
Power.....	131,329	78,779	66.7
Conducting transportation.....	277,993	244,600	13.6
Traffic.....	848	756	12.1
General and miscellaneous.....	43,636	36,916	31.8
<b>Total.....</b>	<b>\$598,580</b>	<b>\$453,969</b>	<b>31.8</b>
Taxes and rentals of viaducts.....	\$67,705	\$448,694	39.0
Rental of leased lines.....	104,030	104,030	....
Interest on equipment:			
Notes B 1; Interest and sinking fund, reducible debts.....	17,971	28,695	78.9
Interest on equipment:			
Notes G 1 2; interest on sinking fund notes and debentures.....	44,126	6,007	
Return on capital.....	35,043	35,043	....
Taxes, franchise.....	29,991	29,483	....
<b>Total cost of service.....</b>	<b>\$897,447</b>	<b>\$706,582</b>	<b>27.0</b>
<b>Total revenue and income.....</b>	<b>\$804,931</b>	<b>\$732,260</b>	<b>9.9</b>
<b>Deficit.....</b>	<b>\$92,515</b>	<b>\$25,678</b>	<b>127.7</b>
Fare.....	8 cents	7 cents	
Revenue passengers.....	10,059,657	10,403,207	
Car-miles.....	1,740,547	1,884,780	

street railway director. The cost of power for October of this year was \$131,329. Last October the cost of power was \$78,779, an increase of 66.71 per cent. October a year ago there were 10,403,207 revenue passengers. This October there was a falling off of passengers to 18,059,657. The total cost of service this year was \$897,447, as compared with \$706,582 for October, 1919, an increase of 27.01 per cent. The deficit for October, 1919, was \$25,678. The deficit for October, 1920, was \$92,515.80, an increase of 127.7 per cent. The fare last year was 7 cents. This year it was 8 cents. The details are given in the accompanying table.

stockholder and an unsecured creditor. He has so far taken no active part, as Mr. Armour's representative, in the court proceedings.

After the meeting on Nov. 26 there was casual conversation among stockholders, touching upon a possible means of regulating jitney service in Kansas City. A leading business man suggested that perhaps service might be suspended for a few days, in which period the inability of jitneys to maintain regular and continuous operation would be demonstrated. Legislation long desired might then be secured. The conversation was not a feature of the meeting.

## Change Proposed in Reorganization Plan

### Cash Needed to Pay Off Existing Loans of International Company at Buffalo and Make Good the Operating Deficit

Holders of the collateral trust 4 per cent gold bonds of the International Traction Company, Buffalo, N. Y., have received copies of a new plan for the reorganization of the corporation. The old plan was abandoned a month ago after an omission had been found in the notice to depositing bondholders. The protective committee of which Elliott C. McDougal, president of the Marine Trust Company, Buffalo, is chairman feels that in view of improved operating conditions it is warranted in recommending a plan which will permit the free distribution of a substantial amount of the railway company stock to those depositors who are not able or willing to contribute any part of the funds required.

ITS pointed out that the "inherited hostile attitude of the public toward the corporation has been changed to one of favorable comment" and that in view of these facts the committee has reached the conclusion that the financial position of the railway company would be reasonably safe if enough cash were provided to pay off existing loans and make good the operating deficit, and if an amount of bonds sufficient to provide for necessary renewal and construction expenditures were set aside in the hands of the trustees.

"Some provision for new capital is essential at this time because of the inhibition contained in the supplemental indenture to the railway refunding and improvement 5 per cent mortgage which as a condition precedent to the issuance of additional bonds requires that the net earnings for a period of twelve consecutive months shall have equaled 7½ per cent of the total funded debt of the company," the notice to bondholders says. It adds that the present annual gross earnings of the company are approximately \$11,000,000, but the net earnings for 1920 will not exceed the present fixed charges.

#### PLAN SUMMARIZED

The underwriters of the new plan now recommended have agreed to purchase at certain prices voting trust certificates for 94,487 shares of railway stock, par value, \$9,448,700, and \$2,000,000 in principal amount of railway 5 per cent bonds, less the amounts which the depositors elect to purchase in accordance with the offers made to them. There will be no underwriting commission on the bonds; the underwriting commission is 5 per cent upon the full purchase price for the voting trust certificates. The underwriting is conditioned upon the establishment of a voting trust for five years.

The plan of readjustment recommended by the committee is substantially as follows:

The committee proposes to transfer and deliver to voting trustees all the stock of the International Railway, consisting of 167,075 shares, with power to vote the same for a term of five years, receiving in exchange therefor voting trust certificates issued under an appropriate voting trust agreement.

It is proposed to distribute among the depositors pro rata and free of charge voting trust certificates for 72,588 shares of railway stock, representing four shares for each \$1,000 traction bond deposited under the protective agreement. Depositors will be offered for each \$1,000 traction bond deposited under the protective agreement the opportunity to purchase voting trust certificates for five shares of railway stock and \$100 in principal amount of railway 5

per cent bonds, the price to be \$100 plus accrued interest.

Depositors also will be offered the opportunity to purchase the remainder of the voting trust certificates at the price of \$10 per share and the remainder of the \$2,000,000 in principal amount of railway 5 per cent bonds which have been underwritten at the price of 50 per cent of the principal plus accrued interest.

The committee will allow depositors a reasonable time for making elections to purchase the voting trust certificates and bonds. The purchase price will be payable at the time of making the election to purchase and the voting trust certificates and bonds will be delivered as soon as practicable after payment of the purchase price.

In addition the committee proposes to sell to the underwriters at the prices above stated the portions of the voting trust certificates for 94,487 shares of railway stock, and of the \$2,000,000 in principal amount of railway 5 per cent bonds, which the depositors do not elect to purchase in accordance with the offers made to them under this reorganization plan.

The committee proposes to transfer and deliver to the voting trustees \$1,944,000 in principal amount of the railway 5 per cent bonds and \$640,500 in principal amount of underlying 6 per cent bonds to be held in trust but with full power in the voting trustees to sell or otherwise use the bonds or any part of them and the proceeds thereof for the benefit of the railway company or the holders of the voting trust certificates for railway stock, as the voting trustees in their discretion may from time to time deem to be necessary or desirable, provided, however, that the interest payable on the bonds while held by the voting trustees is to be returned to the railway company. After disposing of the voting trust certificates and the bonds as provided in the reorganization plans and after paying and discharging its obligations and expenses, including the compensation of its members, the committee proposes to pay over to the railway company all cash and other property remaining in its hands.

Under this plan the protective committee says it will be able to pay its obligations and expenses and to make good the operating deficit of the railway, the voting trustees will be in a position to use the bonds set aside in their hands to meet future cash requirements of the railway and the depositor of each \$1,000 traction bond will have an opportunity, by the payment of \$100, to secure a par or principal amount of securities equal to the principal of his original investment, as follows: \$400 railway stock distributed free; \$500 railway stock and \$100 railway 5 per cent bonds for \$100 cash payment.

Chairman McDougal tells depositing bondholders that no promise can be made at this time of a return on the stock. The estimated gross earnings this year are \$11,175,000; operating expenses and taxes, \$9,525,000, and fixed charges \$1,650,000.

If objections are not filed the committee expects to adopt the amendment and give notice to the depositors and thereafter proceed to carry out the plan as expeditiously as possible.

Members of the committee in addition to Chairman McDougal are Jacob Gould Schurman, Thomas DeWitt Cuyler, R. Walter Leigh and Thomas E. Mitten. A. F. Halsted, 62 Cedar Street, New York, is secretary of the committee. The Guaranty Trust Company, New York, is the depository.

## P. R. T. Increase Disappointing

### Mr. Mitten Appears to Be Vindicated by First Month's Result Under Commission Ruling

Thomas E. Mitten, president of the Philadelphia (Pa.) Rapid Transit Company, has reported to the Public Service Commission the results of the increase in fare in Philadelphia which became effective on Nov. 1. He has also taken up with the commission the need for the continuance of skip-stops.

Mr. Mitten says that the actual result of the new schedule closely approaches the flat rate of 5 cents per passenger asked previously by the company. He adds it is too early to say what effect the new fare has on short riding, but that it is evident the operating economies possible under the tariff formerly proposed are not obtainable under the plan which the commission ordered the company to adopt.

With regard to skip-stops Mr. Mitten intimates that he does not favor doing away with them entirely. He declares that skip-stops are the means of saving about \$1,000,000 a year in operating costs. He wrote to the commission in effect that the economy of \$1,000,000 worked by the skip-stop, if now dissipated, will decrease by \$20,000,000 the amount of city subway and elevated investments upon which 5 per cent per annum can be paid by the operating company.

The sum of \$429,742 of added passenger earnings was collected during the month on account of the increase in the rate of fare to 7 cents, with 4 tickets for 25 cents. This is shown in the following summary:

Passenger earnings same period last year	\$3,019,977
Average increase ten months to Oct. 31, 6.85 per cent.	206,868
Estimate of earnings Nov., 1920, at former 5-cent fare.	3,226,845
Increase attributable to higher fare, 14.23 per cent.	429,742
Actual passenger earnings for Nov., 1920	\$3,056,587

It is estimated that \$2,562,736 of added passenger earnings would at this rate be collected for the period of six months from Nov. 1, 1920, to April 30, 1921. In regard to the valuation Mr. Mitten said:

The valuation of the property of the Philadelphia Rapid Transit Company is progressing and when finally determined will be the basis of the fair return thereafter payable to the owners of the property. After this is done skip-stop and other economies will no longer be of financial advantage to the company, but will directly advantage the community served. The skip-stop economy of \$1,000,000, if now dissipated, will decrease by \$20,000,000 the amount of city subway and elevated investment upon which 5 per cent per annum can be paid by the operating company.



# \$32,083,389 Is St. Paul City Railway Value

This Figure Is Reported by Drum & Company, Valuation Experts, as the 1920 Reproduction Value Including Superseded Property

A. L. Drum & Company, consulting engineers, Chicago, reporting to Horace Lowry, president of the Twin City Rapid Transit Company, have found the value of the total property of the St. Paul (Minn.) City Railway to be \$32,083,389 on the basis of cost to reproduce new as of Jan. 1, 1920, inventory and unit prices. A second figure submitted, based on the cost to reproduce new as of Jan. 1, 1916, using the inventory of Jan. 1, 1920, and average unit prices of labor, material, apparatus and equipment which prevailed during the five years from 1911 to 1915 inclusive, or the ten years from 1906 to 1915, inclusive, is \$21,368,781. In either case the figures represent the minimum amount of capital that would have been required actually to reproduce the physical property as of Jan. 1, 1920, plus the capital invested in development.

THIS latter item is of particular interest. In discussing it, the report of the engineers goes on to state that in preparing the report and appraisal it became apparent that a large amount of capital had been invested in the development of the property during the early years which was superseded prior to the expiration of its useful life, owing to the development in the art of transportation, or to meet the demands of the public in bringing the property to its present state of efficiency.

lines. The horse-car system consisted of 49.02 miles of single track, twenty-three buildings and 118 horse cars.

