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# Electric Railway Journal

Consolidation of Street Railway Journal and Electric Railway Review

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## With the Season's Greetings and Best Wishes for a Prosperous New Year for the Electric Railway Industry

### Municipal Bookkeeping Explained by Mr. Whalen

A PROFIT of some four thousand dollars was soon changed into a deficit of much larger proportions within a few minutes during the testimony of Grover Whalen, Commissioner of Plant and Structures for the city of New York, before the Transit Commission this week. It is rather to Mr. Whalen's credit than discredit that he had the facts, the knowledge and the ability to answer the queries of the commission and help get at the true state of affairs in the city's trolley operations on Staten Island. For as soon as he was asked to show the effect of accounting for certain charges, well known to be existent, he admitted that if the city had kept books as any independently operated concern must do, the profit the city announced would vanish into a real deficit.

The Transit Commission, in its hearings, is trying to get at some really basic and useful facts for the benefit of the public. It is of great value to the public of New York City, and elsewhere, and also to the transportation and public service industry in general to have emphasized that the public, as well as private enterprise, cannot produce profit where profit does not exist.

The city is not to be blamed for not making a profit on this particular undertaking. No transportation man would expect the venture to be profitable. It is a small undertaking in sparsely settled territory, operating at a low fare. But once the public impression is made that a "profit" exists it is important to know from a city official exactly what this "profit" figure is and that a real accounting would show a deficit which the public has to pay.

Relief for these conditions is contained in the Lampert Patent Office bill, H.R. 7077, which has the unanimous approval of the patent committee of the House of Representatives and can probably be passed if it could be brought to a vote. Certainly if enough pressure can be exerted upon various Congressmen by their constituencies this matter can be brought to a vote and the condition relieved. Electric railway men can render real service by writing to the representatives from their home districts to urge Floor Leader Mondell and Patent Chairman Lampert to bring about a vote on this bill.

### The New York Transit Hearing Broadens

THE testimony at the hearings of the New York Transit Commission this week has emphasized the necessity of some constructive plan for bringing order out of the confusion which now exists in the New York traction situation. At the same time it has made apparent some problems which are bound to come up in any solution. Last week, with the operating men on the stand, the chief criticism expressed of the tentative plan of the commission was the fear that politics would be paramount in the proposed Board of Control.

This week the aspect of the situation first considered was that presented by representatives of the underlying bonds of various companies, who, as a body, did not seem so much concerned over political control. Perhaps they felt that the results of private operation were not all that could have been wished. At any rate, the chief contribution which they made to the general inquiry was doubt whether all of the underlying bondholders will be willing to exchange their present equities for the general lien to be provided in the proposed new 5 per cent bonds. Such universal exchange, moreover, they argued, was unnecessary, because as the underlying liens matured they could be retired by the action of a sinking fund, or the sale of new securities, based on the universal lien. Until, however, the commission announces which lines it will take over, it will be impossible to say which bondholders will have the opportunity to make such a choice.

This leads up to the proposed rerouting plan offered in evidence on Tuesday by Daniel L. Turner, consulting engineer of the commission, and which he was careful to explain was submitted on his own responsibility only and had not been approved by the commission. While he used the term "abandon" in connection with certain portions of the existing system, the report was intended evidently only as representing an expert traffic viewpoint, and Mr. Turner admitted that even the 22 miles of track not now in use could be removed, if at all, only with difficulty and after tedious litigation, if the companies insisted on clinging to their rights.

### Patent Office Situation Needs Your Personal Attention

ANY one who is interested in an industry which depends upon science and engineering for its fundamentals and for its most efficient advancement must be shocked at the conditions in the United States Patent Office if he knows anything about them.

Out of a total force of 437 men, 163 experienced, scientifically and legally trained men have resigned during the past two years on account of the conditions in the Patent Office, principally the remuneration available. Forty-nine thousand applications are waiting and some of the examining divisions are eleven months behind.

In his recent report the Commissioner of Patents states: "The Patent Office is in a deplorable condition. . . . the Patent Office is breaking at the very moment when it should be responding to the fullest extent to the depressed conditions of the country." The present conditions cannot be allowed to go much further without danger of the Patent Office ceasing to function.



The future under the commission's plan of the roads or sections of roads which it elects not to take over is yet shrouded in mystery. Whatever is done with them they should not be condemned in all cases as unprofitable simply because they have not been making money under the conditions of the last few years. It should be borne in mind that the average operating expenses in 1921 on all the surface lines in Manhattan was 60.11 cents per car-mile, exclusive of taxes, and 65.24 cents per car-mile including taxes. These seem unreasonably large, in view of the fact that during the last fiscal year the Chicago Surface Lines made money, although gross receipts amounted to only about 47 cents per car-mile.

Mr. Chalmers of the Second Avenue Railroad has already shown what can be done by a few improvements. If the constructive program outlined by Mr. Turner in the way of increased speed and train operation could be put into effect, it would show still greater advances in service and efficiency. In fact, the introduction of even half of his program would make necessary a complete revision of the present ideas in New York of the financial and service possibilities of the surface lines.

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### Muskegon and Battle Creek Favor the Trolley

AFTER eighty-four days the residents of Des Moines voted for the trolley as against the auto. It probably did not take the voters this long to make up their minds, but it took that long before the franchise election could be arranged. On the other hand Saginaw recently voted in favor of buses after a trying experience somewhat similar to that of Des Moines. Now come Muskegon and Battle Creek. With the issue put squarely before both these cities they have gone on record in favor of the trolley. In Muskegon, the Council is authorized to pass ordinances denying the use of the streets to the bus lines affected so there shall be no unfair competition. In the Battle Creek case, where the choice was strictly between the auto and the trolley, the vote was overwhelmingly in favor of the electric car.

Saginaw remains in strange contrast with the cases of Des Moines, Muskegon and Battle Creek. About the only thing that this proves is that the residents of Saginaw, considering what they have endured since railway service there stopped, are permitting their animosities to blind them to their own immediate personal convenience and to make them reckless to the extent of gambling on their own and their city's future.

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### A Wholesale Price to the Wholesale User

THE transition of the American electric railway from the status of a purely manufacturing and distributing industry to a *business* seems foreshadowed in the several publicity plans and fare schemes that are being tried throughout the country. One of these schemes in which both cheerful publicity and an unusual fare have been combined is the operation of the unlimited-ride, weekly pass at Youngstown, Ohio. So much interest has been manifested in this plan—now definitely adopted after the eight weeks trial period—that the Youngstown Municipal Railway has consented to the publication of the detail analysis of nine weeks operation.

This analysis not only seeks to answer squarely every question that has been raised about this unusual form of transportation, but also tries to show wherein the un-

limited-ride pass appears to possess a more businesslike basis than other ways of selling at wholesale.

One point it seems particularly worth while to stress here is that the sale of tokens or strip tickets at a reduced rate does not necessarily oblige the purchaser to ride more, although it is a stimulus in that desirable direction. However, there is no time limit on such tickets, and they may be divided among as many persons as there are riders. Contrary to this, the pass is distinctly the concession of a wholesale price only to the wholesale, and practically individual, user. The one way he can win over his paying the price of two maximum fare rides a day is by taking more than two rides. At the same time, it is most unlikely that those rides in excess of two per diem will be taken in the rush hours.

Despite the stereotyped objection to an unlimited service rate, it will be found that the average gross rides per pass per diem has hovered around 4.2 to 4.3 right along, while the actual "origin-to-destination" rides are no more than 3.3 a day. Apparently pass buyers like the railway a lot better than before, but they do not seem to spend all of their time riding the cars at that. After all, if the main thing is to make more profitable use of the off-peak car-miles, Youngstown can be said to have made a beginning that will encourage everybody but the jitney operator and trolley baiter.

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### New Haven Dissolution Decree Expected Soon

ANOTHER instance of the helpful attitude of the present administration at Washington to business is furnished in the visit of Attorney General Daugherty to New England in connection with the inquiry into the New Haven dissolution decree, and the assurance that the government's policy in the case will not be based on legal technicalities, but on the practical requirements of New England as a whole. These requirements as brought out at the hearings, with the exception of one or two small voices, were that the status of the properties as a unit be preserved.

Probably few more shocking examples exist of unwarranted interference by government with business than that presented by the New Haven case. The original dissolution action was of course unjustified. It was brought during the Roosevelt administration, but was withdrawn the following year under the administration of President Taft at the recommendation of Attorney General Wickersham after a careful investigation. He found the trolleys and railroad supplying complementary, not competitive, service. Then during the Wilson administration the dissolution decree was promulgated.

Mr. Daugherty's decision is expected to be made known soon after Jan. 1. His recommendations may take one of two forms. He may order the sale of the subsidiary holdings which have not yet been disposed of, as soon as market prices would justify the step, or recommend a supplemental decree to permit the return of the Connecticut Company's trolley lines and the Boston holding company to the New Haven.

Against the onus of all the changes and charges previously recited the New Haven management has struggled bravely now for more than seven years. It is to be hoped that for the company the end is in sight, particularly since the interstate commerce act has been strengthened and the last possible reason appears to have been removed for the charge that, with the lines of New England again one, the system might be subject to abuse.



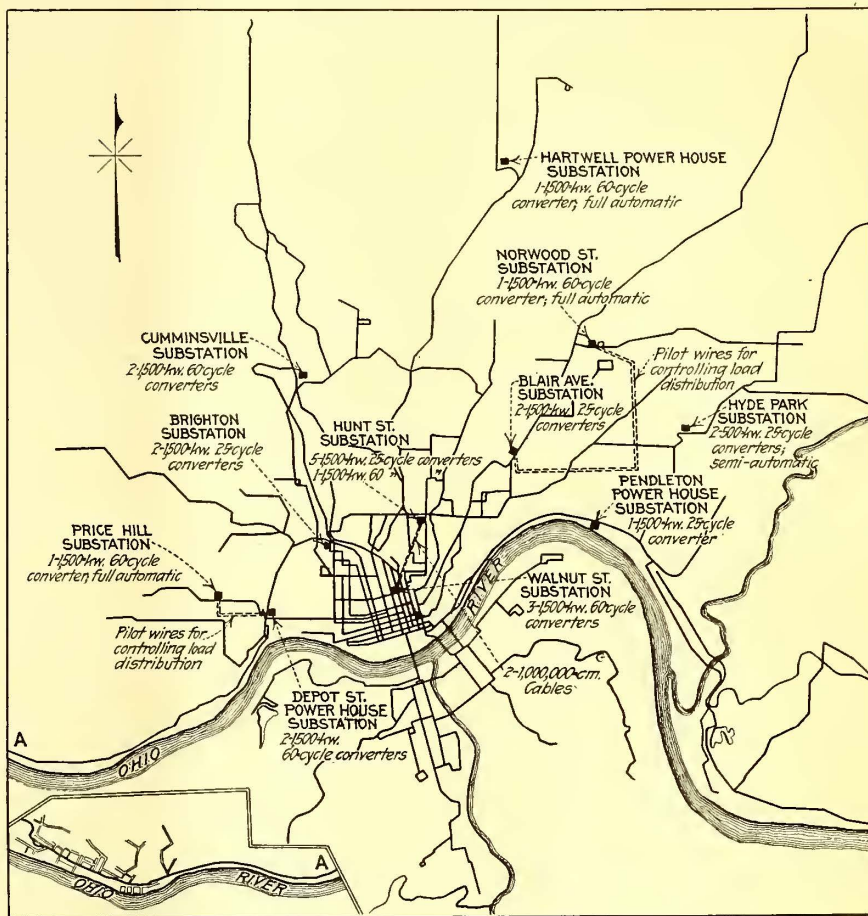
# Modernizing Cincinnati Traction Power System

Large Saving to Be Effected by Scrapping Long Obsolete Generating Equipment, Building New Substations and Purchasing a Portion of the Energy Required— Three Automatic Substations Included in the Plan

**A**N ANNUAL saving of \$84,000 is expected as the result of a plan now well under way to modernize the power supply system of the Cincinnati (Ohio) Traction Company. This is conservatively estimated, and against the new plan is charged the carrying charges on the total investment in all the old equipment replaced as well as the new installed. This in general includes abandonment of considerable generating equipment still in use, the construction of four new substation buildings and the installation of ten new 60-cycle, 1,500-kw. rotary converters, including three automatics; an increase in the number of points of power supply from eight to eleven and involving a rearrangement of the feeder system, and the purchase of energy needed beyond the capacity of the company's alternating-current generating equipment from the Union Gas & Electric Company. The capacity of the traction company's alternating-current equipment at the Pendleton power station is 30,000 kva. and the maximum demand on it has been about 17,000 kw., while the total power demand on alternating-current and direct-current generating equipment has run about 24,000 kw. The plan of operation will probably be to operate the alternating-current generating units at Pendleton, or part of them as required, at practically constant load and take from the Union Gas & Electric Company whatever additional power is required in order to get the most efficient use of the power plant, and hence a low cost per kilowatt for the power generated. However, if it develops in actual operation that the total cost of power would be less by taking a practically uniform amount from the electric company and handling the swings and peaks on Pendleton, this opposite scheme of operation will be followed. In other words, the scheme is flexible, enabling the railway management to determine that balance of low cost of energy generated against low demand cost of energy purchased which will result in the lowest average cost per kilowatt for all energy consumed.

Another factor which should be mentioned in connection with the company's broad plan of reducing power costs is the equipment of all cars with Economy watt-hour meters, the idea being to reduce the consumption as well as the cost per unit. The results of this phase of the plan, as indicated by the saving made the first month the cars were equipped, will be very gratifying.

The main present source of energy for operating the cars of the Cincinnati Traction Company is the Pendleton power house, which is located in the east end of



MAP OF CINCINNATI TRACTION COMPANY LINES AND SUBSTATION LOCATIONS

the city. This is equipped with three 10,000-kva., 25-cycle turbine units and 3,000-kw. capacity of non-condensing, reciprocating engine-generator units. This station thus supplies direct-current energy to the feeders extending to the immediate vicinity and 25-cycle alternating-current energy transmitted at 6,600 volts to five rotary converter substations. One of the outgoing high-tension lines extends from the power plant to the Brighton Avenue substation and thence to the Cumminsville substation, where it is stepped up to 33,000 volts for a line extending to the Hartwell power plant located on the Ohio Traction System about 9 miles from the downtown district of Cincinnati. This line serves one 500-kw., 25-cycle converter located in the power station and supplying energy to the interurban system and some of the outlying lines of the Cincinnati Traction Company. In addition to this one rotary, the Hartwell power plant contains two 1,000-kw. direct-current, non-condensing, reciprocating engine-generators, which are used during the peak hours.

Aside from the Pendleton station, the principal source of power for the Cincinnati Traction Company has been the Depot Street power house, located at the west end of the city and equipped with eight generating units, two of which comprise non-condensing, Corliss compound engines direct connected to direct-current gene-



rators, and the six others being old four-pole generators, belt driven by non-condensing simple engines. The total capacity of this plant is 4,500 kw. and until very recently it has been operated continually and practically to capacity.

The substations supplied with 25-cycle alternating-current energy from the Pendleton power house and their capacities are given in one column of an accompanying table which lists the old and new direct-current

Obviously, much of the generating equipment of the company has long since been obsolete and was resulting in an excessive cost of energy for car propulsion. Since it was possible to enter into a favorable contract with the Union Gas & Electric Company for the purchase of energy, this plan was determined upon rather than to build new modern power plant facilities in order to reduce the power costs to an economical figure. Following this out, all reciprocating engine-generating units are to be abandoned, dismantled and disposed of. The dismantling of the Depot Street power house was begun Nov. 1, and the direct-current generating equipment in the other two power stations will soon follow, as the installation of the new substation equipment is well under way.

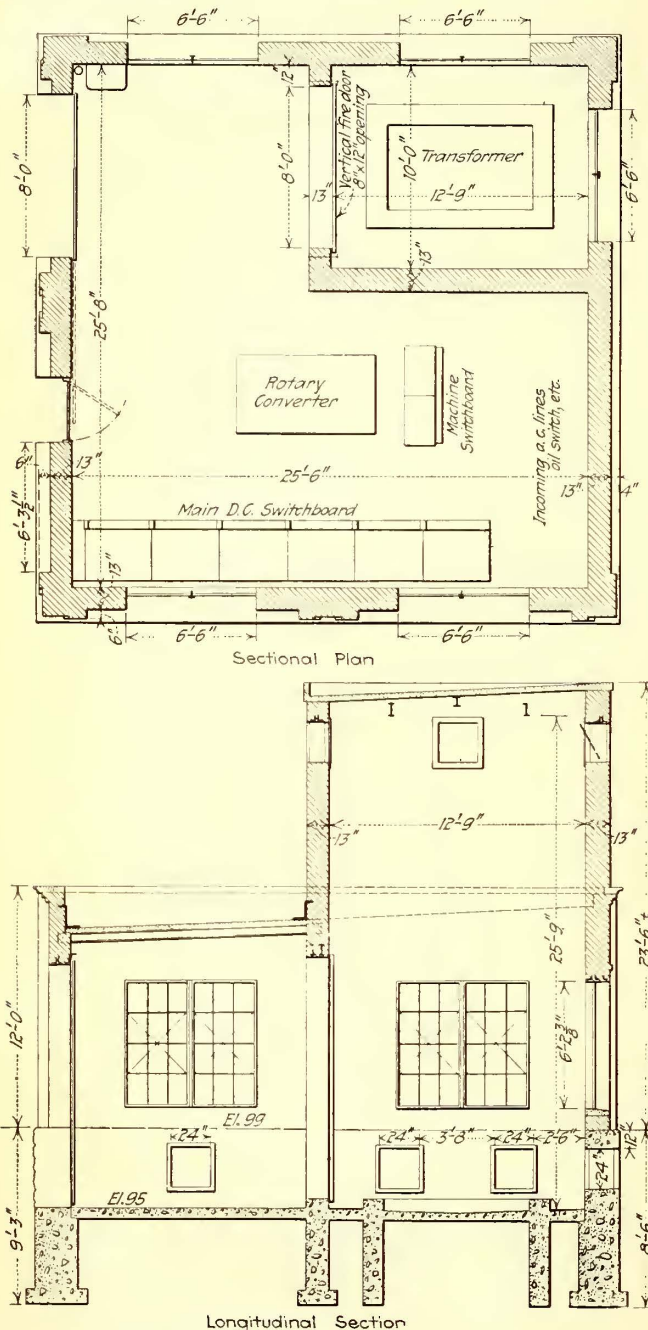
RECONSTRUCTION TO BE MADE

Under the new power supply plan 60-cycle, three-phase energy will be purchased from the electric company at 13,200 volts, from transmission lines built into the substations by the electric company. For the sake of uniformity, all of the new 60-cycle machines are to be of 1,500-kw. capacity and the transformers are 1,500-kw., three-phase units. These were used because of the economy of space and investment required. While with these transformers it is impossible to operate at two-thirds capacity if one phase is down, it was believed that the number of cases of trouble of this kind is so small as compared to cases of converter trouble that it is not an important disadvantage and does not offset the other advantages. The converters, automatic equipment and practically all of the other substation equipment were supplied by the Westinghouse Electric & Manufacturing Company.

Abandonment of the Depot Street power house is made possible through the installation of two new substations. One of these is to be located in the present power house, where the equipment will consist of two 1,500-kw., 60-cycle rotary converters arranged for manual operation. The other is the new Price Hill substation pictured herewith, which is equipped with one 1,500-kw. rotary converter arranged for full automatic control. This was the first of the new substations to be placed in operation.

The present Cumminsville substation is to be abandoned, the present 1,500-kw., 25-cycle converter moved to the Pendleton power house partly to replace the reciprocating units now being operated there, and a new substation of the same name built in the immediate neighborhood of the present Cumminsville substation. This will be equipped with two 60-cycle, 1,500-kw. manually operated converters. The shifting of the old converter will of course not be made until after the new station is completed and placed in operation. Similarly, the 25-cycle, 500-kw. rotary converter located at the Hartwell power plant is to be transferred to the present Hyde Park substation to reinforce the capacity there and a new 1,500-kw., 60-cycle machine with full automatic control installed in the power plant, replacing the present converter and the direct-current generating equipment, which latter will be scrapped. With the additional 500-kw., 25-cycle unit installed at the Hyde Park substation, the voltage regulation in the territory it serves will be greatly improved, since this includes two bad hills for which the present single unit is unable to carry the load at times.

The direct-current generating equipment shut down

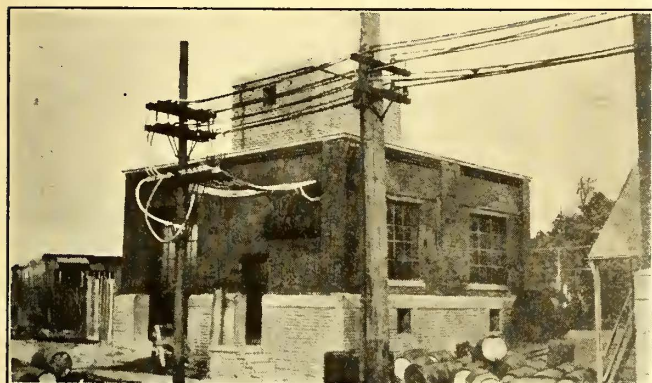


FLOOR PLAN AND CROSS-SECTION OF SINGLE-UNIT SUBSTATION DESIGN

facilities. The locations of the power houses and the substations of the new plan are indicated on the accompanying skeleton map showing the car lines in Cincinnati. The old power supply system comprised three sources of trolley current direct from direct-current generating stations and six sources from substations, one power plant and substation being at a common point, so that there were eight points of supply to the 600-volt feeder and trolley lines on a system comprising 228 miles of track.



in Pendleton power house is replaced partly by the installation of the one 1,500-kw., 25-cycle converter installed in the station, as already mentioned, and by the building of a new substation on Norwood Street as shown on the map of the system, this new point of energy supply to the system also materially improving



PRICE HILL AUTOMATIC SUBSTATION, SHOWING TRANSFORMER TOWER AT THE FAR CORNER

the voltage in that vicinity. The Norwood Street substation is equipped with one 1,500-kw., 60-cycle converter and arranged for full automatic control.

Perhaps one of the most important new substation locations is that on Walnut Street, between Thirteenth and Fourteenth Streets, practically in the heart of the downtown, or heavy load, section. This substation is to be equipped with three 1,500-kw., 60-cycle converters manually operated. The former points at which energy was supplied to the trolley system formed roughly a semi-circle around the downtown section and the voltage there was somewhat low. Hence the installation of this new three-unit substation right in the center of the downtown load will greatly improve the voltage and undoubtedly bring about a material reduction in line losses.

The accompanying table sums up the direct-current capacity provided in the old power system and that which will be available upon completion of the new facilities. It will be noticed that six substations and one rotary converter in the seventh, aggregating a capacity of 16,500 kw., will be supplied with 60-cycle purchased energy, while five substations and five converters in the sixth, aggregating a capacity of 16,000 kw., are supplied with 25-cycle energy from Pendleton power house, owned by the company. The total direct-current capacity connected to the feeder and trolley system has been increased from 27,000 kw. to 32,500 kw. Thus a 40 per

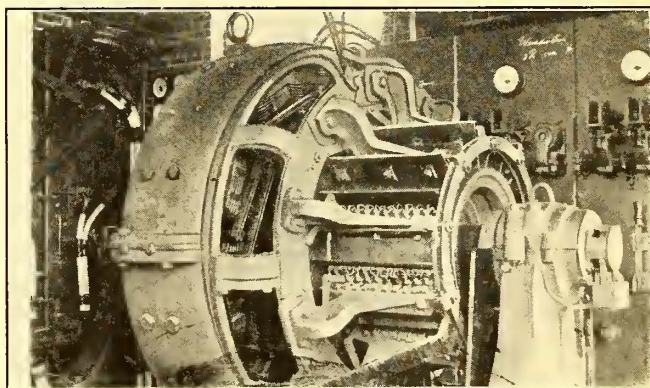
cent increase in capacity has been provided, a substantial improvement in voltage regulation made and a very worth-while saving in the annual power cost obtained. Furthermore, if the new substations had not been installed, it is estimated that it would have been necessary to install \$100,000 worth of additional copper in order to bring up the voltage regulations to a satisfactory condition. Hence it may be said that the installation of the new substation plan has virtually salvaged \$100,000 worth of feeder cables in addition to the other savings.

MANUAL OR AUTOMATIC CONTROL

It will be noted from the foregoing discussion that only the single-unit substations have been arranged for full automatic operation. In rearranging the power system, only the Price Hill, Hartwell and Norwood substations could be equipped with but one 1,500-kw. converter, the size on which the company had standardized. As to the use of automatic control on stations requiring more than one 1,500-kw. unit, T. H. Schoepf, vice-president and chief engineer, who was responsible for the new power plan, was of the opinion that the fixed charges on the additional investment required in the automatic equipment to handle two or more units were so high as to wipe out any saving resulting from the automatic operation. The possibility of trouble with substation operators resulting in a shut-down on the system was not felt to be a controlling consideration in the adoption of automatic control. Not all of the substation operators in Cincinnati are union men and only ten out of sixty or seventy employees in the electrical department who would strike in case of trouble are operators. Another consideration was also involved in the decision for manual operation of the new Cumminsville substation. This substation serves important lines extending to sections of the city not otherwise reached and is located in rather an isolated place where it would take too long for an inspector to reach the substation in case of trouble. It was therefore considered too important a location to depend on automatic operation and the manual operation was used because it was believed to provide greater assurance of continuity of service.

A special feature of the automatic control in two of the substations is the connection of the Price Hill auto-

SOURCES OF 600-VOLT CURRENT			
	Kw.-Capacity Former System	Kw.-Capacity New Plan	Frequency
Pendleton power house.....	3,000	1,500	
Depot Street power house...	(d.c. generators) 4,500	rotary converter 3,000	25
Hartwell power house.....	(d.c. generators) 2,000	rotary converter 1,500	60
	500 (rotary converter)		60
Hyde Park substation.....	500	1,000	25
Blair Avenue substation.....	3,000	3,000	25
	7,500	7,500	
Hunt Street substation.....	25-cycle 1,500	1,500	25 (60)
	60-cycle		
Brighton substation.....	3,000	3,000	25
Cumminsville substation....	1,500	.....	25
New Cumminsville substation	.....	3,000	60
Walnut Street substation....	.....	4,500	60
Price Hill substation.....	.....	1,500	60
Norwood substation.....	.....	1,500	60
	27,000	32,500	



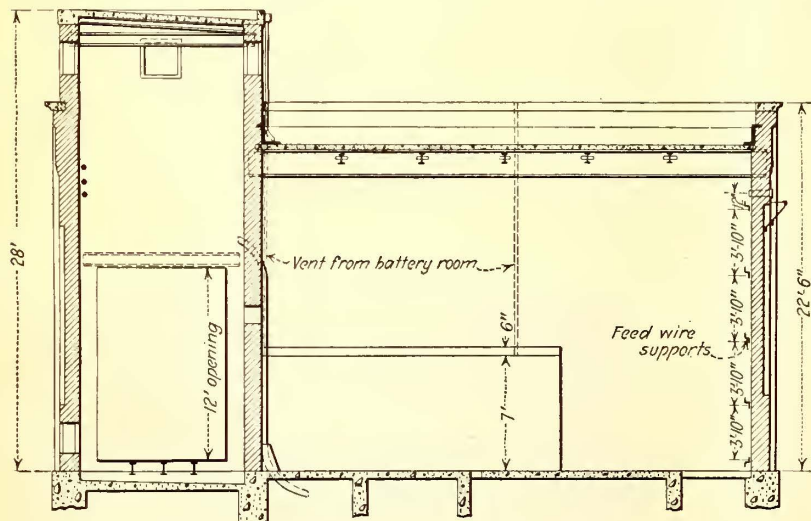
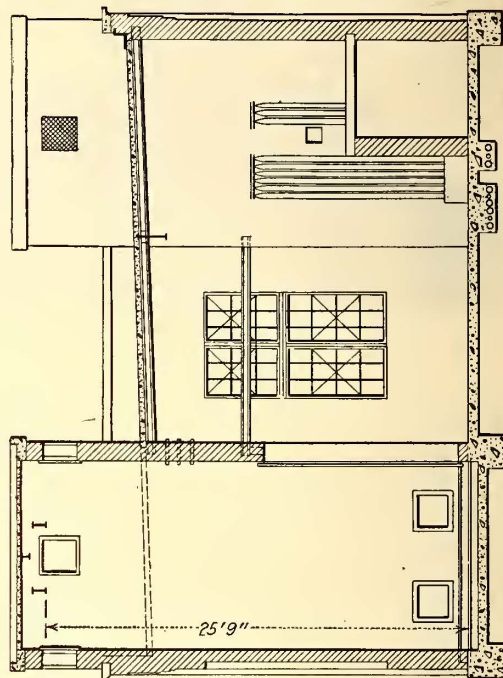
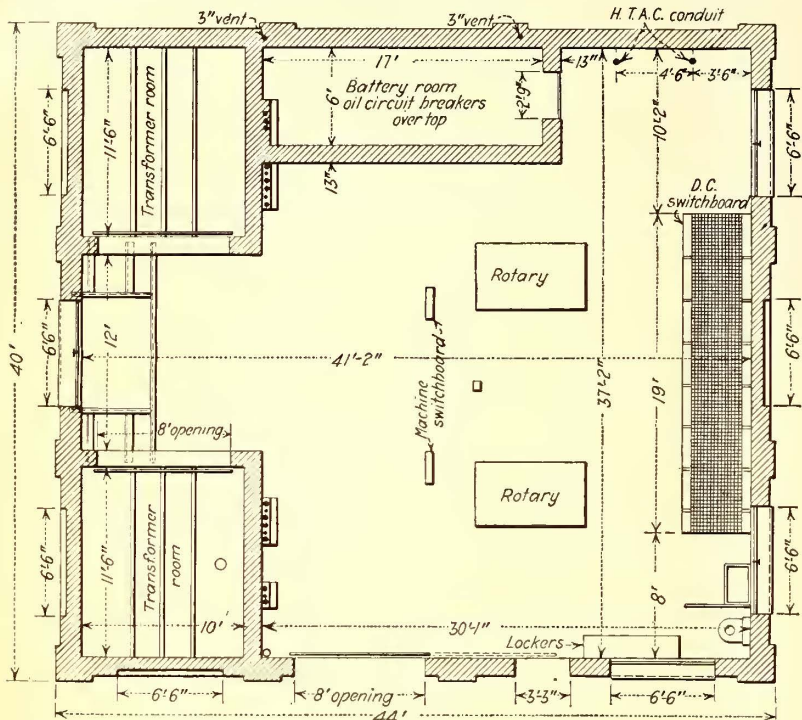
1,500-Kw., 60-Cycle Rotary Converter with Main Feeder Board to the Right and Machine Starting Panel to the Left, with Rear of Board Toward the Converter

matic with the manually operated Depot Street substation and the automatic Norwood substation with the manually operated Blair Avenue substation by means of a pair of pilot wires. The purpose of these is to enable the substation operator at Depot Street, for example, to control remotely the Price Hill automatic and



by this means to dispatch the load between the two stations in such a way as to produce the minimum demand of the two substations summed together. This is desirable because the contract for purchased power is based on the maximum system demand and not the sum of the maximum demands of the individual substations. The same balancing of demands between the Blair Avenue and Norwood Street substations is provided for. The remote control makes it possible to cut the converter

nomical, the bulk of the load served by the Hunt Street and Walnut Street substations can be largely carried on either substation and thus shifted from the company power plant to the purchased power, or vice versa. Similarly, the remote control of two of the automatic 60-cycle substations from two of the 25-cycle manually operated substations makes possible a certain shifting of load from or to the Pendleton power house and to or from the Union Gas & Electric Company.