The cable period began in 1887 and continued until 1893, when it was superseded by initial electric traction lines. The cable system consisted of 14.785 miles of cable railway, two power station developments and 104 cars.

The initial development of electric traction commenced in 1889 and the early experimental stages continued until about 1904. During this period

"going concern value," for no item of value under this head is included.

The principal property of the St. Paul City Railways as of Jan. 1, 1920, is shown to consist of 168.37 miles of single track; 367 passenger cars; 38 miscellaneous service cars; four substations containing conversion apparatus having an aggregate rated capacity of 20,400 kw., all primary power being furnished by the Minneapolis Street Railway from its main station located in Minneapolis; car houses, office, shops, and miscellaneous buildings.

A comparison of the cost of reproduction new on the bases employed in the work is contained in the accompanying table, in which the various main elements of the property are itemized. To the value as shown in this table, which cover the property within the city limits of St. Paul only, should be added the sum of \$344,528 and \$552,805 for 1916 and 1920, respectively, to obtain the total property value figures quoted in the first paragraph, these amounts covering the value of the property outside the St. Paul city limits. The main item of this property outside the city limits consists of 8.29 miles of single track, with overhead trolley, feeder wires, etc.

In commenting on the condition of the property, the report states that it "has been carefully and properly maintained and is in an efficient operating condition, capable of supplying all the present demands of reasonable service to the public in the territory, and therefore the cost to reproduce new represents the actual value of the physical property, as a similar property could not be reproduced at a less amount."

The report includes figures to show the depreciated present value, defining the deductions as representing the amount of existing depreciation due to wear or mechanical deterioration ascertained by field inspection and measurement. The cost to reproduce new less depreciation as thus defined, for the total property and comparable with the total value figures given in the first paragraph, are estimated to be \$20,479,437 as of Jan. 1, 1916, and \$30,547,539 as of Jan. 1, 1920.

## Shore Line Near New Haven to Be Restored

Louis I. Levinson of the U. S. Wrecking Company, who some time ago purchased a part of the Shore Line Electric Railway, is proceeding with plans looking toward the preservation of the line as an operating unit for the benefit of residents of the territory affected by the discontinuance of service. His purpose, as reported now, is to form a company with a capitalization of \$600,000 of bonds and an equal amount of stock and to issue ten shares of stock as a bonus with each \$1,000 of bonds subscribed. The bonds would be secured by a first mortgage on the property. They would bear interest at 7 per cent. The trustee of the issue will be the Merchants' National Bank, New Haven.

STATEMENT OF VALUATION OF ST. PAUL CITY RAILWAY, EXCLUSIVE OF SOUTH ST. PAUL LINE OUTSIDE OF CITY LIMITS

Item	Cost to Reproduce New 1916	Cost to Reproduce New 1920	Per Cent Increase 1920 over 1916
Track.....	\$3,333,977	\$6,150,078	84.47
Bridges and subways.....	111,116	136,704	23.03
Tunnels.....	304,518	495,025	62.56
Paving.....	1,807,559	2,667,472	47.57
Electrical distribution system.....	1,330,895	2,132,022	60.19
Rolling stock.....	2,662,979	5,856,542	119.92
Substation equipment.....	408,331	625,280	53.13
Shop machinery and shop tools.....	497,188	848,822	70.73
Buildings.....	1,052,640	1,656,282	57.35
Furniture, fixtures and office equipment.....	61,863	88,032	42.30
Stores, floating tools and miscellaneous equipment.....	790,440	831,423	5.18
Miscellaneous items not included in inventory.....	127,105	127,105	00
Total exclusive of land.....	\$12,488,611	\$21,614,787	73.07
Administration, organization and legal expense.....	519,350	654,495	26.02
Taxes during construction.....	279,428	399,402	42.94
Interest during construction.....	1,509,312	2,494,348	65.26
Working capital.....	300,000	440,000	46.67
Total.....	\$2,608,090	\$3,988,245	52.92
Grand total, exclusive of land.....	\$15,096,701	\$25,603,032	69.59
Land.....	1,087,014	1,087,014	00
Grand total, including land.....	\$16,183,715	\$26,690,045	64.92

A thorough investigation was made of such items of superseded property and those items were included only where it was apparent from records that such property was superseded or abandoned after a short period of operation, or that the net earnings of the company had not been sufficient to amortize the capital invested in superseded property.

The estimated cost of this property superseded by constant improvement, radical changes and unforeseen developments covers the replacement and supersession of such serviceable property as horse and cable lines superseded by electric traction, initial electric cars and power stations superseded by modern cars and modern power stations, and serviceable track removed and replaced on account of new paving ordered by the city.

In St. Paul the horse-car period began in 1872 and continued until 1890 and 1891, when all horse-car lines were replaced by initial electric traction

the company made an extensive power station development at the Hill Street station, including the substations and electrical distribution lines connected therewith. At the same time, the report declares, all of the single-track cars were replaced by modern double-track cars, and 30.176 miles of track was removed and replaced before the expiration of its useful life on account of new paving ordered by the city.

### VALUE OF SUPERSEDED PROPERTY

The figures included in the valuation for the value of such superseded property was itemized as follows: For horse-car lines, \$1,384,778; for cable lines, \$1,564,808; for initial electrical development, \$1,242,677, and for track reconstruction destroyed and replaced owing to new paving laid by the city, \$648,275; making a total of \$4,840,538. This item, termed in the engineer's report as the "capital invested in the development of the property," takes the place, presumably, of an entry for

Mr. Levinson, it is reported, paid \$570,000 for the road, but it is said will receive only \$540,000 for his interest, the difference between that amount and the total sum realized from the sale of the \$600,000 of bonds being used to provide working capital. Mr. Levinson has already made a profit by selling the rails from the Stony Creek branch and those east of Saybrook. He will turn over to the new owners all the equipment, including power houses, substations, etc. It is said that pledges of subscriptions have already been made sufficient to insure the success of the new plan.

### I. R. T.'s October Deficit Higher Than in 1919

For the month of October, 1920, the Interborough Rapid Transit Company, New York, N. Y., shows a deficit in its net corporate income of \$407,792 against a deficit of \$218,762 for the corresponding month of 1919. For the past three months now the Interborough has been consistently decreasing its deficit, having lost about \$600,000 in August and \$500,000 in September. For the four months ended Oct. 31, 1920, the net income is a deficit of \$2,119,927 against a deficit of \$1,742,969 for the same period of last year. In October, 1920, the number of revenue passengers

## Financial News Notes

**Abandonment at San Diego Approved.**—The California Railroad Commission has issued a ruling permitting the San Diego Electric Railway to discontinue the line that extends from First and Washington Streets to Fifth and Spruce Streets. The company showed that the entire system was operated at a loss of \$54,420 from January to September, 1920. The company was granted permission to tear up the tracks on the abandoned line.

**Issue of Funds for Improvements Approved.**—The department of Public Utilities of Massachusetts has approved of use by the Eastern Massachusetts Street Railway, Boston, Mass., of proceeds of the sale of \$2,000,000 of serial bonds for additions to the property, amounting to \$574,375. The improvements include fifty one-man cars at cost of \$337,500 and purchase of equity in machinery of the Quincy Point Company's power house at a cost of \$115,000.

amounting to between \$7,000,000 and \$8,000,000. The present directors of the power company will resign and be replaced by administrative officers of the British Columbia Electric Railway.

**New Jersey Valuation Nearing Completion.**—Ford, Bacon & Davis, New York, N. Y., who are appraising the property of the Public Service Railway in New Jersey, expect to have the work completed inside of six months, according to the report of the special valuation commission, consisting of State Treasurer William T. Read and State Comptroller Newton A. K. Bugbee. The appraisers are gathering data on which to place a valuation for use by the Board of Public Utility Commissioners in making permanent rates to be charged by the railway throughout the State. The State appropriated \$100,000 under the provisions of an act which has been summarized previously in the ELECTRIC RAILWAY JOURNAL.

**Special Master at Kansas City.**—John Kennish, who served four years on the Public Service Commission of Missouri, and was reappointed three months ago, has been made master in chancery in Kansas City (Mo.) Railways receivership matters. Judge Kennish, immediately upon the appointment on Nov. 29, resigned from the State Commission, and on Dec. 1 qualified as master. Judge Kimbrough Stone of the federal court, under whom the receivership is being conducted, had intimated that he might appoint a master to relieve him of the burden of hearing evidence in case controversies should become voluminous. Judge Kennish has maintained his private law office in Kansas City for several years. The master notified parties at interest to appear on Dec. 9, to arrange for a hearing, particularly regarding petitions that the properties be sold.

**Receiver Named for Cincinnati-Dayton Line.**—George P. Sohngen, president of the Hamilton Dime Savings Bank, Hamilton, Ohio, has been appointed receiver of the Cincinnati & Dayton Traction Company by Judge Clarence Murphy. The original action was started by the Citizens' Savings Bank & Trust Company, Cleveland, Ohio. Argument was heard last July. In September the court rendered a decision on some of the points in dispute, but held in obedience the naming of a receiver. Meanwhile Judge Murphy has been considering other questions establishing the rights of holders under various liens. On these matters he has ruled as follows: The property purchased for private right-of-way between Cincinnati and Dayton is covered by mortgages on the original right of way; the second track on Central Avenue, Court Street and North B Street, Hamilton, comes under the mortgages; the mortgagees can have personal judgment against the Cincinnati, Dayton & Toledo Traction Company; the transmission lines are a part of the power house and are not covered by the mortgages.

SUMMARY OF EARNINGS OF INTERBOROUGH RAPID TRANSIT COMPANY

Month Ended Oct. 31:	1920	1919	Percentage Change Over 1919
Gross operating revenue.....	\$4,733,162	\$4,280,838	10.6
Operating expenses.....	3,191,896	2,668,307	19.6
Net operating revenue.....	\$1,541,266	\$1,612,530	-4.4
Total taxes.....	220,088	216,401	1.7
Income from operation.....	\$1,321,178	\$1,396,129	-5.4
Non-operating income.....	49,766	40,130	24.0
Gross income.....	1,370,964	1,436,259	-4.5
Interest, rentals, etc., including Manhattan guarantee.....	1,778,757	1,655,022	7.5
Net corporate income (exclusive of accruals under the provisions of Contract No. 3 and related certificates which under these agreements with the City are payable from future earnings).....	*\$407,792	*\$218,762	-86.8
Operating ratio (per cent).....	67.44	62.33	5.11
Passengers carried (revenue).....	88,354,850	79,307,822	11.4
			Percentage Change Over 1919
Four Months Ended Oct. 31, 1920:	1920	1919	
Gross operating revenue.....	\$17,175,736	\$15,245,108	12.7
Operating expenses.....	11,673,984	9,699,512	20.3
Net operating revenue.....	\$5,501,751	\$5,545,595	-0.8
Total taxes.....	873,219	857,010	1.9
Income from operation.....	\$4,628,531	\$4,688,585	-1.3
Non-operating income.....	207,929	175,076	18.8
Gross income.....	\$4,836,461	\$4,863,661	-0.6
Interest, rentals, etc., including Manhattan guarantee.....	6,956,388	6,606,631	5.3
Net corporate income (exclusive of accruals under the provisions of Contract No. 3 and related certificates which under these agreements with the City are payable from future earnings).....	*\$2,119,927	*\$1,742,969	-21.8
Operating ratio (per cent).....	67.97	63.62	4.35
Passengers carried (revenue).....	319,606,420	282,186,716	13.3

\* Deficit.

carried increased more than 9,000,000 over the same month in 1919 and for the four months ended October, 1920, the passengers carried increased about 37,000,000, or 13.3 per cent, over the similar period of 1919. The operating ratio for the month was 67.44 per cent, while for the four months it was 67.97 per cent.