FLOOR PLAN AND SECTIONS OF TWO-UNIT SUBSTATION

in the automatic substation in or out, regardless of the master voltage relay.

Further ability to dispatch the load so as to produce the lowest cost of power is provided by tying the 25-cycle Hunt Street substation together with the 60-cycle Walnut Street substation by means of two 1,000,000 circ.mil cables. These cables are connected between the direct-current buses in the two stations so that it is possible to shift the load from Hunt Street, supplied by the Pendleton power house, onto Walnut Street substation, which is supplied with purchased power, or vice versa. In other words, depending on whichever is more eco-

nomical, the bulk of the load served by the Hunt Street and Walnut Street substations can be largely carried on either substation and thus shifted from the company power plant to the purchased power, or vice versa. Similarly, the remote control of two of the automatic 60-cycle substations from two of the 25-cycle manually operated substations makes possible a certain shifting of load from or to the Pendleton power house and to or from the Union Gas & Electric Company.

DETAILS OF SUBSTATION DESIGN

The first of the new substations to be completed and placed in operation was the Price Hill substation. The building is constructed with foundation, floors and roof of concrete and walls of brick. The windows and doors are hung in metal frames with wire reinforced glass. The building is practically 25 ft. 6 in. square inside, with one corner, 13 ft. 10 in. by 11 ft. 1 in., walled off



for housing the three-phase transformer. A tower 12 ft. high is provided over the transformer room in order to give headroom enough to raise the coils out of the tank, permitting the tank to be moved out and the coils lowered to the floor level if work is to be done on them. A simple block and tackle hung from steel beams placed under the roof for the purpose are used for handling the transformer coil in this manner. The transformer compartment is closed off in front by a fireproof door, and the main door to the substation is directly opposite this, this same outer door being used for both transformer and converter and other equipment in taking them in or out of the station. There is room enough between the transformer compartment and the outer door to move the converter in a diagonal direction to or from its foundation.

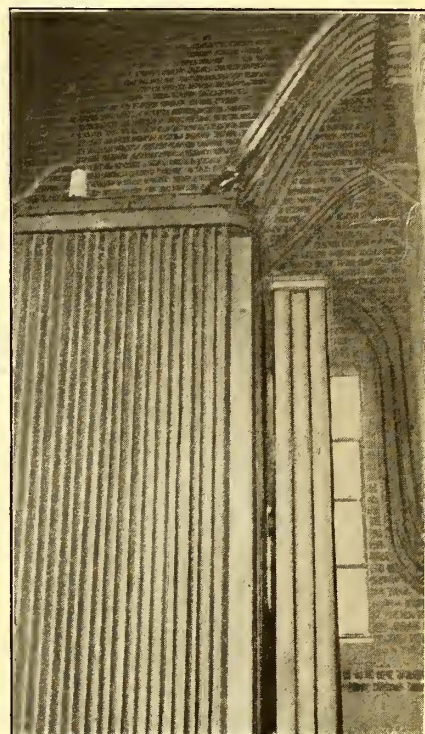
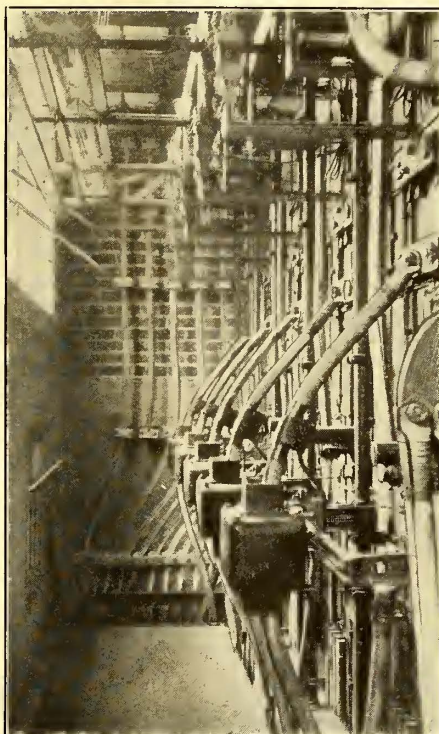
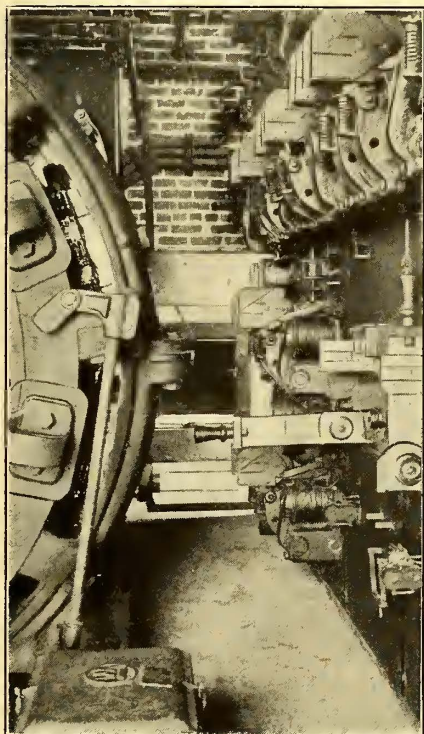
The floor plan and elevation of this Price Hill single-

will automatically close unless held open. Ten of these openings are provided per machine.

On the theory that because the substation is automatically operated and therefore that there is no one around, the spacing in the Price Hill substation was cut down considerably below the spacings provided by the National Safety Code and a saving of \$2,500 on the cost of the building thereby made. This spacing was said to be approved for automatic operation by the underwriters.

#### GENEROUS HIGH-TENSION OIL SWITCH CAPACITY

Only one high-tension line is connected with the Price Hill substation, as this is very close to a substation of the Union Gas & Electric Company, but the other new substations are served by two high-tension lines. In both cases, each high-tension line is equipped with its



AT LEFT, MAIN DIRECT-CURRENT SWITCHBOARD SHOWING CLOSE SPACING BETWEEN BOARD AND CONVERTER. IN CENTER, REAR OF MAIN DIRECT-CURRENT SWITCHBOARD. AT RIGHT, THREE-PHASE TRANSFORMER AND CONNECTION IN TRANSFORMER ROOM AT ONE CORNER OF THE STATION

unit substation are reproduced herewith, as are also the drawings for the Cumminsville two-unit substation. This station has a transformer room at either side of the building and a tower over each. The transformer room doors face each other and there is space between the two towers inside the station to move the transformer tank out, whence it can be moved in or out of the substation through the 8-ft. door at the front of the building, which is also used for admitting the converters.

The location of the various equipment in both substations is readily seen in the accompanying drawing. The building design for the Norwood Street substation will be the same as that for Price Hill and the new building for the three-unit Walnut Street substation will be of special design, combining with the substation a central depot for the line department. Ventilation is provided in all the substations by means of screened openings around the station at the floor level and just below the roof in the towers. These are all 2 ft. square and equipped with windows hinged off center so that they

own type 0-1 oil switch of very large capacity, it being expected that this generous capacity of the oil switch will eliminate one of the common sources of trouble resulting from oil switches of insufficient capacity. In the two-unit stations either machine can be connected to either line by manipulating the disconnect switches. All of the circuit breakers are remote-control solenoid operated. The lightning arresters on the two-unit substations are mounted on the roof between the two towers, while on the Price Hill substation they are mounted on a rack which has been placed on the front wall of the building.

Employees of the electric railway serving Geneva, Switzerland, have accepted a reduction of an amount equivalent to \$4.83 per month in their wages, effective Oct. 1, according to advices to the Department of Commerce. The employees based their protest against the decrease on the ground that up to that time there had been no proportionate reduction in the cost of living in Switzerland.



## Analysis of Weekly Pass at Youngstown

Rate of Increase in Revenue So Far Is Double and Rate of Increase in Riding Is Quadruple That of Non-Pass Lines in Same District—Density and Earnings per Car-Mile Show Substantial Rise—Jitneys Cut Almost in Half and More Going

THE combination of jitney competition, of a severe industrial depression and reduced purchasing power by most of those who were left at work led the Youngstown Municipal Railway (a subsidiary of the Republic Railway & Light Company) to seek relief in something other than a higher rate of fare. Under its service-at-cost sliding or, in this case, climbing scale the fare had gone up to 9 cents cash and 8½ cents ticket. As a still higher fare offered neither the likelihood of more revenue nor of more service to the public, the company took the opposite tack and decided to reduce fares.

The form of fare reduction, however, is decidedly novel for an American city of this size. Instead of lowering the fare to regular riders, off-peak riders or any-time casual riders alike, the reduction has been effected by offering a wholesale price to those who would ride wholesale. This idea is different from that of selling at a lower rate tickets which can be used within any desired period thereafter. It is being carried by means of an unlimited-ride pass good only for the week designated and priced at \$1.25, which works out at slightly more than the cost of two cash or ticket rides a day.

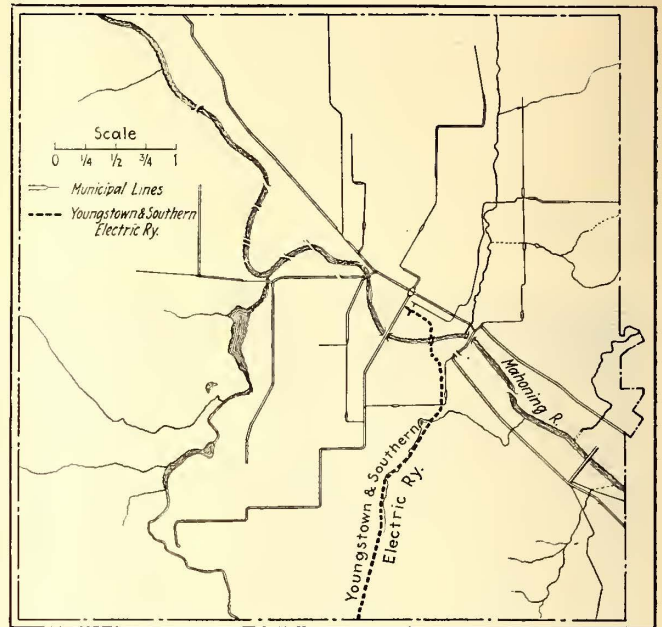
Thus the net effect so far as the public is concerned has been to lower the average fare per passenger from the 6.7 cents approximated in September before adoption of the pass in the week beginning Oct. 3, 1921, to about 6 cents. To the passholder who takes more than the usual two rides a day the cost of a ride is actually less than 5 cents (about 4.1 cents) on the basis of all rides taken, and practically a nickel when allowance is made for the transfer proportion.

The low price of the pass in comparison to the cost of single rides was fixed with regard to the amount of jitney traffic possible of recapture rather than with respect to the creation of entirely new business. Cars were running decidedly underloaded, so that there was no question about being able to handle and seat many more passengers with no increase in car-miles except a few trippers. As shown hereinafter, these anticipations were justified sufficiently during the trial period of eight weeks to cause the continuance of the pass.

### TRAFFIC ON PASS LINES HAS INCREASED MORE THAN TWICE AS FAST AS ON NEIGHBORING LINES

Under ordinary circumstances, it would be difficult to say how much of the traffic and revenue changes following a fare alteration is due to cooler weather, more jobs or more attractive fares. The situation at Youngstown, fortunately, is quite helpful along this line. The Youngstown Municipal Railway is within the same steel-mill area as the Pennsylvania-Ohio Electric Company, also a Republic Railway & Light Company subsidiary, but is segregated under the service-at-cost contract with the city of Youngstown.

According to company officials, the industrial uplift within the last three months has been at least as effective immediately outside of Youngstown as within the city. Other things being equal, therefore, the rise in earnings of both properties ought to show practically



MAP SHOWING LINES OF YOUNGSTOWN MUNICIPAL RAILWAY, CONNECTING INTERURBAN LINES AND YOUNGSTOWN AND SUBURBAN RAILWAY

the same percentage. This is not the case. By reference to the set of graphs on page 1105, it will be seen that the first nine weeks following the pass compared with the average income for the last three weeks preceding the pass show a rise of 14.3 per cent on the Youngstown Municipal lines, whereas the Ohio-Pennsylvania lines with no change in either interurban or city fares show a rise of but 6.9 per cent.

Another check is furnished by the Youngstown & Suburban Railway. This railway is permitted to charge only 5 cents within Youngstown, so that both its low cash fare and topographical position protected it against any competition from the pass fare. This line also shows even a decrease in percentage.

A comparatively small road like this will naturally be subject to greater fluctuations in revenue than a system serving a greater diversity of customers. For all that, the Youngstown & Suburban figures are of value as corroborative evidence of the industrial slackness in this area.

### A SUBSTANTIAL INCREASE IN REVENUE AND A RISE IN EARNINGS PER CAR-MILE

Another way of analyzing the growth in traffic and revenue would be to compare say three November-December weeks of the pass with the average of the three weeks just before the pass. This turns out to be a 20 per cent increase in revenue and an increase in riding usefulness of 44 per cent. The latter figure is significant in comparison with the fact that the riding on the other lines could have increased only in proportion to the rise in revenue, since no fare changes had been introduced.

Because of the large proportion of seat-miles hitherto unused, the increase in business has been handled with



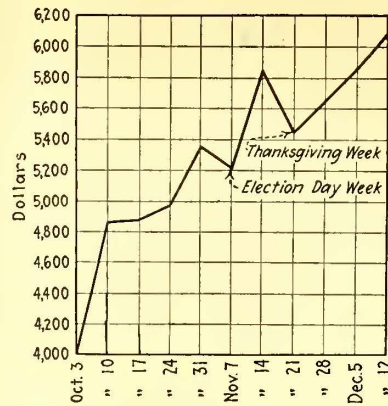
but small additions in car-miles. A comparison of mid-September and early November shows that passengers per car-mile had by that time risen from 5 to 6.4 or 28 per cent. Likewise, the revenue per car-mile rose from 34 to 38 cents, or 8.5 per cent. It will be seen that the pass is resulting in more effective use of the company's car-mile and car-seat output. An increase in car-miles can do no harm when accompanied by a greater difference between intake and outgo.

WHERE DID THE ADDITIONAL TRAFFIC COME FROM?

Increases in revenue of 20 per cent and increases in riding of 40 per cent are so large for the recent weeks in question that it is well to look into the sources of street railway traffic.

The largest source by all means was in recovering what had been lost to the jitneys. It is true that the company was charging 9 cents cash and 8½ cents ticket (at six for 50 cents) against 10 cents cash by the jitney with only a limited sale of jitney tickets at 8½ cents. To the transfer rider, however, the street car fare was 10 cents because of a 1-cent transfer charge. The difference between the awkward 9-cent rate and the jitney dime apparently was not enough to keep many people from patronizing the privateers. One reason was their greater speed, nearly all Youngstown jitneys being touring cars.