**Railway Acquires Power Company.**—George Kidd, general manager of the British Columbia Electric Railway, announced at Vancouver, B. C., on Dec. 3 that all arrangements had been completed for the formal taking over of the Western Canada Power Company in New York on Dec. 23 by an issue of debentures guaranteed by the railway

# Traffic and Transportation

## Eight Cents Enough

### Special Masters Recommend Increased Fare for Des Moines City Railway—Want Service Improved

John A. Guiher, Paul Beer and E. D. Perry, special masters in chancery appointed by Federal Judge Martin J. Wade to investigate the condition of the Des Moines (Iowa) City Railway, have filed a report suggesting that fares be advanced to 8 cents for adults and to 4 cents or seven tickets for a quarter for school children. They also recommend that in the event the 8-cent fare is granted that a 40 per cent increase in service for eighteen hours daily be put into effect by the railway. A 6-cent fare is now charged.

In their report the masters say:

From our examination we find and believe that an 8-cent fare for adults and a 4-cent fare, or eight tickets for a quarter, for school children and high school pupils will be required to furnish the necessary revenue to pay the operating expenses, fixed charges, interest and taxes with a 40 per cent increase over the present service, and we recommend the establishment of fares with increase in service in accordance with said finding.

Our estimate shows a surplus of \$61,460, which in our judgment is none too wide a margin for meeting emergencies.

### SERVICE IMPROVEMENT URGED

In presenting their report the masters also drew certain conclusions which resulted from their investigation. These findings are as follows:

The standard of service now given is fully 30 per cent below that furnished in 1914.

A reduction in service has been necessary because the receipts of the company would not cover the cost of operating on the old schedule.

The cost of labor has increased from 107 to 149 per cent over what it was in 1916 and the cost of fuel has increased 146 per cent. As these are the principal items in the cost of operating the system they are the principal factors in determining the costs.

The masters state further that the company should have greater support from the people of Des Moines because it is a public utility dependent entirely upon and responsible to the public, and that the management of the railway both under its own officers and under the receivers has been efficient.

The masters arrived at the surplus of \$6,460 accruing from the fares they suggest by computing the number of passengers who have ridden the cars while the system has been operating under direction of the court and also for several years previous to that time. They estimate that 35,429,335 adult passengers will produce a revenue of \$2,834,346 and that the 4-cent fare for children will give an additional revenue of \$50,863. Allowing for \$14,276 derived from children's tickets sold seven for 25 cents this would make a total revenue of \$2,834,486, from which must come all the costs of operation without any provision for profits.

Attorneys for the company contended that the costs of operation had increased from 100 to 150 per cent in the past few years while the revenues of the company had increased approximately 40 per cent. The company further introduced evidence to show that it could not increase service without a material increase in fares and that it had already used both additional capital and absorbed surplus in meeting operating expenses.

### CITY ASKS NICKEL RATE

H. W. Byers, attorney for the city, centered his fight against a further increase upon the premise that by reducing service the company had decreased its revenues and that if a material increase in service were brought about that it would provide sufficient revenues. Mr. Byers contended that a 5-cent fare would produce ample revenue if service were furnished in accordance with traffic needs. He denied the company's claims that there had been an increase in operating costs sufficient to warrant an 8-cent fare and further claimed that the franchise contract which provided for a 5-cent fare for a period of twenty-five years was still valid.

It is expected that Judge Wade will make a ruling on the masters' recommendations at once. In the meantime the City Council has authorized the appointment of a board of auditors to go over the books of the company to check the appraisal recently made.

## Commission Invites Public's Suggestions

The Public Utilities Commission of Idaho has just issued an order requiring every public utility operating in the state of Idaho to post in each of its main and branch offices, waiting rooms, sales or show rooms, etc., in a place "most likely to meet the notice of its patrons or the public," notices, to be furnished by the commission, upon request, reading as follows:

### NOTICE TO THE PUBLIC

The Public Utilities Commission has jurisdiction over:

- |                   |                    |
|-------------------|--------------------|
| 1. Boat           | 7. Street Railroad |
| 2. Electric Power | 8. Telegraph       |
| 3. Express        | 9. Telephone       |
| 4. Gas            | 10. Water          |
| 5. Railroad       | 11. Warehouse      |
| 6. Sleeping Car   | 12. Wharf          |

### RATES—SERVICE—REGULATIONS

(except those of cities and villages, and mutual companies).

If you have any question, complaint or suggestion as to any rate or fare charged, or as to the kind or adequacy of any service furnished, or as to the scope or effect of any regulation or rule, please inform the commission.

We can help you only when we know your needs.

Address, phone or call on  
PUBLIC UTILITIES COMMISSION,  
Boise, Idaho.

## Fare Increase Waived

### Minneapolis Street Railway Voluntarily Defers Charging 7 Cents—Ninety-two More Cars in Service

There will be no increase in fare in the immediate future on the electric railway lines of Minneapolis, Minn. The Minneapolis Street Railway, a subsidiary of the Twin City Rapid Transit Company, will continue to operate for the present at least at a 6-cent fare. This is in spite of the fact that the company has been authorized by the municipal authorities to charge a 7-cent cash fare with four tickets for a quarter, beginning Dec. 15.

### RAILWAY ACTS VOLUNTARILY

The management's action in waiving the fare increase was entirely voluntary. It resulted from the fact that the company has not yet been able to place in service the full number of cars called for by the terms of the agreement with the city for a higher fare. In a letter to the City Council, Horace Lowry, president of the company, declares that the fare will not be raised "until such time as increased service and resulting increased expenses justify us in so doing." Meanwhile Mr. Lowry proposes to retain the skip-stop in the interest of both the public and the railway.

In his letter to the Council Mr. Lowry points out that on Aug. 16 last, when the 6-cent fare took effect, the company operated a maximum of 417 cars on its Minneapolis lines. On Nov. 26, during the same hours, it operated 509 cars, an increase of ninety-two. Mr. Lowry's letter follows in part.

Pursuant to the terms of an ordinance of the city of Minneapolis, duly adopted by your honorable body on the sixth day of August, 1920, this company was authorized to increase its street car fare to a 7-cent cash fare with four tickets for 25 cents. Under this ordinance, on the sixteenth day of August, 1920, this company put into effect a 6-cent fare, fully expecting to increase the fare on Dec. 15 to the 7-cent cash fare with four rides for 25 cents, as provided in the ordinance.

### MORE CARS IN SERVICE

Because of the fact that we have as yet been physically unable to put in service the full number of cars finally contemplated by the ordinance, we are of the opinion that we should not ask the car riders of this city to pay the 7-cent cash fare on Dec. 15, and we now advise your honorable body that, if agreeable to your wishes and without surrendering any of our rights under said ordinance, we will not further increase the fare until such time as increased service and resulting increased expenses justify us in so doing.

For your information we beg to state that on the sixteenth day of August, 1920, during the rush hours, we operated 417 cars in this city, and on the twenty-sixth day of November, during the same hours, we operated 509 cars, an increase of 92 cars.

### WILL RETAIN SKIP STOP

We wish to take this opportunity of advising you that the continuance of the skip stop is of great assistance, as it enables the company to render much better service to the traveling public with the number of cars operated than if it was discontinued. The car riding public of this city is vitally interested in service and fare, and the skip stop has a very important bearing on both.

The fare ordinance was passed by the City Council on Aug. 9 to enable the company to meet the demand of its employees for higher wages. They had threatened to strike on Aug. 14.

## Dime Fare Asked in Jersey

### Public Service Railway Loses \$1,200,000 in Year Under 7-Cent Rate— System Faces Disintegration Unless Relief is Granted

The Public Service Railway of New Jersey on Dec. 7 filed with the State Board of Public Utility Commissioners a notice of its intention to charge a 10-cent flat fare with free transfers, beginning Jan. 1 next. The board immediately suspended the new rate pending determination by the courts of the board's legal status. The application for a 10-cent fare came exactly one year after the abandonment of the zone fare system, and the introduction of a 7-cent rate with 1 cent for a transfer. Thomas N. McCarter, president of the railway, in a letter to the board, stated that the 7-cent fare had failed. It has provided no depreciation fund whatsoever, and in addition has resulted in an operating deficit of \$400,000, making a total deficit for the year of approximately \$1,200,000. The total operating deficit of the railway for the past three years now amounts to \$3,600,000.

MR. McCARTER notified the board that "nothing will save the property except a 10-cent fare." He stated that the system must either be saved for the use of the people of the state promptly, or it will disintegrate, if, in fact, it continues to operate." He declared that the Public Service Corporation, the owners of the railway's stock, cannot make further advances.

Mr. McCarter declared that when the zone system was abandoned it was thought that the 7-cent fare would keep the company going, although without return upon its capital stock, until such time as the valuation of the property of the company, then in process of

ation amounts of approximately \$3,600,000 for the past three years.

This is a situation that cannot continue any longer. This property must either be saved for the use of the people of the state promptly, or it will disintegrate, if, in fact, it continues to operate. The Public Service Corporation, the owner of its stock, and its financial backers, cannot and will not increase its burdens by further advances.

#### DIME FARE ONLY REMEDY

A very careful study of the remedy for the situation has been made and it is perfectly plain that while the present condition of operating cost and unregulated and unfair competition exists, nothing will save the property except a 10-cent fare. This lesson has already been learned in many cities of the country. \* \* \*

But whatever the facts may be in other places, the necessity here is perfectly plain. The best estimate that we can make of what the rate will do for the next fiscal year is, that it will enable the company to

members of the Board of Public Utility Commissioners. Governor Edwards has named a new board, but as yet his appointees have not been confirmed by the State Senate. Attorney-General McCran has begun quo warranto proceedings to determine the present status of the "ousted" commissioners, who contend that the Governor has no power to remove them. Pending a ruling by the Supreme Court the old board declines to act.

## Lines on Warrant Basis

### Seattle City Council Refuses to Grant Municipal Railway an Immediate Increase in Fare

Efforts to make effective immediately an increase of rates on the Seattle (Wash.) Municipal Railway proved unsuccessful for the second time when the City Council at a special session on Dec. 3 refused to pass in emergency form the Thomson ordinance establishing a token fare of 8½ cents with the privilege of transfers. With three Councilmen standing firmly against the proposed advance in rates, the bill lacked the seven votes which were required for its passage as emergency legislation.

Councilmen were unable to predict at the conclusion of the meeting on Dec. 3 the procedure that will be followed. After its rejection in committee of the whole, the bill was referred back to the Council with the recommendation that it be sent back to the city utilities committee, from which it had been taken for consideration in committee of the whole. The consensus of opinion at present seems to be that for a time at least no further effort will be made to adopt the ordinance in emergency form.

#### CITY TREASURER TAKES ACTION

Adding another complication to the situation, E. L. Terry, City Treasurer, announced immediately after the Council session that the city railway fund would be placed on a warrant basis on Dec. 10. He had previously notified the Council that the fund would go on the warrant basis on Dec. 24 because of the heavy overdraft. Upon learning that the fare increase bill had been rejected, Mr. Terry revised his plan and advanced the date two weeks.

Reluctance on the part of the supporters of the bill to enact the ordinance without an emergency clause attached is due to the fact that in that form the provisions of the bill would not become effective until thirty days after approval of the measure by the Mayor. During that time, it is claimed, speculators would attempt to corner the available supply of metal tokens at the present rate of 6¼ cents.

Another reason for the hesitation in passing the ordinance in the usual form is understood to be fear that the measure might be forced to submission as a referendum measure. An emergency ordinance is not subject to referendum, but an ordinance in the regular thirty-

#### INCOME STATEMENT—PUBLIC SERVICE RAILWAY

Account for Years 1917, 1918 and 1919 and Year 1920 with November and December  
Estimated, and Estimate for 1921 on 10-Cent Fare Basis

	1917	1918	1919	1920	1921
	Actual	Actual	Actual	Two Months Estimated	Estimated 10c. Basis
Revenue from transportation.....	\$17,970,893	\$19,154,097	\$22,384,870	\$26,006,909	\$30,427,162
Revenue from other railway operations..	460,262	506,633	536,519	592,042	592,000
Total railway operating revenues.....	\$18,431,155	\$19,660,730	\$22,921,389	\$26,598,952	\$31,019,162
Railway operating revenue deductions.....	12,551,340	14,857,379	18,590,941	22,080,449	24,876,976
Railway operating income.....	\$5,879,814	\$4,803,350	\$4,330,448	\$4,518,502	\$6,142,186
Auxiliary operations—Income.....	11,517	9,408	6,655	7,626	6,000
Total operating income.....	\$5,891,331	\$4,812,759	\$4,337,103	\$4,526,129	\$6,148,186
Non-operating income.....	217,687	184,254	186,559	205,731	184,734
Gross income.....	\$6,109,019	\$4,997,014	\$4,523,663	\$4,731,861	\$6,332,920
Total income deductions.....	4,972,063	5,001,836	5,145,832	5,165,369	5,237,731
Net income.....	\$1,136,956	*\$4,822	*\$622,168	*\$433,508	\$1,095,189

\* Deficits.

being made by the utility board, should be completed, which it was thought would be within a few months. Since the passage by the Legislature of the act providing for a valuation of the company's properties by independent engineers the board has suspended further hearings in the valuation inquiry which it was conducting. The valuation by the engineers is now nearing completion.

After declaring that the company faces a total operating deficit of \$1,200,000 for the present year, Mr. McCarter continued:

This deficit has come about by further increased costs of labor and materials over and above the amount estimated a year ago.

These increased costs are represented by the amount of the deficit, which would have been very much greater had it not been for the receipt by the company of a larger increased revenue than was estimated a year ago.

This deficit of \$1,200,000 for the year comes on top of similar deficits for the previous two years, which have resulted in a total deficit in operating and depreci-

pay its present operating expenses, its fixed charges, set apart a proper amount for current depreciation, make up its operating deficit, and one-third of its past deficit in the depreciation allowed by the board, so that after three years the depreciation loss of the last three years will have been recouped.

The railway company has also been obliged, during the last three years, to provide additional moneys for absolutely necessary capital expenditures, thus adding to the plight in which it finds itself. It can, however, borrow no more and no further capital expenditures can be made until the situation is relieved, whatever their necessity.

Steadily increasing jitney competition is largely responsible for the railway's present plight. Several months ago the railway instituted court action against many bus operators and a number of municipalities alleged to be unlawfully competing with it. It is reported that a bill will be introduced at the coming legislative session to place the buses under state control.

Meanwhile the situation has been complicated by the action of Governor Edwards in removing from office the

day form must be submitted to the people for approval or rejection upon petition of a certain number of qualified voters equal to 10 per cent of the vote cast for Mayor at the preceding municipal election.

If a referendum should be invoked, enforcement of the ordinance would be held up until the question is settled at the polls either at the election next March or a special election at an earlier date. Certain city officials doubt as to whether the measure would carry if submitted to popular vote.

### Stage Lines Increase Fares

Increased fares on three Southern California stage lines were announced by the State Railroad Commission on Nov. 17. This was in response to recent blanket applications of the Pickwick Stages, Inc., operating between Los Angeles, San Diego and Imperial Valley; United Stages, Inc., running between Los Angeles and Santa Barbara, and also to San Diego and Imperial Valley, and the White Star Auto Stages, operating between San Diego and El Centro. This subject was reviewed in the *ELECTRIC RAILWAY JOURNAL* for July 31, page 248, and Sept. 25, page 622.

While the commission's report indicated an average increase in fares of approximately 15 per cent, the management of the affiliated auto stage lines stated that the order of the commission would serve to give in certain cases a maximum increase of only 10 per cent and in other cases an even lower rate than now applying.

The most important feature of the order appears to be the fact that for the first time auto bus stage fares in Southern California are now standardized and inequalities previously existing between different communities are removed. The three companies affected operate a total of more than 600 miles of auto stage lines.

### Franchise Restrictions Overruled

The Public Service Commission for the Second District of New York has issued a ruling to the effect that it is empowered to regulate fares on the Troy lines of the United Traction Company, Albany. The company is now seeking a 10-cent fare on all its lines, the present fare being 7 cents. The city of Troy has contended that in view of franchise provisions limiting the rate of fare on the Troy lines to 5 cents the commission has no power to raise the rate. On two occasions the city waived its franchise rights on the ground that the situation necessitated a temporary increase. As a result of this action the company raised its fares from 5 to 6 cents and later from 6 to 7 cents.

When a 10-cent fare was sought the Common Council refused to waive the franchise restrictions, instructing the corporation counsel to oppose the railway's petition. The commission has sustained an objection of the city of Rensselaer to the power of the commission to increase rates in that city.

## Seven-Cent Fare Asked in Birmingham

### Combined Railway and Light Properties Have Earned Slightly Less Than Bond Interest and Sinking Funds

Claiming that the railway department yielded a return of only 1.9 per cent upon its book value and of only 3.3 per cent upon its taxable value, the Birmingham Railway, Light & Power Company, Birmingham, Ala., filed a petition for the right to increase its fares from 6 cents to 7 cents before the Alabama Public Service Commission on Dec. 1. Judge William I. Grubb of the United States Court, now holding court in New York, granted permission to Receiver Lee C. Bradley to ask a 7-cent fare of the Public Service Commission, in a formal order issued at New York on Nov. 29.

**I**N his application made to Judge Grubb for permission to file his petition with the Alabama Public Service Commission Receiver Bradley has made a detailed report on certain phases of the company's finances and operating expenses. He declares that the combined properties have earned slightly less than bond interest and sinking funds during the receivership. The railway department, he states, is chiefly responsible for the deficit.

#### CASH DEFICIT OF \$1,435,101

The condition of the receiver's estate on Nov. 1 showed a cash deficit of \$1,435,101. This does not include \$179,203 advanced by the city for the new track and paving on Tuscaloosa Avenue; or about \$210,000 advanced by Sloss-Sheffield Steel & Iron Company for the construction of the new by-products gas main; or \$49,518 advanced by electric consumers for extension to be repaid from future earnings. They are, however, all obligations of the receiver.

The only obligations resting upon the estate of either company which have been actually paid by the receiver, with the exception of \$67,029 of preferred operating accounts incurred shortly prior to receivership and wages and salaries of employees then accrued, have been the interest and sinking funds on the mortgage bonds. The combined properties have earned slightly less than bond interest and sinking funds during the receivership.

The railway department is chiefly responsible for the deficit as shown on the receiver's cash statement. Up to Sept. 4, 1919, this department operated with a 5-cent fare. On that date a 6-cent fare became effective.

#### BIG ADVANCE IN WAGES

On Sept. 1, 1919, a very large increase in the wage scale of trainmen and shopmen became effective by virtue of a contract between the receiver and the Amalgamated Association. The term of this contract is three years and the wage scale is uniform throughout the term. The increase in wages to trainmen and shopmen was immediately followed by a corresponding increase in the wages of practically all other employees. These increases, in the opinion of the receiver, must remain in effect for a considerable time. They more than absorbed the increased revenue resulting from the 6-cent fare.

For the period of one year, beginning Nov. 1, 1919, and ending Oct. 31, 1920,

the operation of the railway department resulted as follows:

Gross revenue.....		\$3,012,263
Operating expenses.....	\$2,279,106	
Taxes and license (50 per cent of total).....	184,247	
Renewal and replacement reserve (50 per cent of total).....	230,157	
*Tidewater rental.....	75,000	
*Tidewater operating deficit for the period.....	7,555	2,776,066
Net operating income..		\$236,196

\*Interest on the Tidewater bond is in its practical effect a rental, and it is so treated in the operating statement shown.

Only 50 per cent of the total taxes, license and renewal and replacement reserve is allocated to the railway department, although both the book value and the state tax assessment show a somewhat higher percentage of the entire property in the public service invested in the railway department.

#### NET OPERATING INCOME \$807,465

The net operating income of the entire property for the year was \$807,465, which is an annual return at the rate of 7 per cent on a total value of only \$11,535,200. The book value of the entire property of the company is \$24,090,421. The total net operating income for the year yielded a return on the total book value of only 3.3 per cent. Assuming the railway to represent one-half of the total investment, the net operating income from the railway department yielded a return of only 1.9 per cent on its book value and of only 3.3 per cent on its taxable value.

The only relief in the way of rates which the receiver has realized has been the increase of 1 cent in the railway fare, producing an increase in total gross revenue of approximately 7½ per cent, but material improvements have been made in the service and in the physical condition of the property.

These are all facts recited by Mr. Bradley, the receiver, in his appeal to the court. This appeal Mr. Bradley concluded as follows:

Immediate relief by increase of income is imperative. It is obvious that this relief should come through the railway department. It is not, however, the purpose of the receiver at this time to present the question of a permanent valuation or fair return thereon.

Your receiver is advised that the Alabama Public Service Commission is now clothed with plenary power to fix rates and fares.

Wherefore, your receiver prays that he may be authorized to apply to the Alabama Public Service Commission for a railway fare of 7 cents, applicable to each of the fare zones, with such modifications and exceptions as may be deemed necessary, and that the receiver shall put into effect such increased fares as the Alabama Public Service Commission may order.