Those who have studied the behavior of the public toward jitney vs. car operation over the same highways know that the prejudice of the majority is not so strong as to make them willingly endure waiting for their favorite. The usual procedure is to take whichever comes first. There is no way to stop this tendency other than to run so many cars that the jitneyman cannot earn even his running charges or else have a style of fare that will make a person wait for the car. Only the sale

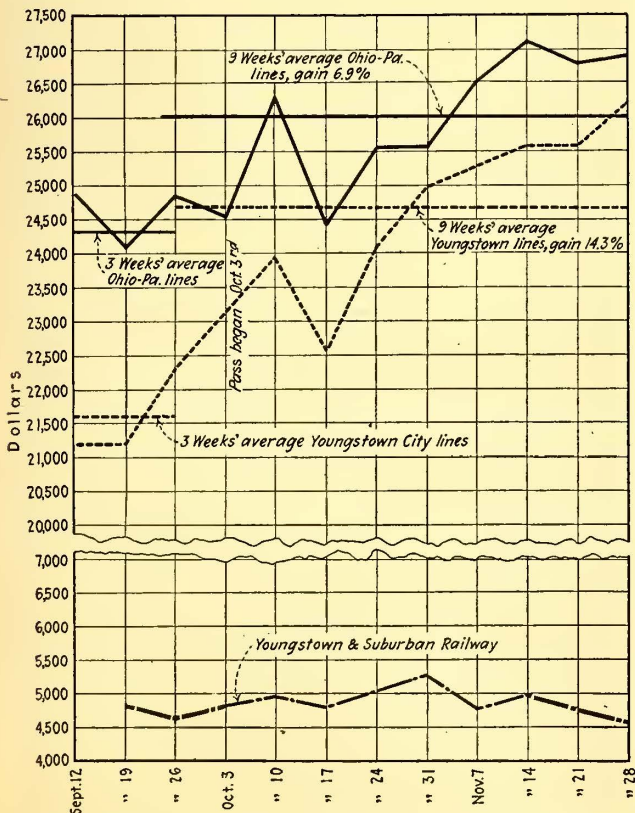


VARIATIONS IN SALE OF PASSES, CITY RIDERS ONLY, SHOWING FALL-BACKS IN HOLIDAY WEEKS—INCREASE OF WEEK OF DEC. 12 OVER WEEK OF OCT. 3 IS 50.6 PER CENT

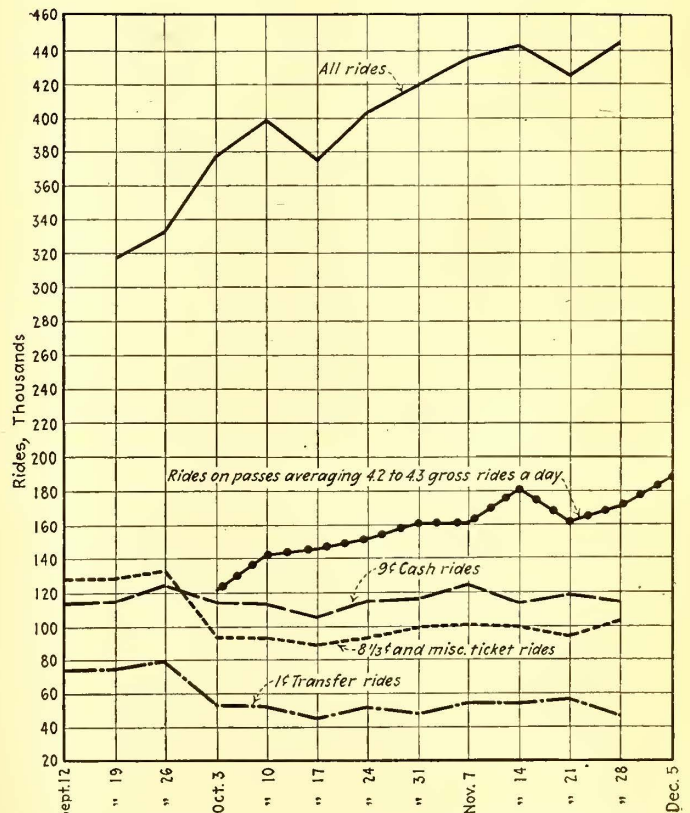
of some form of prepaid transportation good within a limited period meets the latter specification. Here is how the plan works out: A person who has bought a pass for the week's riding has spent all he intends to that week. Every jitney ride would be extra expense. Hence he waits to get his money's worth to the uttermost. The person

who buys the 8½-cent tickets loses nothing more than 1½ cents in taking a jitney ride inasmuch as his tickets are good any time. The cash rider has but 1 cent more to pay and will scruple still less to use the first jitney in sight.

It may be urged that there is nothing to prevent the jitneyman from getting together and offering a pass of their own. This would not be easy, because it would call for close co-operation among a lot of unruly individualists and besides would demand the setting up of an auditing organization. It is doubtful whether they would succeed with a pass in any event. So long as people patronize jitneys when they happen to be around, they do not worry much about the unreliability of such service in the late hours, on holidays or during bad weather. Let them be asked to pay for a whole week's riding in advance and they will betray a different and



GRAPH SHOWING HOW MUCH FASTER REVENUE HAS INCREASED ON PASS LINES COMPARED WITH NEIGHBORING NON-PASS LINES



GRAPH SHOWING INCREASE IN ALL RIDING AND IN DIFFERENT KINDS OF RIDING ACCORDING TO FARE PAID



less favorable attitude toward the transit Bedouins. The fact that some 6,000 people in and around Youngstown are willing to pay \$1.25 a week in advance for their car rides is a compliment to the stability of the electric railway and one that will not be paid to any one of less trustworthiness.

Aside from the business recaptured from the jitneys, there has been some increase due to the creation of traffic encouraged by the liberal price and transferability of the pass. It is impossible to say how much, but it will be admitted that when a passholder has to ride somewhere his non-pass companion is going to ride on the same conveyance.

The period covered in the tabulation begins with Sept. 19, or after the let-down of summer temperature, the ending of vacations, and the opening of the schools. It closes Sunday, Dec. 4, or just before Christmas shopping travel begins. Exclusive of special causes that affected traffic during particular weeks, the period might be defined as one of slowly rising improvement in industrial conditions but far below the improvement shown on the pass-using lines comprising the Youngstown Municipal Railway.

This has been proved by comparing the ratio of increase on those lines with the same management's adjacent lines outside of the Youngstown & Suburban Railway. Rain was a depressing factor the greater part of November. In February, 1920, the city of Youngs-

institution of the unlimited-ride pass. These vehicles are continuing to drop out at the rate of one or two a day, which elimination should help all classes of electric railway traffic.

Some jitneys probably have paid up their bonding obligations in full and so may be expected to hold out longer than those which have to pay in installments. The insurance companies have also come to the conclusion that these traffic ragamuffins are a poor risk and are not likely to renew any policies in case any jitneyman has the courage or the coin to seek renewal. The Youngstown Council has added this December a further deterrent in the form of a \$10,000 instead of a \$5,000 personal injury bond. This amendment was very largely due to the increase in good-will that has come to the company because of the pass and more safety car service. Here then is the way matters are standing or rather toppling with the graceless jitney.

#### UNLIMITED RIDES IN THEORY; LIMITED RIDES IN FACT

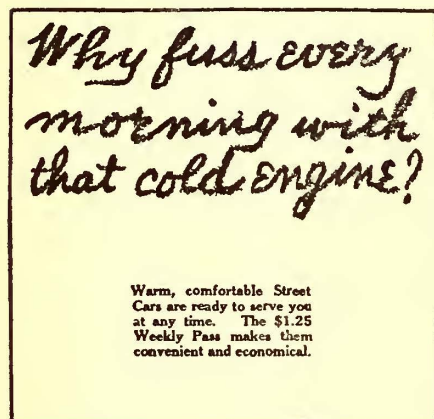
The first remark of many electric railway men on learning that the pass is both transferable and good for an unlimited number of rides within the week of issue is to compare it to the long-abandoned scheme of selling light on a flat-rate or unlimited-use basis. Actually, the resemblance is purely superficial. The purchaser of light or water on a flat-rate basis may leave his dwelling with all the lamps burning and all the taps open, these things being entirely separate from himself. But he and his ride are inseparable. It is true that after completing the ride, he is at liberty to transfer his pass. This is not so likely as one would suppose at first thought. The workman going to his job is not going to give the pass to anyone else, for when the luncheon bell rings he will need it for himself.

There are occasions, of course, where the pass can be transferred. For example, when the workman or other holder comes home for the evening some other member of the family may care to use it for a visit. In any case, why should not the maximum use of the pass be encouraged so long as the extra rides lie outside the rush-hour range and within the capacity offered by the base schedule? One point that has impressed the officials of the company is that except for rare circumstances a pass is not used more than once in each rush hour.

Facts from earlier experience should prove more convincing than any arguments. In European cities where long luncheon periods are more common than here, one is not likely to find a higher figure than five gross rides per pass per diem. This was the figure in Blackpool, a city of 64,000 population. Although the passes at Blackpool have to be bought on an annual contract basis on a formidable application blank, there were 2,700 such "contract tickets" in force a couple of years ago. The reason for this was that the tickets for both short and long rides were priced so low that even the person riding but twice a day would make a big saving.

The passes at Racine, Kenosha and Youngstown have been priced upon the principle that the holder must take more than two rides a day to win out over the maximum cash fare. If, then, the American pass is not so uneconomically low-priced as the foreign contract ticket, its attractiveness to the prospect is enhanced in other ways, such as requesting only one week's transportation pay in advance, eliminating all written forms and indorsements in purchasing and stressing its transferability.

If there was much reason in the objection to this



FIRST SHOT IN CAMPAIGN TO CAPTURE PRIVATE AUTOMOBILE USERS

town passed an ordinance to regulate jitney operation. The principal features were a \$5,000 liability bond for personal injuries; a \$2,000 property damage bond; owner's license fee of \$10 a year and a driver's license fee of \$5 a year; owner or driver must be resident of the city for at least six months; every bus to give at least sixteen hours continuous service and operate over designated routes only. The ordinance was enjoined by the jitney men and carried for argument up to the State Court of Appeals. This court approved the bonding and license charges, but held that the clauses concerning residence, hours and regularity of service were unreasonable and invalid.

From this it will be seen that the amended ordinance, which went into effect in April, 1921, imposed no particularly weighty burden except the two liability bonds. The jitneys remained practically unmolested. Indeed, the various efforts made to simplify downtown parking and routing rules indicated a belief that they were to remain a factor in local transportation.

At present a maximum of some 250 jitneys, mostly touring cars, are licensed. Of these, not more than 140 have been observed in daily operation during the early part of December. As the jitney fare is generally 10 cents and jitneys are encouraged rather than hindered by industrial depression, it is fair to assume that much of the recent drop in numbers has been effected by the



transferability, it would certainly be revealed by figures showing a higher average number of rides per pass per diem than abroad. Actually, the figures for both Racine with 63,000 and Youngstown with 146,000 are much lower than Blackpool's. In Racine, the number of revenue rides (viz., after allowing for what would otherwise be transfers) averages 3.8 a day. In Youngstown, the net average is somewhat less because the bigger the city, the smaller the proportion of people who can go home to lunch since distance and time tend to offset the cheapness of the ride.

Therefore, while the gross number of rides per diem per pass in Youngstown has averaged 4.2 to 4.3, the actual net rides per passholder; *i.e.*, excluding transfers, is considered about 22 per cent less or 3.3.

The average number of rides per pass has remained consistent from the very first week. Ordinarily, one would expect that the first week or two would show a maximum figure because the first buyers would be likely to contain all those people, like solicitors, errand boys, agents, etc., whose riding is abnormally high. However, the sale of the pass was pushed with such vigor that this effect did not appear. Those who were added to the ranks in later weeks must have averaged less rides than the general averages show, but as no drop appears it may well be supposed that experience with the pass leads to its greater use. The gross average throughout November was 4.3 rides except in Thanksgiving week, Nov. 21, when it dropped to 4.2.

On the whole, it is firmly established that while passholders do ride more they do not spend all their time on the cars nor scheme how to get others to do so. As in the case of the Schaddelee monthly club fee plan, the holder has a privilege which he values too highly to transfer freely.

#### ABSENCE OF TANGIBLE TOKEN HAS NOT PREVENTED AN INCREASE IN REVENUE

An entirely pertinent question raised in connection with the use of the pass is that of properly accounting for this class of riders as distinguished from those who give up a tangible token in the form of cash, ticket or transfer. No special difficulties offer themselves in this direction on foreign street railways for the reason that when a ticket inspector boards a car every passenger must show either a receipt issued for the trip under way or else a pass good for the section on which the ride is being taken.

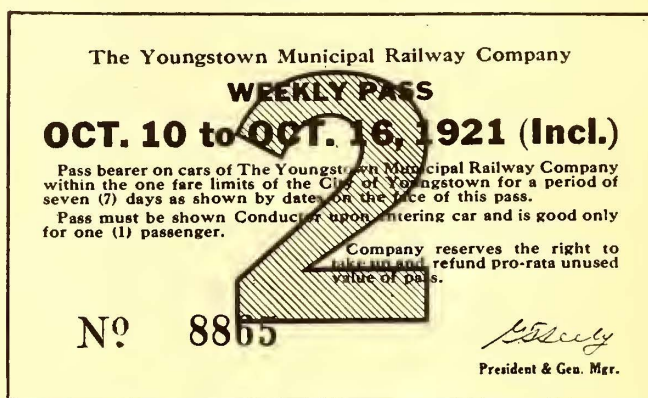
On American street railways, of course, it is not usual to issue receipts except to zone-fare riders; nor is it customary to have an inspector examine the transportation receipts or tickets. A pass, therefore, would simply be shown to the conductor on boarding. If it were a multi-zone pass, it could be shown both on leaving and entering the car. The latter practice is that of the London Underground Railway except that the "seasons" (passes) are shown not to trainmen but to a gate-man at both the entrance and exit stations.

In the practical application of the pass at Racine in the late summer of 1919, it was soon found that the rides taken per pass were so steady that continuation of its registration seemed unnecessary and was therefore discontinued. The original plan was to have the passenger drop cash fares or metal tickets in Johnson counting-type fare boxes, while every presentation of a pass was rung up on an old transfer register. This practice was retained until the addition of some cars without registers brought up the question whether it was worth

while to spend the extra money. The management then decided that the relation of pass sales to the known traffic conditions on different routes was sufficiently clear to make the special registration unnecessary.

The larger the city, of course, the more difficult it is to keep track of all the factors that influence riding. Hence the application of the pass to Youngstown with its 146,000 instead of 64,000 population was a bigger problem in accountancy. Nevertheless, theories must always give way to realities. The realities are that both riding and revenue have increased with the coming of the pass; and that the relationship between increased riding and increased revenue is about what might be expected when the great reduction in the cost per ride is taken into account.

It is not pretended that no passenger ever gets by without presenting a current pass; but will anyone assert that any other method of fare collection secures all of the legitimate revenue? It is not alleged, either, that a dishonest conductor might not try to intercept cash or tickets destined for the box and ring up a pass presentation instead. As a matter of fact, the pass riders con-



A SAMPLE OF THE YOUNGSTOWN WEEKLY PASS

stituting two-fifths of the total traffic cannot be tampered with at all. There will always be some stealing, some indifference and some indulgence under any form of fare collection. The ultimate thing always is: Is more money coming into the till?

To clarify the reference to fare collection, it should be stated that the practice at Youngstown is to use a locked Cleveland box for cash and paper tickets, while the passes are rung up on the "ticket" side of the register. The attention of the platform men to this rule seems pretty clear from the fact that the number of rides shown per pass varies by no more than one-tenth ride per day, the high figure being 4.3 and the low, 4.2. By this time the management knows quite well what it may expect from different conductors and different routes under given conditions of traffic activity, for experience and the law of averages will be quick to betray any abnormalities.

One thing the management did learn at once, namely, the sales ability of its different conductors. Another matter about which it gained useful information was with regard to the localities from which it can expect the largest proportion of steady customers. This is taken up elsewhere in a discussion of how differentials in fare differentiate the riders.