The matter was taken up promptly with the City Commission by Mr. Bradley and J. S. Pevear, general manager. Following the announcement of Judge Grubb's order and the formal application to the Alabama Public Service Commission conferences were held by the City Commission. It is probable that within a few days resolutions will be adopted by the City Commission declining to agree to any raise in present rates and holding that a 6-cent car fare is adequate. It is contended by members of the City Commission that prices are coming down and that as prices of materials and labor drop still further a 6-cent fare will yield an adequate return. Just what effect the present petition will have upon the reorganization plan upon which the City Commission and officials of the company have been at work has not been stated by either side since the issuance of the court order.

### Service Record in Fort Wayne

Sixty-one new cars have been placed in service on the city lines of Fort Wayne, Ind., during the past three years, according to a recent statement of Robert M. Feustel, president of the Indiana Service Corporation, formerly the Fort Wayne & Northern Indiana Traction Company. Ten of the cars are of the light-weight double-truck variety and fifty-one are of the one-man safety type. The total cost of this equipment was \$380,000.

Mr. Feustel called attention to the fact that while many companies were cutting expenditures the Fort Wayne system increased the total number of cars in service by fifteen. In 1917 the railway operated thirty-four cars on the base schedule and forty-six in rush hours. Eighteen of the near-side cars were used, the remainder being side bench, closed cars. The one-man car was in its earliest stages of development at that time and more equipment was urgently needed in Fort Wayne. Ten modern light-weight double-truck cars were therefore purchased by the company at that time for \$7,500 each.

More cars were needed, and men were becoming scarce. The first order for sixteen one-man safety cars was at a price of \$5,100 each. A year later thirty-five such cars were purchased for \$6,400 each. In the spring of this year the railway asked for bids on twenty-five additional cars, and the price had jumped to \$9,400 each. This was \$1,900 a car more than was paid for double-truck cars in 1917. Because of insufficient revenues the company was unable to purchase this additional equipment.

Mr. Feustel, in summing up the situation, referred to the railway's inability to purchase additional equipment at this time. He outlined the company's plans as follows:

We could not stand the \$9,400 price and consequently the use of the old cars for industrial trippers and of every new car, both double-truck and one-man, and rebuilt near-side cars in regular service, is our plan for this winter. That is why we know that the service will be right.

### Losing \$2,000 a Day

#### New York State Railways Asks Commission for 10-Cent Fare in Syracuse—Service Cut

Unable to secure financial relief from the city authorities of Syracuse, N. Y., the New York State Railways has appealed to the Public Service Commission for the Second District for authority to charge a fare of at least 10 cents on Syracuse lines. This action follows the rejection by the Syracuse Common Council of a proposition for a service-at-cost franchise. The flexible-fare plan was turned down by the Council on Nov. 30, as announced in the issue of Dec. 4, page 1162. The present fare in Syracuse is 6 cents.

#### CITY PROTESTS SERVICE CUT

Corporation Counsel E. H. Lewis has filed with the commission a complaint against the curtailment of service by the railway. Immediately following the rejection of the service-at-cost plan B. E. Tilton, vice-president of the railway, announced a drastic cut in service and the elimination of all but a few "owl" cars. The city's complaint alleges that the company has put into operation a schedule which reduces car service 21 per cent.

In its petition the company states that the maximum rates now charged on its Syracuse lines are insufficient to yield a reasonable return and are unjustly and unreasonably low. It refers to the appointment of a commission by Mayor Farmer for the purpose of investigating and reporting upon the local railway situation. This commission made a unanimous report to the Mayor on Sept. 17, but the Common Council has refused to accept the recommendations.

The company further states that an arbitration board on July 1 granted its employees an increase in wages of 33½ per cent, retroactive to May 1. It is alleged that since the award was made the company "is losing upward of \$2,000 per day in an effort to furnish adequate service at the present rate of fare." It is contended that if the present rate of fare and present wage scale were applicable throughout the year 1920 the operating loss alone to the railway would be \$112,134, this being without any allowance whatever for return upon the value of the property, surplus or contingencies.

#### DIFFER ON VALUATION

During the past few years several independent valuations of the Syracuse lines have been made. The report of McClellan & Campion, employed by the company, shows the following value of the property used in the public service in the Syracuse district on June 30, 1920: Based on present-day prices, \$21,012,201; based on average prices, 1915 to 1919, \$16,663,300; based on pre-war prices, \$12,006,134. The report of Ford, Bacon & Davis, employed by the city, shows the fair value on June 30 last to be \$12,415,000. For the year ended Dec. 30, 1919, the company received a

return of only \$1,694,681, and for the first eight months of 1920 of \$608,833, although the full wage increase was not included in the costs of operation for that period.

Taken in conjunction with the increase in wages a 10-cent fare is expected to yield a fair return on a valuation of \$12,732,655.

### Milwaukee Prepares for Increased Service

Deliveries of the 100 new cars which the Wisconsin Railroad Commission on Oct. 30, 1919, ordered the Milwaukee Electric Railway & Light Company to place in service by Nov. 1, 1920, will probably be started next February, according to a letter to the commission from John I. Beggs, president of the company. Mr. Beggs declared that the charges recently made by Commissioner John S. Allen of the Wisconsin Commission that the Milwaukee Electric Railway & Light Company had "flagrantly disobeyed" the commission's order for new cars were unjustified. He points out that labor troubles and other causes beyond the control of the company had seriously retarded the delivery of the cars. The cars are to be double-truck, light-weight cars designed for either one-man or two-man operation.

The Milwaukee Electric Railway & Light Company, according to Mr. Beggs, will be in a much better condition than ever before to take care of the coming holiday travel. It is now operating 587 cars, and expects to have twenty-four more, largely from Racine and Kenosha, where safety car operation was recently instituted. In addition there have been added 648 more seats—the equivalent of sixteen cars—by remodeling equipment in use. For the first time in several years also the company is able to operate with a full force of men. It will have at congested corners a large number of front-end collectors to facilitate the loading and movement of cars, especially in rush hours.

### Utah Interurban Asks Increase

An application for increased passenger fares has been filed with the Public Utilities Commission of Utah by the Salt Lake & Utah Railroad, an electric interurban road running between Salt Lake City and Payson, Utah. It is claimed by the company that for an electric railroad to charge lower rates than a steam railroad on passenger traffic between the same points is in violation of the state public utilities act. The company asserts in its petition that, while the rates it asks would not equal those now charged by the Denver & Rio Grande and the Salt Lake Route, the increases sought would minimize the discrepancy.

The company is asking for a one-way rate of 3.60 cents a mile; for a round trip rate of 3.42 cents; for commutation tickets at the rate of 2.64 cents; for school tickets at the rate of 1.70 cents; for 1,000-mile mileage books at

the rate of 2.70 cents, and for 500-mile mileage books at the rate of 3 cents.

In petitioning for the increased rates the company asserts that in spite of some increases already permitted by the commission, the railway finds itself with insufficient revenue; that the increases asked would still give a return to the company less than it claims is a fair return, but would afford substantial relief; that the one-way fares have never been increased by the commission, and that its passenger traffic is not bearing a fair proportion of the cost of the service to the public.

## After the Auto Driver

### National Safety Council Hopes to Teach Motor Vehicle Operators the Need of Exercising Caution

The 8,000 industrial organizations, trade associations and governmental agencies comprising the National Safety Council have just undertaken the biggest job attempted by the council during the eight years of its existence—to teach the fundamentals of safe driving and motor vehicle maintenance to every motor truck and passenger car driver employed in industry, whether or not his employer is a member of the council. The purpose of the undertaking is threefold:

1. To reduce so far as possible the number of fatalities resulting from automobile accidents, these now approximate 15,000 a year. One person is killed by an automobile every thirty-five minutes.

2. To save for industry and the public at large the millions of dollars lost each year through property damage resulting from automobile accidents. This loss amounts to \$500,000 a year in a city of about 500,000 population.

3. To save for industry some of the many millions of dollars now paid out annually for compensation, medical attention, lost time and damage for personal injuries resulting from automobile accidents.

The National Safety Council through its forty local councils has for several years carried on a campaign against jay walking and other forms of carelessness on the part of pedestrians. But it has discovered in this campaign that while the pedestrian is responsible for a large percentage of accidents, at least an equal percentage of automobile accidents is due to ignorance of the safe methods of motor car driving or maintenance on the part of the drivers of commercial vehicles.

The council, with the aid of automobile manufacturers, automobile driving instructors, automobile traffic managers, repair men and the representatives of practically every industry interested in any phase of the automobile accident problem, conducted a nine months' study of the causes of accidents and means of eradicating those causes. This study has just been completed and the findings published by the council in the form of a set of twelve safety bulletins and lessons for automobile drivers.

## Transportation News Notes

**Grants Higher Newspaper Rates.**—The Ohio Public Utilities Commission has granted the Ohio Electric Railway, Springfield, and the Dayton & Troy Electric Railway, Dayton, an increase of  $\frac{1}{4}$  cent a pound on newspapers carried by them. The old rate was  $\frac{1}{2}$  cent a pound. Application was made to the commission for permission to increase the rate to 1 cent, but this was refused in favor of a rate of  $\frac{3}{4}$  cent a pound.

**Dairy Rates Stand.**—Three interurban companies operating in Indiana, the Terre Haute, Indianapolis & Eastern, the Indianapolis & Cincinnati and the Union Traction, were recently authorized by the State Public Service Commission to continue indefinitely their existing rates on milk, cream and dairy products. Without the commission's order, the rates would have been reduced to the old levels on Dec. 31.

**Interurban Fares Advanced.**—The Public Service Commission for the Second District of New York has granted the Empire State Railroad, Syracuse, N. Y., permission to charge 3 cents a mile for cash fares on its line between Syracuse and Oswego. Commutation rates are advanced to a basis of  $1\frac{1}{2}$  cents a mile. The fare has been 2.77 cents for cash and ticket fares and  $1\frac{1}{2}$  cents for commutation fares. The new rates took effect on Dec. 1.

**"Safety Week" for Capital.**—Washington, D. C., is to have a city-wide safety campaign, to be initiated with a "safety week." The suggestion for the undertaking came from the Washington Railway & Electric Company. The movement now embraces practically every activity in the city, but the two traction systems, the Washington Railway & Electric and the Capital Traction, are leading the campaign. The street cars are to carry both inside and outside slogans calling attention to the need for care on the part of all persons using the streets.

**Kansas City Fare Extended.**—The Missouri Public Service Commission has granted the receivers of the Kansas City Railways six months from Nov. 20 in which to charge the present rates of 8 cents for a single trip fare. Although the company before it passed into the hands of the receivers had an application pending asking for an increase in existing rates, supposed to be for a 10-cent fare, the receivers did not ask to have this application considered, but only to have the present rates continued until they had had ample time in which to familiarize themselves with the finances of the company.

**Fares Raised, Strike Ends.**—To meet the demands of its employees for an

increase in wages the Clinton (Iowa) Street Railway on Nov. 23 raised its cash fare from 5 cents to 6 cents. The men had gone on strike to force the company to increase their wages to 75 cents an hour. The management agreed to pay the men 60 and 65 cents an hour. The new fare rate provides for the sale of nine tickets for 50 cents. Passengers will receive a refund slip with each cash fare, pending permanent settlement of the fare situation. The city authorities recently refused to allow the company to raise its cash fare to 7 cents.

**Bus Company Organized.**—A certificate of incorporation was filed recently with the Maryland Tax Commissioner organizing and incorporating the Shore Transit Company, with main office at Salisbury. The incorporators are A. M. Jackson, Mark J. Cooper and B. J. Jackson, all of Salisbury. The authorized capital is placed at \$75,000 to be issued in common stock at \$100 per share. It is understood the bulk of the stock will be subscribed by business interests of Baltimore. The purpose of the Shore Transit Company is to operate a fleet of passenger buses between Elkton and Salisbury, connecting with the lines at Easton and Chestertown and the ferries at Rock Hall and Clairborne.

**Congestion Greater in Dallas.**—The City Plan Commission of Dallas, Texas, has proposed that interurban cars entering Dallas be so routed into and out of the terminal on Jackson Street that they may be taken off of Commerce and Main Streets. This proposition is advanced as one of the best solutions of the traffic problem, as it is maintained that the presence of interurban cars on Main and Commerce Streets is one of the chief causes of congestion. The project involves not only the re-routing of interurban cars, but the relocating of the interurban terminal. The new interurban station in Dallas, while one of the finest in the South, is rapidly becoming inadequate to accommodate the traffic, and the need for a larger station will soon become imperative, in the opinion of the commission.

**Rubber Slump Reflected in Akron Fares.**—During the month of November, 1920, the average number of revenue passengers carried daily on the city lines of the Northern Ohio Traction & Light Company in Akron, Ohio, was 115,847, as compared to 141,984 in November, 1919. On a 5-cent fare basis this loss of 26,137 daily passengers represents a daily money loss of \$1,306, or at the rate of \$477,000 a year. This condition reflects directly the great slump in the rubber-tire business, the difficulty of which may be appreciated by the knowledge that the price of raw rubber dropped with extreme rapidity from \$3.50 a pound to 26c. a pound. On top of this enormous shrinkage in stock inventory the tremendous orders from automobile manufacturers virtually have been cut off. The tire manufacturers were thus caught at both ends.

## Personal Mention

### W. L. Goodwin Speaks

Successful Organizer of Electrical Industry Outlines His Co-operative Plan at C. E. R. A. Meeting

A feature of the meeting of the Central Electric Railway Association at Indianapolis on Dec. 2 was an address on "Co-operation," by William L. Goodwin of the General Electric Company. Mr. Goodwin has achieved a national reputation in the central stations and electric supply fields for the work which he has accomplished in crystallizing public opinion in behalf of constructive measures. This was the first occasion upon which Mr. Goodwin had addressed an audience of electric railway men. He urged his hearers to forget petty grievances and to adopt a spirit of conciliation toward the public, and stressed the importance of good-will in the rendering of efficient service.

The "Goodwin plan," as outlined at the Indianapolis meeting, consists of a campaign of education, conducted principally through the medium of newspaper publicity and other channels to co-ordinate the various interests in the industry, and to bring them together in harmonious action. It aims to "inspire every man in the electrical industry, whatever his rank, job or title, with an appreciation of the responsibility now before us, and the responsibility upon every electrical man to help 'put across' this great job of the electrification of households, shops, factories, and transportation systems, thereby increasing, as is possible in no other way, production, for human efficiency and comfort."

#### THE GOODWIN PLAN IN OUTLINE

Mr. Goodwin has been eminently successful in working out his idea in his own business and in the electrical industry as a whole. His plan is based on the premises that:

Each individual owes a responsibility to the organization representing his branch of the industry.

The organization owes a similar responsibility to its members.

Each organization representing each branch of the industry owes a responsibility to all other organizations in the industry, to the end that all problems may be discussed, having in view the interest of all, thereby providing a basic plan for more adequately and effectively serving the American public.

Mr. Goodwin is a native of San Francisco. In 1901 he became the representative in that city of the Western Electric Company. Four years later he resigned to organize a jobbing business for himself. He subsequently organized the Pacific States Electric Company, with offices in the principal cities of the Coast states. He kept hammering away at his co-operative idea, contrib-

uting greatly to the development of the electrical business of the Coast. Other work which he did in California at this period in the way of organizing included an organization in 1900 of the fruit growers of the state, and in 1915 of the motion picture industry. In 1916 he was invited to go East to explain his ideas on co-operation to the rest of the industry.

### C. E. Brown Steps Up

General Manager of the San Francisco, Napa & Calistoga Railway Appointed Vice-President Also

C. E. Brown, general manager of the San Francisco, Napa & Calistoga Railway, Napa, Cal., has been promoted to be vice-president of that system. Mr.



C. E. BROWN

Brown will continue to serve as general manager. The railway operates city and interurban lines connecting San Francisco with Valejo, Napa and other towns.

Mr. Brown took charge of this property in November, 1915. Under his supervision the road has been managed economically and to the satisfaction of the owners. Its facilities have been developed by the building of several extensions which have secured for it a freight traffic of considerable proportions. It has extended its lines to connect with those of the Government operating in the Mare Island Navy Yard, and is now handling all freight to and from the yard. An interchange freight yard, with a capacity of seventy-five cars, has been built jointly with the Southern Pacific Company.

Mr. Brown was born in New York City, Sept. 4, 1882. He was educated in the public schools of New York and Ohio, later attending the Fayette Normal University of Ohio and the Central College of Indiana. From the latter institution he received the degree of

Bachelor of Science. His first employment was with the Baltimore & Ohio Railroad in the car department. He remained with that company for three years as repairer, piece-work inspector, inspector and foreman. In 1905 he went with the Chicago, Rock Island & Pacific Railroad, working on air brake equipment and installing the Loree system of accounts on the Colorado Division. In 1908 he joined the Atchison, Topeka & Santa Fé, Albuquerque Division, where he was employed as bonus timekeeper and bonus inspector. He also assisted in installing the bonus system of pay on that division of the Santa Fé system.

In the latter part of 1909 Mr. Brown entered the electric railway field with the Chicago & Milwaukee Electric Railroad (now the North Shore) in the shops and stores department. He was later transferred to the general office. A. W. McLimont, now vice-president of the Winnipeg Electric Railway, was then in charge of this property. When Mr. McLimont left to take the position of vice-president and general manager of the Michigan United Railways late in 1910, Mr. Brown was selected by him as his assistant and remained at Jackson, Mich., as assistant general manager for about three years. He then went with Mr. McLimont to Atlanta, Ga., where he had charge of purchases for the Tallulah Falls hydro-electric development of the Georgia Railway & Power Company.

### L. C. Gilman Leaves Electric Railway Field

L. C. Gilman, president of the Oregon Electric Railway and the United Railways, Portland, Ore., has been elected vice-president of the Great Northern Railway, with headquarters in Seattle, Wash. Mr. Gilman was born at Levant, Mo., on Jan. 28, 1857. He was educated at the Maine Central Institute at Pittsfield, Me., from which he was graduated in June, 1879, and at the law school of Columbia University. He entered railway service in October, 1903, as Western counsel of the Great Northern Railway, with headquarters in Seattle.

In February, 1909, he was made assistant to the president of the Great Northern, with headquarters at St. Paul, Minn., where he served until June 1, 1914. He was then elected president of the Spokane, Portland & Seattle Railway and its subsidiary lines, including the Oregon Electric Railway and the United Railways. In June, 1918, Mr. Gilman was appointed director of the Puget Sound district, comprising the states of Oregon and Washington, by the United States Railroad Administration. He served in this position throughout the period of federal control. On Nov. 1 last Mr. Gilman resigned as president of the Spokane, Portland & Seattle and its subsidiaries to enter upon his new duties as vice-president of the Great Northern and removed to Seattle.



A. C. Bounsall has been appointed safety agent of the Anderson Division of the Union Traction Company of Indiana, Anderson, Ind. Mr. Bounsall is storekeeper of the division.

Foster Ash has been appointed freight agent of the Monongahela Valley Traction Company, Fairmont, W. Va. Mr. Ash succeeds O. J. Flowers, who has been promoted to general inspector of the company. Mr. Ash was formerly assistant freight agent.

J. B. Shaedel, who for several years has been connected with the Union Traction Company of Indiana, Anderson, Ind., has resigned. Mr. Shaedel has accepted a position as superintendent of the municipal light and power station of Columbia City, Ind., and has entered upon his new duties.

Manuel V. Domenech has been made general manager of the Porto Rico Railway, Light & Power Company, San Juan, Porto Rico. In a previous statement concerning Mr. Domenech's election his name was incorrectly spelled. Mr. Domenech succeeds E. M. Sewell, resigned.

M. E. Graston, freight claim agent of the Union Traction Company of Indiana, Anderson, Ind., has been granted a leave of absence and is spending the winter in Florida. During Mr. Graston's absence W. G. Cooper is acting as freight claim agent of the company.

John Kenish, who for several years has been connected with the Missouri Public Service Commission, has been appointed a special master in chancery to handle matters involving the receivership of the Kansas City Railways. Mr. Kenish, immediately after his appointment, resigned from the commission and on Dec. 1 qualified for his new duties.

D. J. McGrath, who recently resigned as assistant to the president of the Mobile Light & Railroad Company, Mobile, Ala., is now engaged in special editorial work for the *ELECTRIC RAILWAY JOURNAL* in connection with the preparation of the annual statistical issue. Prior to the war he was engaged as special assistant to M. C. Brush, then president of the Boston Elevated Railway. Upon his return to civil life in the spring of 1919 he was made assistant to the president of the Mobile Light & Railroad Company.

Frederick D. Gordon has been appointed general manager of the Cumberland County Power & Light Company, Portland, Me. Mr. Gordon succeeds A. H. Ford, who resigned more than a year ago. Since the resignation of Mr. Ford the company has been without a general manager, the heads of the several departments having supervision of the work. Mr. Gordon was formerly general manager of the Androscoggin Electric Company, Lewiston, Me. He resigned his position at Lewiston last August to accept a position with the Portland company, after being connected with the Androscoggin system for a number of years as general manager.

## C. Thorburn Promoted

Succeeds I. L. Ward as General Purchasing Agent of the Pacific Electric Railway—C. C. Fenimore Advanced

C. Thorburn has succeeded I. L. Ward as general purchasing agent of the Pacific Electric Railway, Los Angeles, Cal., Mr. Ward having resigned to become general manager of the Steel Mill & Foundry Supply Company, with headquarters in Los Angeles. C. C. Fenimore has been appointed Mr. Thorburn's successor as general storekeeper of the railway.

Mr. Thorburn began his training in the Southern Pacific shops at Ogden, Utah, in May, 1902, as a car cleaner. He remained with the Southern Pacific at Ogden in various positions, first in the shops, then in the engineering department, and, still later, in the stores department. In August, 1905, he became storekeeper of the Oregon Short Lines, at Sparks, Nev. Here he remained until June, 1907, when he went to Los Angeles and became a member of the stores department force of the Southern

the transfer of accounting of that department to the auditor's office he became an accountant in that division. Here he successively held the positions of chief clerk in charge of store and mechanical accounts, and head clerk of disbursement in charge of store, mechanical, roadway and disbursement accounts.