It has already been brought out that while the passholder is theoretically in the position to ride all the time, he really does not take more than 4.3 gross (with transfers included) or 3.3 net rides a day. For this



privilege he pays \$1.25. This amount is equivalent to fifteen rides at the 8½-cent ticket rate. Cash riders are hardly likely to continue paying 9 cents per ride if they ride as often as this; and it is questionable whether even the ticket customer averages more than that number, counting all extra riding. Where jitney competition exists, the ticket rider is almost as likely as the cash rider to take a jitney if it comes first. The pass rivets the rider to the street car. Therefore, the concession at Youngstown must be read in the light of the fact that there was jitney competition to consider, and that this competition had led to unavoidable waste in car-mileage. The low price of the pass in relation to an equal amount of ticket or cash fares is not only a reward for wholesale patronage but also for exclusive patronage of the railway.

The passenger who previously paid an extra cent for a transfer is the greatest gainer. Instead of 9½ cents his fare averages practically 5 cents, but to make up for it he takes about 3½ net rides a day. Of these rides, two may be considered as the usual industrial rides; the others are off-peak rides and also much shorter in length of haul. A passholder has no hesitation about riding half a mile or less. It costs him no more and gives him a special feeling of superiority over those who do have to count the cost every time they might want to ride.

It has been said that the street car ride is no longer a thing desirable for its novelty or superiority; but it is the medium to many desirable ends. That form of charging, therefore, which does most to make these ends easier to attain is the one to use if the street car and its supplementary bus are to meet with maximum public favor. The record at Youngstown surely does show that the humble and humbled car ride need not be confined to the class of things that one uses as little of as possible.

#### THE PASS REVEALS THE STEADY AND NON-STEADY CUSTOMERS

A study of the fluctuations in the number of different classes of riders during the period under review discloses that each is differently affected by traffic stimulants or depressants. The cash rider is the most sensitive to these; the pass rider, the least sensitive.

Even as between cash and six-for-50-cent-ticket riders there is revealed a strong difference. Proof is afforded by the weeks of Sept. 19 and 26 before the inauguration of the pass. The traffic of the latter week shows an increase of 8.9 per cent in the cash riders, whereas the ticket sales increased but 0.9 per cent. In this week of Sept. 26, the number of cash and of local (8½ cent) ticket riders were close together, namely, 119,240 against 120,328. Ticket buying may also be influenced by the date of pay day at the mills.

It was during this last week preceding the pass inaugural that the company publicity campaign was at its crest. This advertising (see "Selling the Ride at Youngstown," Nov. 19, 1921) was of a nature to call forth the most favorable reaction and must have had its share in attracting the patronage of that class which does not use the service often enough to buy half a dozen tickets at a time. Indeed, the continuous car window-card advertising must be credited with a share of any success the pass itself enjoys.

A further differentiation of the traffic was revealed when the passes went on sale for the first week, beginning Monday, Oct. 3. On comparing this week with Sept. 19, it will be observed that there was almost no

#### VARIATIONS IN SALES OF DIFFERENT CLASSES OF FARES YOUNGSTOWN MUNICIPAL RAILWAY, SHOWING THAT MAXIMUM FARE RIDERS HAVE NOT BEEN AFFECTED IN NUMBER

Week Begun	All	9c. Cash	All Tickets	Passes	Transfers
Sept. 19.....	317,184	113,108	129,799	.....	74,278
Sept. 26.....	331,877	123,239	130,931	.....	77,507
Oct. 3.....	378,006	112,582	92,652	119,389	53,383
Oct. 10.....	398,575	111,803	91,179	144,041	51,272
Oct. 17.....	382,421	105,427	88,730	145,637	45,626
Oct. 24.....	405,373	112,443	91,489	151,194	50,247
Oct. 31.....	418,938	113,320	97,575	160,567	47,476
Nov. 7.....	434,327	123,142	100,259	157,706	53,220
Nov. 14.....	442,684	111,367	99,012	179,417	52,888
Nov. 21.....	426,162	117,790	94,942	159,222	54,208
Nov. 28.....	433,831	114,465	101,890	170,819	46,657

drop in the cash or full-fare riders, merely, 113,108 to 112,582, or less than normal fluctuations from week to week. Apparently, these people averaged so few rides a week that they had no interest in any wholesaling plan. The average number of cash riders in the following eight weeks of the pass is on the order of 113,000 to 114,000, with a general rising tendency.

As was expected, a substantial cut was made in the ranks of the 8½-cent ticket purchasers for some of the people must have been pretty steady riders. The drop, compared with Sept. 19, was from 119,240 to 81,322 or nearly one-third. The table shows that this classification is crawling up, the more recent ticket sales on regular city lines running around 90,000 a week and more.

Almost always as one scans the record of week to week, it is seen that cash riders fluctuate much more in numbers than do ticket riders. It will also be found that pass riding and single-trip riding respond differently to the same conditions. Election and Thanksgiving weeks (Nov. 7 and Nov. 21) showed a fall in pass sales and riding because the shrewdest element among the pass-holders reasoned they would not save in those weeks. This element so far has caused variations up to 7 per cent. Apparently, Thanksgiving was more widely celebrated as a holiday than election, for in election week the drop in pass sales over the preceding week was only 2.4 per cent. On the other hand, a holiday is likely to bring out the patronage of rare customers who make trips outside their usual paths, such as visits to friends, attendance at games, etc.

It is to be expected that as the company's service through the addition of safety cars improves while the jitney service declines the railway will secure a larger number of casual customers, whether cash or ticket. For all that one cannot lose sight of the fact that week after week more than 113,000 riders continue to pay the top fare, although the pass would cut their price per ride almost in half. This fact, as well as the heavier fluctuations in this class, indicates that sometimes this type of patron walks and sometimes he rides, depending upon weather, upon changes in his usual travel habits, upon his having packages to carry, upon being anxious to get to work on time, etc. In Sept. 19 week, 113,108 cash riders brought about one-half the revenue; in Nov. 28 week, 114,465 cash riders brought about two-fifths of the revenue.

In conclusion, it may be mentioned that in September weeks just before the pass was put on, the percentages of each class of riders was as follows: cash 39 per cent, tickets 38 per cent and transfers 23 per cent. The pass has altered this to: passes, 36 (to 40) per cent, cash 27 per cent, tickets 20 per cent and transfers, 13 per cent.

The foregoing analysis is based upon data from the officials of the company and Walter Jackson, who was engaged to aid in installing this plan.



# Rerouting in Manhattan

Commission's Engineer Recommends Radical Changes in Surface System, Abandonment of 100 Miles, Much Higher Speed, Right of Way to Cars on Tracks, No Parking of Vehicles in These Streets During Rush Hours, Use of Trailers, and Other Changes

ONE of the most interesting parts of the testimony during this past week at the traffic hearings in New York was the report submitted on Tuesday, Dec. 20, on rerouting in Manhattan by Daniel L. Turner, the commission's consulting engineer. Mr. Turner's testimony was accompanied by two maps illustrating his ideas in regard to tracks to be abandoned. They are reproduced herewith. The upper map shows the routes recommended; the lower map shows by heavy lines the routes recommended for abandonment by Mr. Turner, and by light lines the routes to be retained. An abstract of Mr. Turner's report follows:

### MR. TURNER'S TENTATIVE REROUTING PLAN

The proposed rerouting plan for Manhattan recognizes:

1. That a new system of surface lines is needed that will permit the most convenient and freest circulation about the borough for a single fare and with a minimum amount of transfer; and that will have sufficient capacity to meet all the traffic requirements.
2. That the vehicular congestion in many of the streets of Manhattan—particularly in the important north and south thoroughfares—has nearly reached the limit.
3. That it is of paramount importance that consideration be given to the needs of the vehicular traffic as well as to those of surface car traffic, to the end that additional capacity for vehicular movement may be secured, it being recognized that new north and south thoroughfares are practically impossible because of prohibitive cost.
4. That, therefore, the rerouting of the surface lines in

Manhattan should be accomplished in such a manner as to utilize for the purpose the minimum number of north and south streets which is possible, without detriment to the convenience and capacity of such new surface line system.

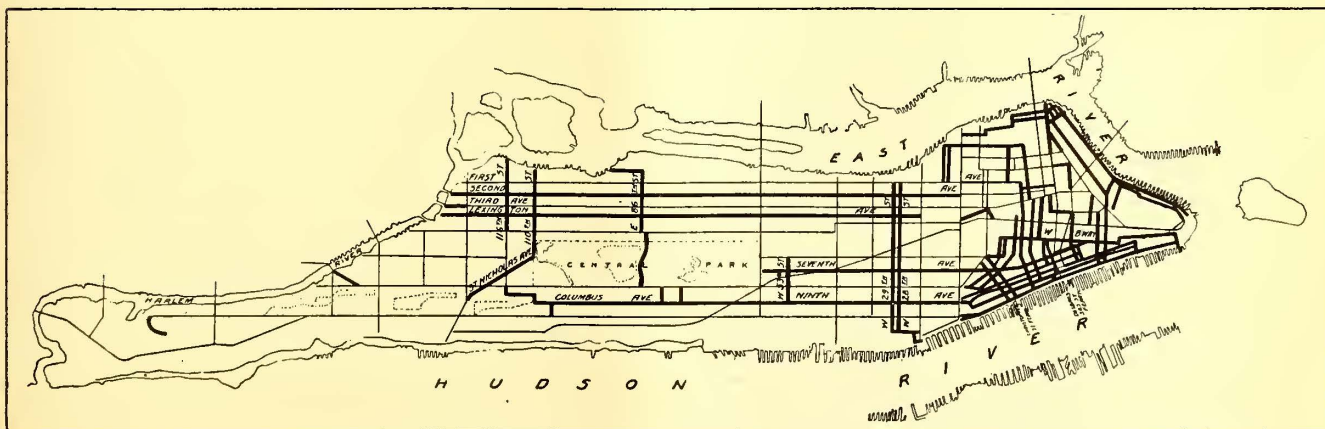
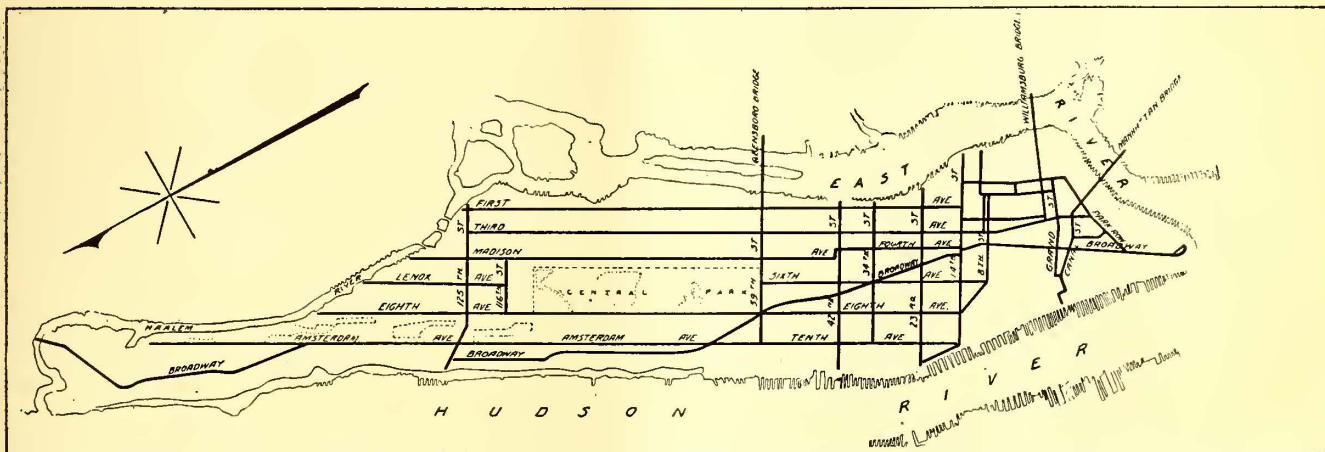
Based upon the foregoing principles:

(a) The new surface car system is to utilize approximately 148 miles of single track—or about 100 miles less trackage than is now in the streets.

The present lines operate over approximately 226 miles of single track. There are 22 miles of track in the streets that are not now being used. The minimum amount of trackage controlled by a single company is 3 per cent; the maximum 35 per cent of the total. Much of the trackage is the result of the competitive development of the different companies in times gone by. One company following another in the field has attempted to parallel lines on which traffic had already been developed by its predecessor. In some cases, lines have been constructed closer together than necessary for public convenience. In this way the borough has been over-built with surface car tracks. The total trackage, used and unused, amounts to about 248 miles of single track. It is proposed to abandon a total of about 100 miles of single track now in the streets, or about 40 per cent of the total.

In abandoning the lines the aim should be to effect as much of a reduction in trackage as possible without impairing the ability of the remainder of the street car system to serve the public with the maximum convenience and with adequate capacity in conjunction with the rapid transit system.

(b) A rerouting plan has been developed for operation by one company. The surface cars in Manhattan are now being operated under nine separate operating companies.



THE UPPER MAP SHOWS THE SURFACE LINES IN MANHATTAN WHICH MR. TURNER RECOMMENDS SHOULD BE RETAINED. THE LOWER MAP SHOWS THE PRESENT SYSTEM, THE LINES WHICH HE RECOMMENDS SHOULD BE ABANDONED BEING INDICATED BY HEAVY LINES



Each operating company largely routes its lines over the tracks which it owns or controls, whether or not such lines serve the public most conveniently. No one of the companies controls trackage serving all parts of the borough. Consequently no single company can furnish a comprehensive and convenient service.

Under the rerouting plan the sole idea has been to lay out lines that will serve the public most conveniently and adequately. No consideration has been given to track ownership. Under one operator instead of nine this is possible.

(c) The rerouting plan provides for the operation of twenty-five lines. The nine Manhattan companies now operate thirty-five different lines. It is proposed to reduce the number of lines by nearly a third.

On thirty of the most important lines now operated, only 1,069 cars operate homeward during the maximum rush hour. This is an average of less than thirty-six cars per hour per line. The minimum movement in cars per hour was eight on one line and the maximum was ninety-eight on another line. Some of these lines operate over the same tracks. But when it is recognized that a twenty-second headway, which is not an unreasonably close headway under proper conditions, will permit 180 cars per hour to travel over a single track, it is obvious that the trackage available in the Manhattan surface car system is not being utilized to anything like its capacity. This means that the trackage now being used may be reduced. This in turn means a reduction in the number of lines operated, so that the total surface car traffic available will be distributed among fewer lines. Such a reduction in trackage can be carried out to a considerable extent and still retain enough trackage to permit a sufficient number of cars to comfortably transport all the surface car traffic. The rerouting system which has been developed has taken this condition into account, but enough trackage should be retained to accommodate all the traffic that can be induced to utilize the surface lines. The greater the use of the surface lines, the greater the relief which will be afforded on the rapid transit lines, until such times as the rapid transit facilities can be increased sufficiently to meet the traffic requirements.

(d) The new system of lines is proposed to include eleven interborough surface lines designed to conveniently connect the Manhattan surface system with those of Brooklyn and Queens.

Now, except in some minor instances, it is not possible to board a car in Manhattan and travel any distance through the other boroughs. Usually, such car lines as cross the river stop at the bridge terminal in the contiguous borough. It is proposed to create interborough routes—routes that really will traverse the streets in each borough and will permit a considerable interchange of travel from one borough to the other without transfer. Using such routes, with a free transfer and with an additional fare transfer—or for two fares—most points in one borough will be conveniently accessible to nearly every section of the other borough. From the standpoint of public service the interborough lines proposed should be operated as Manhattan lines. The advantage of this method is that it affords passengers from a considerable portion of the outlying boroughs an opportunity to enter into and traverse the central borough for a single fare.

(e) The speed of cars over the surface car tracks should be increased from the present speed to 10 m.p.h., if possible, thereby improving service and inducing a greater use of surface cars, to the end that the surface car system may carry a greater proportion of the rush hour traffic.

Surface car traffic is, as long as surface cars form a component part of the city's transit scheme, a necessary service, and should be given the right of way over other classes of street traffic during the hours of heaviest movement, that is during the morning and night rush hours. In other words, during this time of day, morning and night, the principal business of the city is to get its workers from their homes to their work or from their work to their homes. All vehicles should be kept off the tracks during these hours, and no parking of vehicles in car streets should be permitted. The police power should be utilized to the utmost to push forward the car movement during these hours of the day. At the present time the speed of movement over surface car tracks in Manhattan gets down nearly as low as 5 m.p.h. an hour on a number of lines, whereas cars ought to be operated at an average speed of 10 m.p.h. Such an increase in the speed of car movements has many advantages. It shortens the time of travel between home and work, thereby promoting the use of the surface cars by workers during the rush hours, and thereby permitting them to perform to a higher degree their functions in the

transit scheme. Increasing speed also decreases operating cost materially. It reduces the amount of equipment required. And in every way it is a desirable thing to accomplish.

(f) The capacity of the new system should be increased during the rush hours by the use of trailer car operation.

There is no better way of taking care of the heavy overloads during the rush hours than by the use of trailer cars. Such operation should be utilized wherever traffic conditions require it. It will increase capacity and consequently reduce congestion, and improve traveling conditions during the rush hours. With the removal of vehicular traffic from car tracks during rush hour periods and in other ways accelerating the car movement trailer operation can be made use of to better advantage.

(g) Bus operation should be used as feeders and to supplement surface lines wherever traffic requires it. Generally buses should be employed on crosstown lines where tracks have been abandoned and on other routes where traffic may justify such operations. Bus routes have not yet been planned in detail. The question will be dealt with later.

(h) Surface car operation is to be eliminated from the lower west side of Manhattan below Fourteenth Street. In this section, the streets generally are narrow, the trucking intense and the surface car movement is necessarily very slow. Consequently very little traffic is carried on the cars routing through this section. It is proposed to abandon all car lines here, except two crosstown lines. The rapid transit lines traversing the territory are numerous. If additional facilities are needed, bus lines may be inaugurated.

(i) Second, Lexington, Seventh and Ninth Avenues are to be utilized exclusively for vehicular traffic—surface tracks are to be removed.

There are 180 cross streets on the east side and 260 cross streets on the west side of Manhattan. Only eleven avenues traverse Manhattan north and south and serve all of these cross streets. This small number of avenues is wholly inadequate for the enormous amount of vehicular traffic which must use them. Despite this fact, every one of these north and south thoroughfares is occupied for some distance by surface car tracks. The surface cars interfere with the vehicular traffic and the vehicular traffic delays the surface cars. Consequently the service is most unsatisfactory, both for cars and for vehicles.

It is proposed that the four avenues named above be used exclusively for vehicles. By rerouting the Fourth and Madison Avenue line into Broadway at Union Square, Lafayette Street and Lexington Avenue will be free for fast moving vehicles from one end of Manhattan to the other, on the east side. At some future time, in order to improve the connection between Fourth Avenue south of Fourteenth Street and Irving Place, the continuation of Lexington Avenue north of Fourteenth Street, a new street should be cut through the block between Thirteenth and Fourteenth Streets joining Fourth Avenue and Irving Place.

On the west side of Manhattan, Varick Street and Seventh Avenue via Central Park will provide a thoroughfare for fast moving vehicles from lower to upper Manhattan. Second Avenue on the East Side and Ninth Avenue on the west side with the street car tracks removed can accommodate heavy trucking. With such free ways provided for vehicular traffic, it will be easier to regulate such traffic along surface car streets. In other words, the movement of both cars and vehicles will thus be accelerated.

#### OTHER POINTS BROUGHT OUT

In his discussion of this report, Mr. Turner made some additional observations. He said, in the first place, that the report represented only his own views and was submitted simply for future consideration by the commission. It was based on the idea of utilizing for surface car operation the minimum number of north and south avenues possible, without detriment to the convenience and capacity of the surface car system, and then to utilize these lines as efficiently as possible. He did not discuss the legal method by which the so-called "abandonment" of the lines could be accomplished, but said "yes" when Counsel Shearn asked him whether he did not recognize that even the 22 miles of unused track now in the street could not be removed, or if it could be removed, could be taken away only with difficulty and after tedious litigation, owing to the companies' cling-



ing to franchise rights. Mr. Turner added that improvement of the situation depended on co-ordination of all vehicular traffic and a comprehensive treatment of the situation as a whole. The disadvantage to vehicles and trucks in compelling them to keep off the car tracks during rush hours was compensated for when other streets were given over exclusively to vehicular traffic.

His thought in regard to buses in Manhattan would be that they should first be put on the crosstown streets

not served by car lines. He said that evidence before the commission had shown that the cost of transporting a passenger in a decently conducted bus line is considerably in excess of 5 cents, and that if a 5-cent fare was charged for bus with transfer to car, the excess in cost would have to be absorbed by the system as a whole. The capacity of a bus is limited because standing passengers cannot travel in it as comfortably as in a car. Mr. Turner recommended a universal transfer.

## Selling the Employee on Salesmanship—I

Persuasive and Sincere Talks to the Employees of the Detroit Municipal Railway Have Met with Singular Success—Safety Talks at Schools and Public Meetings Help to Make Transportation More Readily Salable

BY B. R. BIGELOW

Sales Manager of Transportation, Department of Street Railways, Detroit, Mich.

TRANSPORTATION salesmanship might relatively be spoken of as the trunk of some sturdy tree. It has attained its measure of sturdiness because its vigorous roots reach out in every direction and feed that trunk of transportation salesmanship with the very essence of the ideas which are necessary to its development. The organic soil about this tree must be of the quality productive of its best growth. As the sales manager of transportation, it is my duty to enrich that soil with just the kind of environment that should give a perfect result.

In this position my duties may be stated briefly to consist of the supervision of the school of instruction for car operators, the following up of any complaints of service, the giving of safety talks to school children and to others at public meetings, and interesting myself in any other matters pertaining to the manufacture and sale of transportation. A course of instruction is given which not only has a bearing on actual car operation but also aims to educate the men along the lines of transportation salesmanship. We recognize that the car operator is the department's point of contact with the public and therefore try to make a salesman of every platform man, to the end that passengers may not only have a safe trip on our cars but an enjoyable one as well.

Every man, I believe, in the beginning of his service with us is possessed of certain undeveloped resources of salesmanship. With some they need only to catch the idea of merchandising transportation in order to develop their talent, while with others the process is much slower. I have found that the human side of affairs of life offer an inexhaustible and interesting study.

In line with spreading broadcast the safety-first idea, I am at present engaged in giving a series of safety talks to the children of the public schools. These talks are given in the auditoriums of the schools, with the full co-operation of both the principals and teachers. With this type of audience it has been my aim to make the talks short and concise and to have them well illustrated with stories.

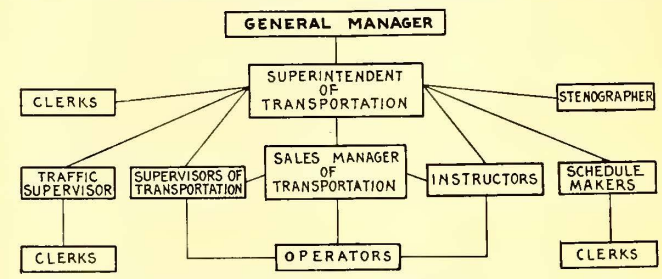
In the following sales talks I have endeavored to keep in mind two things, brevity and conciseness, and have

also tried to confine myself to one definite phase of the fundamentals of making transportation a more salable commodity.

### Sales Talk I—Introduction

Salesmanship is an art worthy of the best thought and study of the electric railway men of today. In this and succeeding articles I aim to visualize the qualifications of a successful transportation salesman. You will ask, perhaps, "Why is salesmanship necessary in electric railway transportation. There are the streets, the cars and people to ride; what more is necessary?"

The electric car supplanted the horse car and became at once a favorite means of transportation. No private



HOW THE SALES MANAGER OF TRANSPORTATION FITS INTO THE OPERATING ORGANIZATION

means of conveyance could then approach it in speed and general comfort. Electric lines were freely patronized by every one, whether bent on business or pleasure. The electric car in those days was like an ice cream counter on a hot day—everybody patronized it.

Under these conditions instructions to the operating men were for the most part negative and seldom positive. In other words, they were told what not to do, instead of what to do, as is the case in transportation salesmanship. Shortly after the advent of the electric car other developments having a bearing on car operation took place, such as the construction of improved roadways and sidewalks, thereby inviting pedestrians.

Automobiles designed for private use are now almost universally owned and operated. Those of us who do not own one are quite ready to accept at any time an invitation to ride. Many such invitations are, of course, given and accepted, and whatever their ratio may be, by just so many do they detract from the maximum possible number of car riders. It must be obvious to all that the

[NOTE.—Mr. Bigelow's series on transportation salesmanship comprises five talks, two of which are included in this article. The remaining three will appear in an early issue.—EDITORS.]



number of people thus given free rides has greatly increased with the passing of the last decade. In many localities today the electric car must also vie with the public service auto. The trolley man of the present must, therefore, be more than a mere trolley man; he must be courtesy personified; in other words, he must be a transportation salesman.

The best waiter in hotel or restaurant is the one who anticipates your wants. The best trolley man of today is the one who anticipates the wants of his passengers. He does this in no small degree by distinctly announcing the streets so that passengers are not obliged to watch for their stopping places.

A trolley man should acquire a complete general knowledge of the city, should have at his tongue's end the location of all public buildings, churches, halls, schools, etc. In other words, when occasion requires he should constitute in himself, in so far as possible, a bureau of information, dispensing such information in a courteous manner. He should always exercise for the tired mother with her babies and bundles particular courteous attention. Patience is indeed a virtue, but in her behalf it is doubly so. This same rule should apply to passengers who are aged and infirm.

He should make from any extreme or unusual occasion opportunities for salesmanship. By way of illustration: In a neighboring city one night a car was being operated from down town to the residential district when suddenly a terrible rainstorm came on. At a street intersection stop, which constitutes the natural line from business activities to home environments, the operator addressed his passengers practically as follows:

"Ladies and Gentlemen: On account of the severe storm I will be pleased to make stops other than the specified ones, wherever such will make for your convenience. I shall look to you for the needed information."

As a result, for the remainder of the trip, he stopped opposite many homes, reached the end of the line on time, and no doubt gained for the company the gratitude of a carload of passengers. Such, you say, was more than courtesy. Yes, it was. It was transportation salesmanship.

### Sales Talk II—Development of Salesmanship

We will assume it is agreed that transportation salesmanship is desirable, but how can such a condition be brought about. In any industrial enterprise men are brought together from almost every walk of life. Their standards of living differ widely and their traditions are not the same. Must we then fold our hands and calmly agree that it is a beautiful dream, but cannot be put into active operation?

Do not be discouraged by the critic. The critic is usually pessimistic, generally selfish and never an enthusiast. To the average critic good intentions are regenerated by the enthusiast. The enthusiast commences where the critic leaves off. Obstacles pointed out by the critic become just stepping stones to the enthusiast or, in other words, obstacles are made opportunities by the enthusiast because he overcomes them.

This very municipal enterprise has been brought to its present development in face of organized opposition. Every one of us now has an important part to perform in its further development; you as individual trolley men are now called upon to represent the railway department of this city. The opportunity is thus thrust out to you.

Will you grasp it and make it a stepping stone to individual industrial success or will you let it slip through your fingers? It is through you that the citizens of this city will see and know its railway department, and its standards will be judged by your standards; its courtesy and efficiency by your courtesy and efficiency. You and I should make of our organization an industrial democracy, and the qualification of a successful transportation salesman will be added to those which you already possess.

Industrial democracy—what do I mean by industrial democracy? We say a man is democratic when he is courteous, kindly and easy of approach. We say he is democratic when he lives with a full consideration of the rights of others. We say a man is industrious when he confines himself diligently to his business. If you would be living examples of industrial democracy you will not only be devotedly attentive to business but also devotedly attentive to the rights of others. What a fine motto to hang over the door of our motormen's and conductors' room, "This is an Industrial Democracy."

Industrial democracy might well be called a universal creed because it forms in itself a common ground on which men of every tradition can stand and sing its praises. Industrial democracy invites friendship, friendship invites co-operation and co-operation will bring success.

### Emergency Power Furnished by Moving a Complete Substation Set

A COMPLETE motor generator was moved intact from one substation to another to relieve the emergency power situation which developed at Ardmore substation of the Los Angeles (Cal.) Railway on Saturday, Dec. 3. One of the machines in that substation was damaged by power interruptions resulting from the wind storm. Ordinarily the job of dismantling and reassembling the machine would have occupied a week.

Insulation on one of the Ardmore generators was burned out by a sudden surge of power which followed interruptions of thirty and forty-six minutes. It looked at first like a two weeks job, but it became apparent that the repair work will take until after the first of the year.

The generator was moved from the Soto Street substation. Work began at 8 a.m. Tuesday and continued steadily for twenty-four hours. The job was finished so the generator could be used Wednesday morning.

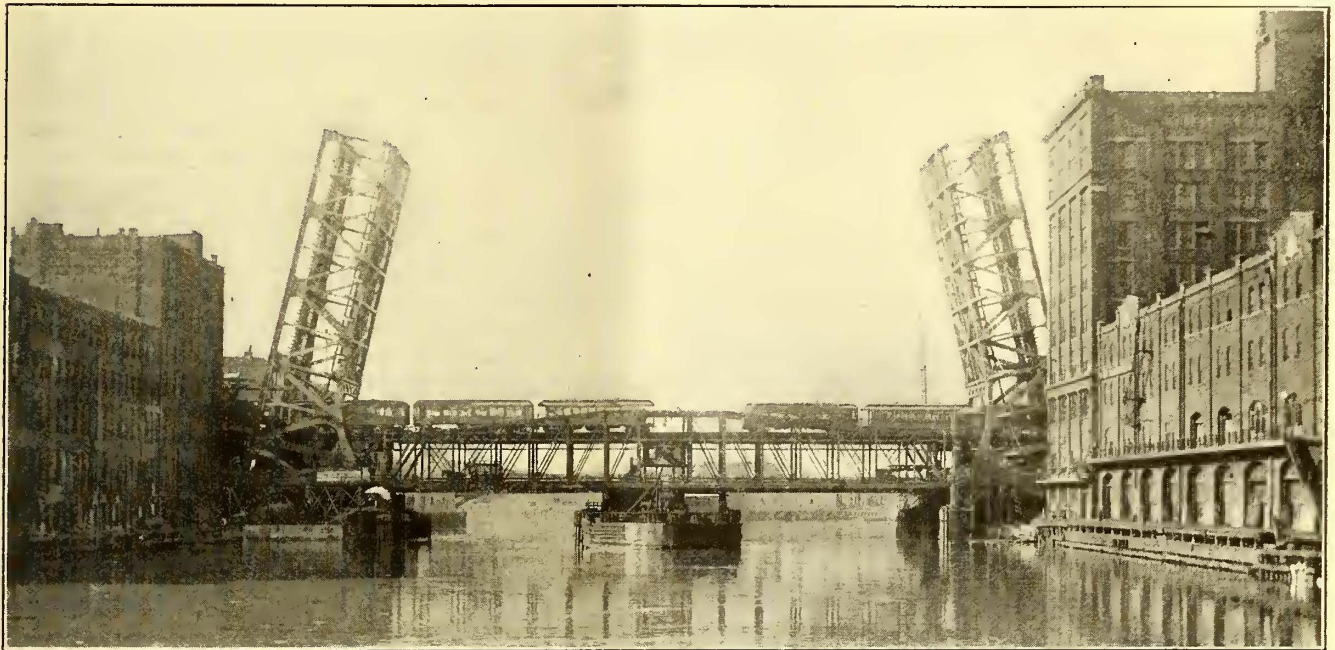
An interesting angle in the case is the fact that residents of the Melrose district, in which the trouble occurred, had blocked efforts of the Los Angeles Railway to build and equip an automatic substation in that territory. By their protests to the City Council, permission for the work was withheld. The railway made use of the opportunity to inform the public that opposition of a few citizens had blocked the power program and that if the substation construction had been permitted, the work would have been completed and the resulting inconvenience of curtailed service would have been avoided. Considerable newspaper advertising and publicity was devoted to the subject.