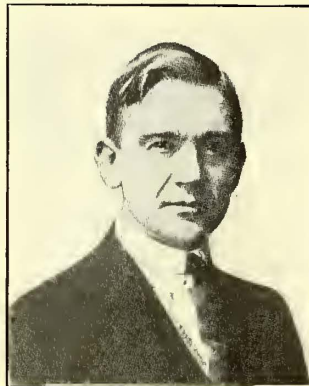
Mr. Fenimore was transferred to the purchasing department in December, 1917, as chief clerk to the general purchasing agent. He has since held this position, with the exception of a period from September, 1918, to July, 1919, when during the absence of Mr. Thorburn he served as acting general storekeeper.

## Obituary

Owen M. Dean, at one time president of the Carondelet Railway, St. Louis, Mo., one of the fourteen companies absorbed when the present United Railways was organized, died on Dec. 4. Mr. Dean was eighty-two years of age. He came to America when a boy.

Ward Baldwin of Cincinnati, Ohio, who built the line of the South Covington & Cincinnati Street Railway, Covington, Ky., died recently in Cincinnati. Mr. Baldwin designed all the mechanical and electrical equipment that will be used in the new subway entering Cincinnati. In 1915 he completed the valuation of the Cincinnati Traction Company's property. He was a director of the Engineering Club of Cincinnati and a member of the American Society of Civil Engineers, and had formerly been professor of civil engineering at the University of Cincinnati, where he was largely instrumental in founding the Department of Engineering.

George S. Rice, a civil engineer and at one time chief engineer of the New York Rapid Transit Commission, died on Dec. 7 at his home in Montclair at the age of seventy-one years. Mr. Rice became identified with rapid transit construction in 1887 as chief engineer of the Boston Transit Commission, and later, in 1904, he was chief engineer of the New York commission. Mr. Rice spent several years prior to 1900 making studies for the subway project in New York City, and he not only served under the commission but remained in his position of chief engineer under the Rapid Transit Board. During the construction of the dual system, now operated by the Interborough Rapid Transit Company, Mr. Rice was in charge of the tunnel division and sections of the work in Brooklyn. When the so-called new Croton Aqueduct was placed under construction Mr. Rice became deputy chief engineer of that enterprise and remained on aqueduct construction until 1892. Since that time he had been identified with subway construction in New York.



C. C. FENIMORE

Pacific. He was subsequently promoted to stores accountant.

In May, 1909, he joined the Pacific Electric as an accountant in the auditor's office. In December of the same year he was appointed general storekeeper of the railway. He served during the war as a member of the Engineers Corps, Railway Operating Troops in France. In July, 1919, upon his discharge from military service, he returned to the Pacific Electric as general storekeeper.

Mr. Fenimore was born in Economy, Ind., on May 4, 1884. He was graduated from the Economy High School in 1901. Five years later he entered railroad work as a boilermaker's helper for the Southern Pacific Company in Sparks, Nev. He was subsequently transferred to the stores department, where he served successively as counter boy, shipping clerk, price clerk and chief clerk to the division storekeeper. In 1909 Mr. Fenimore went to Los Angeles, where he accepted a position with the Pacific Electric as price clerk in the general storekeeper's office. With

# Manufactures and the Markets

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

ROLLING STOCK PURCHASES

BUSINESS ANNOUNCEMENTS

## Railway Buying Is Good

**New England Reports Show Good Fall Orders—Prompt Deliveries Aid to Maintain Trade**

Although there is nothing spectacular about the present buying of electric railway supplies it is going on steadily in a volume that is encouraging to more than one manufacturer. A New England representative of a number of leading specialties informed an ELECTRIC RAILWAY JOURNAL man this week that notwithstanding the ups and downs of general business, buying of supplies has continued well into the fall, the earlier months of which compare favorably with the purchasing of the first part of the year. The promptness with which orders are being filled is a valuable aid to trade. Thus, an order for 10,000 special malleable-iron castings placed a month ago was filled within thirty days, and improved shipping conditions are helping to reduce the ultimate cost of getting supplies to the consuming traction companies.

The relative steadiness of the demand for equipment, especially in connection with safety car parts, is most encouraging. Railway purchasing agents are buying conservatively, but they are seldom out of the market, and manufacturers prepared to give personal attention to service problems are sure to reap the reward of their efforts. It seems a truism to point out that as long as street car service continues supplies must be bought, but in the face of present general business conditions a recognition of these rather elementary points is worth while. This representative of manufacturers pointed out that on some products orders for two months' factory output are in hand, and actually the demand for some special supplies in the line of trolley fittings is so active that very little new business is being solicited at the moment. Through the field of railway equipment as a whole buying is cautious, but the stability of traction service as a public utility is proving week by week a factor tending toward confidence.

## Insulating Materials Weak

**Consumers' Supply Low, but Demand Is Lacking as Prices Decline—Deliveries from Stock**

Current weakness in the market for insulation of all sorts apparently is felt by one manufacturer as much as another. Consumer demand is of the lightest hand-to-mouth variety, even repair shops now having ceased to buy. Electric railways, in spite of the im-

minence of winter bringing necessary repairs to equipment, are not as yet providing for their needs in such lines as tapes, varnished cloth, etc.

Foreign buying is as badly off as domestic demand, present exchange rates being largely held responsible. Reports are received that foreign competition is now starting to make itself felt. Samples of insulation material that are said to compare favorably with the product of home manufacturers have been received in this country with a view toward introducing them in the American market.

The general attitude of consumers at present is to await lower prices. Even some manufacturers are holding off buying raw material in view of the uncertain condition of the market. Stocks of finished insulation with large consumers are said to be low, however, and hence producers feel optimistic regarding a return to normal business before spring. At the factories inventories, though in ample shape to care for customers' current needs, are not very

large, as the policy of manufacturers has been to avoid stocking high-priced material on a declining market.

Deliveries are about all that can be desired. Virtually all standard material can be shipped from stock, though how long this condition would obtain with a good volume of orders is a question. Prices have slumped considerably following the falling off in demand and lower raw material costs. Varnish gums, shellac, linseed oil etc., have eased off in price, consequently insulating paints and varnishes are lower. Spot cotton at this writing is quoted at 16½ cents and the low levels of these materials have been reflected in a drop of from 15 to 20 per cent on varnished cambric and silk, and about 20 per cent on armature twines within the last month. Tapes, though not reduced by all manufacturers, are lower, and friction and rubber tape have dropped materially. On the other hand, paper insulating material has undergone no change, as the market for paper is still undersupplied.

## Steel Rail Orders Taxing 1921 Output

**Some Mills Already Booked to Capacity as Heavy Orders Are Placed—Traction Companies Advised Not to Delay Buying—One Independent Fixes Price at \$57**

Buying of steel rails is proceeding strongly and from present indications the rail mills of the country will be booked to capacity throughout next year. In fact, the mills of some companies are already completely booked up and will accept no further orders. Many of the independents still have considerable rolling capacity in reserve, however.

Consumers are anticipating their needs earlier than usual this year as it is stated that steam roads have either covered or are covering their 1921 requirements now. A press dispatch this week states that five lines alone have placed or are about to place orders totaling nearly 400,000 tons. Foreign buying is lacking, but this circumstance, which is largely due to financial conditions abroad and prevailing exchange rates, causes little or no concern. In fact, some of the leading rail interests are not encouraging foreign orders, because it is said that domestic needs will absorb the entire supply.

According to an article in the Dec. 2 issue of *Iron Age* the railroads of the country will need to buy about 4,500,000 tons of rails for each of the next five years to place them in normal operating condition. The estimated total

production of rails in this country can only reach an annual total of about 3,500,000 tons of rails, however, leaving a shortage of a million tons of rails each year.

Orders for girder rails are being received in considerable volume, but not to the same extent as for standard T-rails. Suburban traction companies which use the latter class of rail on their roadbed are showing considerable interest in the market at present, especially in view of the strong competitive buying from steam roads. But on the whole electric traction companies seem to be inclined to hold off placing their 1921 requirements as large tonnages from that quarter are known to be still unplaced. Girder rail producers predict that they will be busy all through next year and are advising customers to cover their spring needs right now instead of waiting until January or February.

Unless this advice is heeded, it is pointed out, many lines will probably be left in the lurch on their spring construction programs. This especially applies to the smaller street car lines, as it is the policy of mills not to roll under 500 tons of girder rails, but to hold small orders until a sufficient tonnage accumulates. On the standard

sections 1,000 tons would probably be considered too small an amount to roll. So far as can be learned, however, mills are not raising the tonnage limit for which they will roll an order. Nor are rail jobbers endeavoring to stock up with rails on the chance of obtaining a premium later on for quick delivery. On the contrary, rail dealers report a very quiet market at present.

Prices are still largely undetermined, but this does not seem to affect buying adversely as the price in most cases is left open. The market on girder rails for 250 tons or over is 3¼ cents per pound, or about \$72 to \$73 per gross ton. A leading independent interest has fixed its 1921 prices for standard T-rails at \$57 per gross ton covering the first quarter, but other independents have not yet announced their schedule. The United States Steel Corporation has also not as yet announced its 1921 prices, which are expected to be made public this month.

### Still Lower Quotations in Trolley and Bell Cord

Since last week's quotations on cotton trolley cord and bell cord were announced further changes have been made which brought the price still lower. This material may now be bought for as low as 66 cents a pound and from there on up to 85 cents, depending upon grade and manufacturer. Conditions of supply and demand have undergone no change.

### Slight Recessions Found in Cotton Waste Market

Buying of cotton waste for traction purposes is only of a hand-to-mouth nature, and the same condition applies to the steam railroad field. Demand in general from all sources is extremely light, and under the conditions existing in the cotton mills the supply of waste is just about equal to this demand. Production of cotton goods from which the waste is gathered has fallen to low levels, in some cases hardly 50 per cent of mill capacity being under power.

Consumers appear to be waiting for the first of the year, at which time present contracts run out and dealers will make new contracts at what is felt will be considerably reduced prices. Cotton-waste prices have been holding steady for some time and it is just recently that any recessions have been reported. These have been in the nature of 1 to 2 cents a pound, which brings the present price to about 14 to 17 cents a pound in lots of 100-lb. bales.

### Spain as a Market for Street Car Headlights

Street cars seldom have a headlight of an intensity greater than that required to give visible warning of their approach, says the Department of Commerce's special agents series No. 197 entitled "Electrical Goods in Spain." There are practically no interurban

lines to need powerful lights, but there ought to be a small market for detachable lights of moderate capacity that would be more efficient than the stationary, built-in lamps now used. At the present time little or no interest is displayed in this equipment by the traction systems, but there are already a number of modern headlights in daily service, so the opportunity is there.

### Strong Foreign Demand for Steel Towers

Domestic Demand Greater Than Ever Before Predicted Because of Big Power Projects on the Books

Largely as a result of adverse financial conditions which have made the floating of bonds for financing power extensions very difficult, domestic interest in steel transmission towers remains lacking. Foreign orders and inquiries, on the other hand, are extremely active. Even there a large producer who had a good volume of foreign business on hand three months ago reports that since then, with the exception of inquiries from wireless interests, demand has petered out. Several other producers report no slump in export business as yet, however.