A count made in the month of October showed that an average of between 250 and 300 passengers per day were then traveling by motor bus from San Francisco to Los Angeles, a distance of 482 miles. During the summer months, when the roads over the Siskiyou Mountains are in good condition, there is motor bus service from Portland, Ore., to San Diego, Cal.



# Handling Traffic on Chicago "L" During Bridge Replacement

Construction Work Quickly Done, Including Full Interlock Protection  
for First Train Over Bridge—Difficult Traffic Problem  
Encountered in Rerouting Trains



NEW BASCULE BRIDGE READY TO DISPLACE OLD SWING BRIDGE AT WELLS STREET

**R**EPLACEMENT of the swing bridge over the Chicago River at Wells Street with a double-deck bascule bridge recently involved some very difficult construction and traffic problems for the Chicago elevated railroads. All trains serving the North Side pass over this bridge. While construction of the new bridge was practically completed with the old bridge in place, the final steps in placing the new bridge in service required that the elevated service over the bridge be suspended for a short period. The time for interrupting service was therefore selected so as to involve the minimum traffic.

The bridge was closed to traffic at 8:05 p.m. on Friday, Dec. 2, and the first train passed over the new bridge at 7 a.m. the following Monday. The work was thus completed so that only one regular rush-hour period (that of Saturday morning) had to be handled without through service.

When service was stopped over the bridge on Friday night, the first work done was that of dismantling the old bridge. The elevated forces removed the rails, guard rails, power rails, the interlocking system, etc., from the bridge within six hours. The bridge contractor then swung the bridge parallel with the stream and proceeded with acetylene torches to cut away the central portion of the old bridge to make an opening into which the new bridge could later be lowered. Simultaneously, the steel work of the floor system in the shore panels of the new bridge, which had been omitted to permit the operation of trains through the bridge as it stood in the vertical position, was riveted in place. It was also necessary to remove the approaches for the old bridge and build in those for the new one. All of this was done and the new bridge lowered into position ready for the work

of the elevated forces on Sunday night at 10 p.m. The work of completing the new bridge was not carried on through Saturday night, for while an abundance of artificial lights had been supplied by the elevated lines to aid in the work, the shadows cast made the contractor fearful of night work.

As the work to be done by the elevated railroads, however, was all up on top of the structure, this could be very easily floodlighted and the work done at night. The lighting was supplied by two banks of lamps and powerful reflectors located on a 40-ft. pole at either end of the bridge and consisting of five 1,200-watt lamps in each bank. The illumination was excellent but the work was somewhat complicated by snowfall during Sunday night.

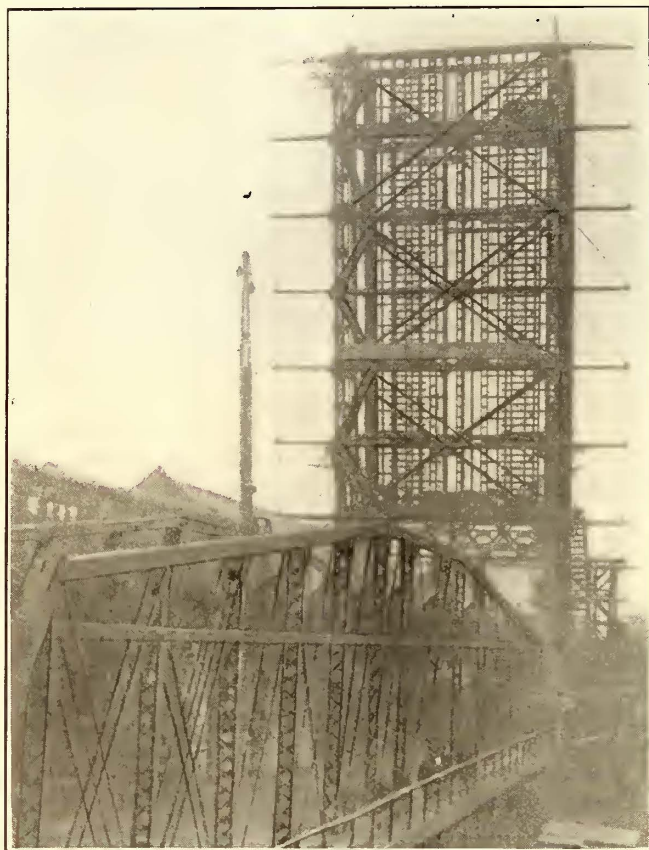
Beginning at 10 p.m. work was started to lay the ties, run rails, power rails, guard rails, connect up power cables which had been previously laid on the bridge, install the electro-pneumatic interlocking system, bond the rails, etc. All of this work was completed so that the first train passed over the bridge at 7 o'clock on Monday morning under full protection of the interlocking system. The most difficult part of this mechanical work was the placing of the twenty-four cast manganese bridge rails, which require a very exact installation. About 100 men were used in this work by the elevated lines and 110 by the bridge contractor.

An accompanying illustration shows the two leaves of the new bridge in their raised position with the old bridge still in place. When completed the new structure will be one of the largest and heaviest in Chicago. The clear span from face to face of the concrete piers is 231 ft. The total width of lower deck is 72 ft., providing a roadway of 38 ft., curb to curb, and two



sidewalks with a clear width of 13 ft. 6 in. each. Besides the vehicle and pedestrian traffic the lower deck will carry the loads of two street car tracks while the upper deck supports the double tracks of the elevated railroad.

During the interruption to through traffic on the elevated lines, North Side passengers were handled in and out of the North Water Street stub terminal. As this terminal has but two tracks and the total number of northbound passengers during the rush hour from 5 to 6 p.m. on a normal day is more than 28,000, it may readily be imagined that the task was considerable of an undertaking. Fortunately, the work on the bridge progressed so satisfactorily that it was necessary to handle only one heavy rush-hour service without the bridge. The normal off-peak serv-



RAISED BASCULE OF WELLS STREET BRIDGE DURING CONSTRUCTION

ice could be handled very nicely in and out of this two-track, three-platform terminal. The Saturday workward peak was handled by arranging to unload four trains simultaneously at the Kinzie Street station and North Water Street terminal. The trains were moved in groups of four from the cross-over just north of Grand Avenue station, as seen in the accompanying sketch, the two leading trains making no stop at Kinzie Street, but going direct into the two pockets at North Water Street. The third train was operated over the West track to Kinzie Street station, and the fourth train, to Kinzie Street station over the East track, both unloading at this station. As soon as the unloading was completed, train No. 3 was run back on the west track to the first cross-over, clearing before No. 4. Trains Nos. 4, 1 and 2 were then operated northbound in the order named, on the east track. The movement of the second group of through trains was then started as soon as No. 3 cleared the west-

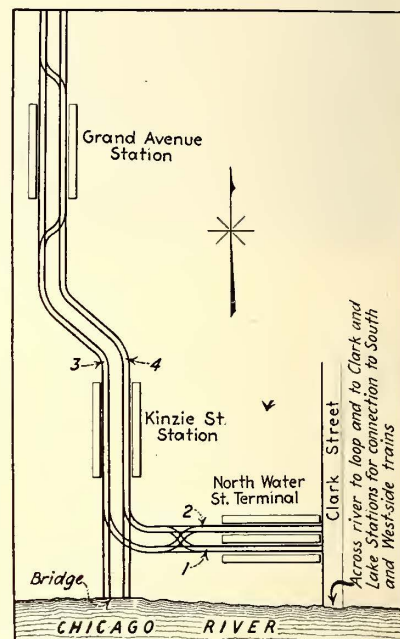
bound track on its return movement. By thus unloading four trains at a time, it was found possible to handle fifty trains an hour during this morning rush.

During the Saturday noon rush and the heavy Christmas shopping traffic all Saturday afternoon all southbound passengers were unloaded at Kinzie Street in order to preserve the full capacity of the North Water Street terminal for loading purposes only, this capacity having been placed at a maximum of 24,000 per hour. The platforms at the terminal were extended with wood construction to accommodate seven-car trains. A number of extra ticket booths were located on the sidewalk on Clark Street near the entrance to the terminal and station collectors with boxes located at the foot of the stairs so that passengers could be passed into the station to the full capacity of the stairs and doors.

A complete rescheduling of the Wilson Avenue, Evanston and Ravenswood trains had to be made in order to serve each division, provide sufficient local service, and get the maximum number of cars in and out of the terminal. The problem had many ramifications and involved a very complicated and detailed study in preparation for the emergency. This study included plans for handling the traffic during an evening rush hour, should the bridge for some reason not go into service as contemplated. Had this been necessary, it was planned to shut off all receiving

of northbound passengers on the loop during the rush hour, as it would have been impossible to unload them and discharge them from the platforms of the State and Lake and Clark and Lake stations for transfer across the river to North Water Street as fast as they would be received. Also, it would have been impossible to handle the full number of people, 28,000 or more, during the hour from 5 to 6 p.m., had they all desired passage from the North Water Street terminal, and some of them would necessarily have been delayed into the next hour. Fortunately, this shutting off of the loop stations did not become necessary.

Another problem involved in the cutting off of the through traffic was the handling of the passengers of the Chicago, North Shore & Milwaukee Railroad between the terminal at the Adams and Wabash station of the elevated, on the loop, and the necessary emergency terminus of these trains on the north side of the river. This was done with sixteen twenty-seat motor buses in a way which won many complimentary



SKETCH SHOWING FACILITIES FOR HANDLING "L" TRAFFIC IN EMERGENCY



remarks from the passengers. The inbound passengers were unloaded at Grand Avenue, from where buses took them by way of Michigan Boulevard to the terminal on Wabash Avenue. As inbound trains reached Wilson Avenue, each passenger was given a bus ticket on the back of which was printed instructions for leaving the train at Grand Avenue, explaining why this was necessary and also telling of the bus service to the loop. When the train arrived at Grand Avenue, therefore, the passengers were all fully informed, and instead of there being kicks, there was praise for the pains the company had taken to transport them to the usual destination.

Similarly, all passengers who came to the Wabash Avenue station of the North Shore line, to take trains north, were instructed by station callers to take the buses waiting which would carry them to the Grand Avenue station. As there was no track space on which the North Shore trains could be permitted to stand, it was necessary to schedule them to leave as promptly as they could be unloaded and loaded. The buses were therefore scheduled to leave the Wabash Avenue terminal at train time, and the trains were scheduled to leave Grand Avenue station just fourteen minutes later, giving the buses time to make the trip between these two points.

The buses used in this service were rented from the Chicago Motor Bus Company at \$4.50 an hour per bus, it requiring as high as ten bus loads to haul the people to or from some trains. While this service was expensive for the railroad, it was very much appreciated by the patrons.

### Coal Cost in New York Power Statistics

THE two accompanying tables were recently compiled by the accounting department of the New York Transit Commission and presented at a hearing of that commission by Frederick W. Lindars, chief accountant. Table I shows comparatively for the past eight years the pounds of coal burned per net kilowatt-hour and cost of fuel in cents per net kilowatt-hour generated at the power stations of each of the principal railway companies. Net kilowatt-hours generated are defined as the gross kilowatt-hours less the amount used at the generating station. Fuel cost is defined as the amount which is charged to operating expense account, "fuel for power."

Table II gives for the same companies and for the same periods the cost of fuel per ton of 2,000 lb. delivered in the bunkers. The steam generating equipment in the several power stations is not uniform, and some of the companies have found it advantageous to use a mixture of bituminous and anthracite coal to obtain the most economical results. The advantages of location of the power station on the water front and of economical coal-handling machinery is shown in the table.

An interesting comparison is brought out in the case of the Hudson-Manhattan Railroad, which indicates that while the cost of fuel per ton is very much less than that paid either by the Interborough or Brooklyn Rapid Transit Companies, the actual cost of fuel in cents per net kilowatt-hour generated is considerably greater than the same cost to the latter two companies.

TABLE I—POUNDS OF COAL CONSUMED AND COST OF FUEL IN CENTS PER NET KILOWATT-HOUR GENERATED BY THE RAPID TRANSIT AND SURFACE LINES IN NEW YORK CITY

	1914		1915		1916		1917		1918		1919		1920		1921	
	Lbs.	Cents	Lbs.	Cents	Lbs.	Cents	Lbs.	Cents	Lbs.	Cents	Lbs.	Cents	Lbs.	Cents	Lbs.	Cents
Interborough Rapid Transit:																
Subway division.....	2.02	0.29	1.95	0.28	1.91	0.28	2.01	0.31	2.11	0.38	2.17	0.59	1.90	0.54	1.86	0.68
Elevated division.....	2.31	0.33	2.06	0.30	1.63	0.24	1.63	0.25	1.72	0.31	1.74	0.47	1.76	0.51	1.87	0.68
Average for I. R. T.....	2.12	0.30	1.99	0.29	1.79	0.26	1.85	0.29	1.92	0.34	1.93	0.52	1.83	0.53	1.86	0.68
Hudson & Manhattan.....	3.06	0.27	3.31	0.27	3.43	0.28	3.70	0.45	4.36	0.81	4.53	0.87	4.70	0.84	4.63	0.97
Brooklyn Rapid Transit.....	3.01	0.32	2.82	0.33	2.71	0.33	2.86	0.37	2.92	0.52	2.86	0.74	2.60	0.75	2.24	0.83
Coney Island & Brooklyn.....	3.73	0.35														
New York Railways.....	3.11	0.44	3.16	0.46	3.07	0.46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York & Long Island.....	3.73	0.64	3.85	0.65	3.83	0.67	4.31	0.95	4.78	1.25	6.90	1.97	5.56	1.59	.....	.....
New York & North Shore.....	4.01	0.55	3.93	0.53	3.88	0.54	4.56	0.76	4.95	1.27	4.97	1.45	5.88	1.34	.....	.....
Staten Island Midland.....	5.01	0.78	8.62	1.21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average for all companies.....	2.62	0.33	2.50	0.33	2.22	0.29	2.31	0.33	2.38	0.43	2.35	0.61	2.22	0.62	2.03	0.73

NOTES

"Cost of fuel," as used here, is the amount charged to the operating expense account "Fuel for Power." "Net kw.-hours generated" is the "gross kw.-hours generated" less amount used at generating station. Average for all companies is based on volume of production and total coal consumed.