Some of the most promising countries affording markets for transmission towers are Italy, France, Japan, South America and the Scandinavian peninsula, orders being reported both on behalf of power companies and electric railways. One important factor in the increase of this demand abroad is said to be the growing scarcity of fuel and oil in certain European countries, which has led to the more intensive development of natural water-power resources.

On the other hand a great deal of export business is undoubtedly held in abeyance at present because the present level of foreign exchange works so strongly against foreign customers who buy in the United States. With any decided change for the better in that respect and an improvement in financial conditions at home as well it is believed that the demand for transmission line equipment will mount to greater proportions than ever before. This view is based on the extent and number of hydro-electric power and railway projects that are known to be on the boards, both at home and abroad.

Conditions of production are greatly improved. This is largely due to the relief from transportation congestion which delayed supplies of raw material for so long. Little difficulty is now experienced in obtaining all the steel that is needed, and both the supply and the efficiency of labor have improved. Deliveries are consequently much improved, but as the greater part of this product is fabricated to order shipments vary according to the manufacturer, the size of order and the type of material—whether galvanized, etc. In general delivery of about 1,000 steel towers in the slowest instance can be accomplished in six to seven months and in the quickest in about four to five months.

In spite of the view taken by one large producer that lower quotations will not prevail for a long time several other manufacturers see a gradual softening of prices that will come about as a result of the lower levels quoted by independent steel producers.

### Rolling Stock

The Austin (Tex.) Street Railway Company will purchase ten new cars of the latest type.

The Princeton Power Company, Princeton, W. Va., owner of the Blue-field street car system, has ordered five cars which it expects to arrive in time to be placed in service about the first of the year.

Detroit United Railway, Detroit, Mich., announces that at least sixteen of the seventeen new front-entrance, side-exit, type 777 cars now under construction in the company's shops should be in service by Jan. 1. Delivery of the ten safety cars which were being built for the company by the American Car Company of St. Louis was expected on Dec. 1. Fifty trailers, also being built by the St. Louis Car Company, will probably not be delivered before next March, it is said.

Terre Haute, Indianapolis & Eastern Traction Company, Indianapolis, Ind., expects delivery of ten new Birney-type safety cars from the factory at St. Louis for its Terre Haute division soon. These cars were ordered last spring but delivery has been delayed several months. They will be put into service immediately, part of the consignment on Wabash Avenue to replace the old type cars in service there and the remainder on other lines to allow some of the cars now in use to be overhauled.

The Detroit (Mich.) Municipal Railway, mentioned in the Nov. 13 issue as purchasing twenty-five safety cars, has specified the following equipment on these cars:

Number of cars ordered.....	25
Date of order.....	Nov. 16, 1920
Delivery.....	45 Days
Builder.....	Osgood-Bradley
Type.....	Safety
Seating capacity.....	32
Weight, total.....	16,000 lb.
Length over all.....	28 ft. 0½ in.
Truck wheelbase.....	8 ft. 0 in.
Width over all.....	7 ft. 10½ in.
Interior trim.....	Cherry
Roof.....	Arch
Air brakes.....	Westinghouse
Axles.....	Forged Carbon Aera E-2
Bumpers.....	Mfr's Standard
Car signal system.....	Nichols-Lintern
Control.....	K63
Curtain fixtures.....	Nat'l Lock Washer, Curtain Supply
Curtain material.....	O'Bannon Diced D. Coated Color
Designation signs.....	Keystone
Fenders or wheelguards.....	H. B. Wheel Guard
Heater equipment.....	Peter Smith
Headlights.....	O. E.
Lighting fixtures.....	E. S. Supply Co. No. 25702
Lightning arresters.....	G. E.
Motors, type and number.....	G. E. 261
Paint, varnish or enamel.....	Sherwin-Williams Old Dutch
Seats.....	Mfr's Standard
Snow scrapers.....	Root, Air Operated
Step treads.....	Mason
Tail lights.....	Nichols-Lintern
Trolley catchers or retrievers.....	O. B.
Trolley base.....	O. B.
Trucks.....	Mfr's Standard
Wheels (type and size).....	26-in. Forg. Steel

## Track and Roadway

**Indiana Service Corporation, Fort Wayne, Ind.**—R. M. Feustel, president of the Indiana Service Corporation, has notified the city officials of Fort Wayne, Ind., that his company will extend its tracks on Columbia Avenue to Anthony Boulevard as soon as a proposed new bridge is completed over Delta Lake, which now marks the terminal point of the Columbia Avenue line. It is expected that this bridge will cost about \$10,000, half of which will be paid by the board of park commissioners and half by special assessment.

**Delta Light & Traction Company, Greenville, Miss.**—The improvement program of the Delta Light & Traction Company will include an entire new track on the East End line to Washington Avenue and two new cars will be put into service on this line. The work of rehabilitating the Greenville street railway under an agreement between the city and the Delta Light & Traction Company will cost about \$100,000.

**Minneapolis (Minn.) Street Railway.**—The Minneapolis Street Railway has put into commission a new loop and a new short cut to the North Side, giving that section of the city better transportation to the business district and lessening the trolley traffic on Hennepin Avenue. This new loop connects with a line built across the new Third Avenue bridge to the East Side, and a new Interurban line loop in use for the last two months.

**New Jersey & Pennsylvania Traction Company, Trenton, N. J.**—Although the City Commission of Trenton, N. J., has instructed City Counsel Charles E. Bird to apply to the Board of Utility Commissioners for an order compelling the New Jersey & Pennsylvania Traction Company to move its tracks on West Hanover Street, Trenton, to the right side of the street and to repair that section of the street, City Counsel Bird will not apply to the commission until the New Jersey Supreme Court has decided whether the old or the new utility board shall function.

**Dallas (Tex.) Railways.**—The Dallas (Tex.) Railways announces completion of track improvement and paving on Jefferson Avenue from Lancaster to Polk, a distance of about 2 miles, at a cost of \$197,000. The work has been under way for more than a year, but has been delayed on account of shortage of crushed stone, asphalt and other paving materials.

**Central Texas Electric Railway, Waco, Tex.**—John Maxwell of Waco, Tex., has been appointed receiver for the Central Texas Electric Railway, recently organized in Waco for the purpose of building an interurban line from Waco to Temple. The receiver was appointed by Judge H. M. Richey of the Seventy-fourth District Court on petition of E. H. Bruyers, Waco, who

alleged that the company is indebted to him in the sum of \$4,800 and that it is insolvent. The traction company recently awarded contract for the construction of the first 6 miles of the line to the Central Texas Construction Company, organized as a subsidiary of the traction company.

**Mesaba Railway, Virginia, Minn.**—The Mesaba Railway has started the laying of tracks along the new right-of-way about 2 miles from Chisholm. This new line, which will extend to Hibbing, Minn., is under the direction of engineers of the Oliver Iron Mining Company. Four miles of track remain to be laid.

**Seattle (Wash.) Municipal Railway.**—The City Utilities Committee has approved a plan to extend the Alki car line to Douglas Place, one-fourth of a mile distant, at an estimated cost of \$15,000.

## Power Houses, Shops and Buildings

**Boston (Mass.) Elevated Railway.**—The trustees of the Boston Elevated Railway have filed a petition asking the 1921 Legislature to authorize the expenditure of \$4,421,000 for new shops to be located at Everett and for additional power facilities.

## Trade Notes

**The M. B. Austin Company** announces its removal on Dec. 1 to its own new building at 108-116 South Desplaines Street, Chicago.

**Metal & Thermit Corporation, New York City,** has opened a branch office at 141 Milk Street, Boston, Mass., in charge of Robert L. Browne, New England district manager.

**Heyl & Patterson, Inc., 51 Water Street, Pittsburgh,** manufacturer of elevators, hoists, etc., has awarded contract for the construction of a two-story building to cost about \$60,000.

**The Chase Turbine Manufacturing Company, Orange, Mass.,** has recently established a new sales office at Portland, Me., in charge of Albert M. Dexter, manager.

**Taylor-Wharton Iron & Steel Company, High Bridge, N. J.,** announces that Henry F. Pratt has been appointed Mid-Western sales manager of the company and its subsidiaries, with offices at 502 Denham Building, Denver, Col.

**The American Di-electrics, Ltd., 95 Liberty Street, New York City,** announces the appointment of E. A. Thornwell, 1026 Atlanta Trust Company Building, Atlanta, Ga., as agent for the Southern States.

**The C. M. Sorenson Company, 177 East Eighty-seventh Street, New York City,** manufacturer of electrically driven air compressors, etc., has filed notice of increase in capital stock from \$30,000 to \$200,000.

**The Chase-Shawmut Company, Newburyport, Mass.,** announces that approval by the Underwriters' Laboratories, Inc., has been given on the company's 600-volt line of renewable fuses to supplement approval of the 250-volt line.

**The Simplex Wire & Cable Company, 201 Devonshire Street, Boston, Mass.,** has announced that the E. S. Stickle Company, 305 Union Arcade Building, Pittsburgh, Pa., is representative of the company in Pittsburgh, succeeding the Stickle & Taylor Company (dissolved).

**The Safety Car Heating & Lighting Company and the Pintsch Compressing Company** announce the removal of their general offices to the new plant located at Dixwell and Putnam Avenues, New Haven, Conn. The executive offices and sales office for the northeastern district will be located at 2 Rector Street, New York City, as heretofore, but the Jersey City office will be discontinued.

**Dunbar Manufacturing Company, Chicago, Ill.,** manufacturer of various railway appliances, announces that its corporate name has been changed to the Morton Manufacturing Company, with H. U. Morton, president; H. H. Schroyer, vice-president, and Charles D. Morton, secretary-treasurer. The factory and general offices are situated at 5133-39 West Lake Street, Chicago, and sales representatives are located in Detroit, Cleveland, New York, St. Louis, St. Paul, Portland, Ore.; San Francisco, Chicago, and Sheffield, England.

**Mitchell-Rand Manufacturing Company, New York City,** manufacturer of insulating material, has concluded arrangements whereby the company will handle and stock the products of the Irvington Varnish & Insulator Company for eastern territory at mill prices.

## New Advertising Literature

**Oil Conservator.**—General Electric Company, in bulletin No. 49,706, just issued, describes the construction and function of its conservator type of oil tank for power transformers.

**Steel Poles.**—National Tube Company, Pittsburgh, Pa., has issued "National" bulletin 14C, a forty-seven page booklet on "National" tubular steel poles, with attractive photographs of installations.

**Accounting Machines.**—Remington Typewriter Company, New York City, through its railroad department, has issued a booklet called "Interline Abstracting With a Daily Station and Road Balance."

**Welding.**—The Metal & Thermit Corporation, New York City, has just issued the third edition of Thermit Welding pamphlet No. 17 on mill and foundry repairs, fourth edition of Thermit Carbon-Free Metals and Alloys pamphlet No. 20, new and revised Thermit Rail-Welding pamphlet No. 39 and a small Thermit Railroad Instruction book No. 41.