TABLE II—COST OF COAL FOR POWER TO THE RAPID TRANSIT AND SURFACE RAILWAYS IN NEW YORK CITY (The costs are per ton of 2,000 lb. delivered for the fiscal years 1914 to 1921, inclusive)

	1914		1915		1916		1917		1918		1919		1920		1921	
	Anthracite	Bituminous	Anthracite	Bituminous	Anthracite	Bituminous	Anthracite	Bituminous	Anthracite	Bituminous	Anthracite	Bituminous	Anthracite	Bituminous	Anthracite	Bituminous
Interborough Rapid Transit:																
Subway division.....		\$2.86		\$2.91		\$2.94		\$3.08		\$3.52		\$5.43		\$5.72		\$7.21
Elevated division.....		2.88		2.90		2.92		3.07		3.53		5.39	(a)	5.75	(a)	7.16
Total average cost I.R.T.....		\$2.87		\$2.90		\$2.93		\$3.07		\$3.53		\$5.41		\$5.74		\$7.18
Hudson & Manhattan (b).....	\$1.69		\$1.62		\$1.61		\$2.19		\$3.72		\$3.83		\$3.57		\$4.87	
Brooklyn Rapid Transit System.....	1.66	\$2.84	1.69	\$2.83	1.73	\$2.80	2.00	\$2.98	2.80	\$3.75	3.84	\$5.28	4.06	\$5.71	4.15	\$7.44
Coney Island & Brooklyn.....	1.75	2.67														
New York Railways.....	c2.84		2.93		2.99		.....	.....	.....	.....	.....	.....	.....	.....	d 7.58	.....
New York & Long Island.....	3.44		3.40		3.48		4.39		5.15		5.57		5.71		.....	.....
New York & North Shore.....	2.76		c 2.73		c 2.78		f 1.79		c 3.51		f 1.78		5.22		f 2.01	
Staten Island Midland.....	e 3.15		e 3.15		.....		.....		.....		.....		.....		.....	.....
Total average cost.....	\$1.69	\$2.86	\$1.69	\$2.89	\$1.70	\$2.89	\$2.05	\$3.06	\$3.09	\$3.62	\$3.83	\$5.38	\$3.79	\$5.72	\$4.19	\$7.26

(a) A small amount of anthracite is included in the cost of the bituminous coal.  
 (b) From 1914 to 1919 and in 1921 there is included a small percentage of bituminous. The 1921 figure also includes cost of coal used for purposes other than electric generation. After Nov. 15, 1920, the company purchased power from New York Edison Company.  
 (c) Company reports this as semi-bituminous.  
 (d) Cost of coal used for heating purposes only. Figures not obtained from annual report, but from records of company.  
 (e) The kind of coal used is reported by the company as various. In 1913, it was mostly anthracite.  
 (f) Anthracite screenings.  
 (g) Power station no longer in operation. Power is bought from Long Island Railroad.



# Electric Railway Publicity

*Devoted to How to Tell the Story*

## North Shore Car Card Advertising Makes Impression

REPRODUCED herewith is a series of three car cards which have recently been widely distributed by the Chicago, North Shore & Milwaukee Railroad. They have been carried in the elevated and surface cars in Chicago and Milwaukee and posted in the stations of the elevated railways and the North Shore Line. Because of their unusual design, which seems to portray rather vividly the swift motion of the trains, and the attractiveness afforded by three colors, these cards have been very effective in bringing the electric line to the attention of possible patrons. The idea of speed is popular, and particularly so when it can be had with convenience and comfort—the ideas that were especially set forth in these three cards.

The North Shore Line began the unique idea last year of presenting patrons on trains with a little Christmas greeting. The personal touch which this afforded to the service rendered by the company resulted in establishing a very friendly attitude on the part of many passengers and gave rise to numerous complimentary letters. The same idea is being carried out during the holiday season this year with a little more elaborate and very attractive



**COMFORT**

Baggage Checked from Home to Destination in Chicago or Milwaukee without Rechecking

Chicago: Adams and Wabash

Limited Trains Every Hour on the Hour—5 a.m. to Midnight

Milwaukee: Sixth and Sycamore

Dining Cars 7:15 a.m.—12:00 Noon—4:45 p.m.

**CHICAGO NORTH SHORE & MILWAUKEE R.R.**

Christmas card, which is reproduced herewith. This was printed in red and green on a white card and distributed to passengers by the conductors. It is an example of the many little things the North Shore Line is doing to win friends—and with success.

## Newspapers Publish Constructive Editorials on Railways' Problems

AN INDICATION of the improved attitude taken by some of the larger newspapers in several of the central states toward problems of electric railway transportation is found in their editorial pages. The following from the *Ohio State Journal* under the date of Nov. 25 is typical:

### INTERURBAN TRACTION PROBLEM

Application of the receiver of the Ohio Electric for permission to abandon the line that has been operated from Columbus to Orient calls attention to the serious problems confronting that important agency of transportation the interurban. It is not a new problem, but one that came with war days and auto development and the changed conditions they brought. For years interurban managers have given no thought to earning profits for their stockholders. With them it has been wholly a problem of existence; they have been delighted if they kept their income slightly ahead of operating expenses. It is not improbable some lines will be abandoned.

The traction lines reach out into the country and supply a valuable service in the movement of freight and transportation of passengers. Business in many communities has been developed with the traction service as a basis. The public cannot afford to have the interurban traction lines disappear, but it is very certain they cannot continue

**CONVENIENCE**

Chicago: Adams and Wabash

**FAST LIMITED TRAINS**

Every Hour on the Hour  
5 A.M. to Midnight

Milwaukee: Sixth and Sycamore

BETWEEN  
CHICAGO LOOP AND THE HEART OF MILWAUKEE

**CHICAGO NORTH SHORE & MILWAUKEE R.R.**

**SPEED**

Chicago: Adams and Wabash

**BADGER LIMITED—DE LUXE TRAINS—INTERSTATE LIMITED**

2 HOURS 10 MINUTES  
MILWAUKEE TO CHICAGO

Milwaukee: Sixth and Sycamore

7:15 A.M. 4:45 P.M.

Dining Cars—7:15 A.M.—12:00 Noon—4:45 P.M.

**CHICAGO NORTH SHORE & MILWAUKEE R.R.**



indefinitely with the unhappy conditions in which they have been floundering in recent years, and for which there has been, as yet, no solution proposed.

Another editorial that shows an understanding of an electric railway's operating problems appeared in the same newspaper under the caption the "Cost of Accidents."

How heavy and burdensome is the financial cost of accidents is illustrated in the report of the Cleveland Railway, which shows expenditure during 1920 of \$1,250,000 in settlement of claims for damages. The figures tell their own story of the money cost of heedlessness and human carelessness. It does not include the heavy economic loss from impaired earning ability as a result of the accidents.

That sum is a tax on the community, for the full burden falls on the car rider, because in that city under service at cost the fare goes higher as operating expenses increase and can be reduced as operating expenses are decreased. In the operation of a large system in a great city accidents will happen that no amount of forethought and care can prevent, but in a very large way accidents about street cars are of a preventable nature.

The Cleveland company has engaged in a campaign for a reduction in the cost of accidents. Employees will be trained and instructed, caution will be emphasized. The campaign, however, cannot be successful in a large way unless it has the full co-operation of the car riders and others who use the streets. It is asking nothing unreasonable to request the public to be careful of its own safety. The request has a financial value as well as personal, because, as the cost of accidents is reduced, it will have a bearing on the rate of fare charged. It is a place where the public may win doubly by making the campaign of safety a great success.

The Fort Wayne *News and Sentinel*, Fort Wayne, Ind., recently carried the following interesting editorial comment on the electric traction situation in Indianapolis, Ind.:

The Indianapolis Street Railway, relieved of jitney opposition, which was taking from \$1,000 to \$1,500 a day from its receipts, now comes before the State Utilities Commission with the statement that it faces the necessity of imposing an 8-cent fare in order to maintain its service. During the past year or so, it represents, the service has been carried on at the expense of the integrity of the reserve resources of the company and the detriment of its equipment. There is not the least doubt in the world that the officers of the company are telling the truth. Their books are open to inspection by the state officials and it would be impossible for them to conceal the company's real condition. Even those who are inclined to attribute to them the most sordid of motives must concede that they are telling the truth.

Indianapolis must simply pay a higher rate for her car service or see that service piled up in the wreckage. The

5-cent fare there has been maintained during the stressful period when other companies in other cities have raised their fares radically and the protestants against these raises have always pointed out the case of Indianapolis. It develops now that the Indianapolis company has just about gone broke on the 5-cent fare and it is going to require an enormous boost in fares to save the company.

There is no use disguising the fact that the utility companies over the country have suffered severely during the last four or five years and are destined to suffer for several years to come. The people might as well face the facts and make the best of them. Utility rates like the rates of everything else are higher and they are going to continue higher. When rates are raised the public yells its head off, but yelling does not alter the facts, nor does demagoguery change unspeakable conditions.

Growling will do no good, protestation will effect no change and investigations will not alter conditions. Moreover, there is this further thing to consider: If the service is boycotted it means a receivership, and a utility in a receiver's hands is a curse to any city.

### Traction Topics Posters Would Inform Chicago Riders

HAVING been impressed with the manner in which short, pithy statements about the Chicago Surface Lines were absorbed by the people who visited the Pageant of Progress held in Chicago last summer, at which the traction companies had exhibits, John E. Wilkie, vice-president Chicago Railways, has begun the use of a similar type of informative publicity on the street cars. This is being put out in the form of a weekly poster, 14 in. x 21 in., under the caption of "Traction Topics." These posters are pasted on one of the side windows at either end of the cars, giving them a conspicuous position.

That the new posters are being widely read is attested by the numerous comments in the public press, for while many of these are uncomplimentary, Mr. Wilkie feels that this is a better indication that the publicity is worth something than would be the case if it caused no comment whatever. If the publicity is continued it is felt that these short statements of facts are certain to form a lasting impression in the minds of many car riders.

A few of the first posters that were used are reproduced herewith. The first number was placed on the cars on Nov. 13. The posters are changed each Sunday.

**TRACTION TOPICS**

VOLUME 1 PUBLISHED REGULARLY BY THE CHICAGO SURFACE LINES NUMBER 1

### Let's Get Acquainted

Knowledge of the other fellow's job leads to a better mutual understanding. You are users of transportation. It is our job to supply it.

You are served by the largest Surface Lines system in the world and we want you to know all about it.

Watch for **TRACTION TOPICS**

CHICAGO SURFACE LINES

**TRACTION TOPICS**

VOLUME 1 PUBLISHED REGULARLY BY THE CHICAGO SURFACE LINES NUMBER 2

### CHICAGO LEADS ALL

We have a population of 2,800,000 spread over 200 square miles.

To serve this territory—the largest of any city—the Surface Lines have built over 1000 miles of single track.

This means maintaining and operating a double track system that would reach from Chicago to Buffalo, New York.

Watch for **TRACTION TOPICS**

CHICAGO SURFACE LINES

**TRACTION TOPICS**

VOLUME 1 PUBLISHED REGULARLY BY THE CHICAGO SURFACE LINES NUMBER 3

### AN ARMY OF CAR RIDERS

Over 2,000,000 cash and 1,500,000 transfer passengers are carried on the system every day.

These with the free riders—employees, police and firemen—make a yearly total of 1,350,000,000.

This almost equals the population of the whole world—1,750,000,000.

Watch for **TRACTION TOPICS**

CHICAGO SURFACE LINES

**TRACTION TOPICS**

VOLUME 1 PUBLISHED REGULARLY BY THE CHICAGO SURFACE LINES NUMBER 4

### THE RUSH HOUR

Nearly one-half of the 3,500,000 daily car rides are taken during one morning and one evening hour.

When hundreds of thousands of people move at the same time overcrowding is the result.

Rush hour congestion is not peculiar to Chicago; every big city has it. No way has been found to prevent it.

Watch for **TRACTION TOPICS**

CHICAGO SURFACE LINES

**TRACTION TOPICS**

VOLUME 1 PUBLISHED REGULARLY BY THE CHICAGO SURFACE LINES NUMBER 5

### \$28,000,000.00 YEARLY IN WAGES

The Surface Lines operate over 3,000 double truck modern electric cars.

It takes a force of over 15,000 employees to run them and care for repairs and tracks.

The wages paid by the Surface Lines exceed \$28,000,000.00 a year.

Watch for **TRACTION TOPICS**

CHICAGO SURFACE LINES

**TRACTION TOPICS**

VOLUME 1 PUBLISHED REGULARLY BY THE CHICAGO SURFACE LINES NUMBER 6

### MILLIONS EXPENDED

The tracks, buildings and equipment of the Surface Lines represent a value of \$160,000,000.00.

Tracks, buildings and equipment are paid for out of money supplied by investors—not out of fares collected.

The investor is fairly entitled to protection for his investment and interest on his money.

Watch for **TRACTION TOPICS**

CHICAGO SURFACE LINES



## Results of Mutual Benefit Association\*

Principles and Organization of Twin Cities Company Association—Details of Benefits and Activities and Results Being Obtained

BY FREDERICK A. ANDERSON

Social Service Director, Twin City Rapid Transit Company

OUR association of employees was organized in February, 1915. It has grown and its scope of activities has increased as the need has been felt. The foundation which was laid at the beginning has been sufficiently broad to support the features that have been added as the association has developed.

The first principle followed in organizing was that no association, however desirable its provisions, could amount to anything worth while if the spirit and purpose of the employers back of it were not right. The second principle was that the management of the association should be mutual, both employer and employee being personally represented in the management of and contributions to the undertaking. The third principle was that the membership should be voluntary. The membership would not be so likely to feel that they were contributing toward their own association. The fourth principle was that the plan and provisions of the organization should be explained so thoroughly to all the members that there could be no chance for misunderstandings as to its purpose and activities. The fifth principle was that the plan adopted must be as nearly adequate as it could be made. In my study of various organizations I found some with such limited benefits and meager provisions that they were scoffed at by the men. The sixth principle was that the program of activities of the association should be constructive and thorough.

From the very beginning of our company the family spirit has been evident. The first organizers of the Twin City lines felt that what was good for one ought to be good for all, and that those things which were bad for one were bad for others. It was their conception that if all worked together they could produce the best street railway system in the country. Wages, hours, working conditions, physical equipment and the personnel of the organization have consistently been kept at the highest level that the company could maintain throughout its whole existence. After eight years of closest association with this concern I am convinced that this most desirable family spirit is being realized more today as an actual factor than ever before. This applies both to the management and the employees.

Our association is organized upon a mutual plan of management. The employees are represented by ten members of their own choice and the company is represented by ten officials. This composes the executive committee, which has the final word in matters concerning the association as a whole, or any individual matter which may be brought on appeal to this body. There is also a benefit and relief board, which is composed of ten employees' representatives and three officials of the company. This board passes upon any claims which may arise. Associated and co-operating with each of the ten

employee representatives there is a departmental committee of three, elected by the employee members. They have charge of all social, educational and physical activities. They also represent the division which elects them in matters pertaining to working conditions, hours, etc. This last phase of the work of the committee heads up in a co-operative committee, which functions separately from the benefit association and has its own constitution and by-laws.

### MEMBERSHIP AND DUES

Members pay an entrance fee of \$1 and dues ranging from 45 cents to \$1.35, which are deducted monthly from their pay checks. The company pays an equal amount of all dues paid by members and, in addition, pays the salaries of association officers, physicians, home visitors and clerical help, cost of consultations, X-rays, medical attention and supplies, office rent, printing, etc. Last year this meant that the company paid 65 per cent of the total budget while the members paid 35 per cent. The money of the association is kept as a separate account in another bank from those used by the company.

When the organization was started the membership was thrown open for three months for charter members. There was no age limit, examination or entrance fee, the company paying this to give us a start. After that time the membership was restricted to those within the age limit (twenty-one to forty-five years, changed later to eighteen to fifty years) who were physically fit and had been in the employ of the company two months or more. No one is coerced to join the association by any official. The average membership, since organization six years ago, has been about 70 per cent of those eligible.

### MEDICAL SERVICE IS PROVIDED

If an applicant for membership has a physical defect which can be remedied by surgery or medical care, an exemption is taken covering the defect. This exemption holds good for two years, after which time it is canceled and the member becomes a full-fledged member. If, during this two-year exemption period, the member chooses to have an operation performed, he pays for this himself, but the association reimburses him for the cost of that operation when the term of the exemption expires.

We have ten places where members may receive medical attention. In most of these, the physicians are on duty one hour each day, while at our general medical director's office there is a physician in constant attendance during the whole day. Last year 53 per cent of the members made 10,298 calls for some kind of medical service. Some one has criticised our plan for making the physician so easily accessible to the membership, but we have found it results in decreased time off for disabled members. Of course, the physicians need to head off tactfully the neurotic, but they cause very little difficulty.

In many concerns the medical director makes examinations, treats sickness, performs operations, etc. We believe that our plan more adequately meets the needs of our members. The medical director and his associate have the authority to send any member or dependent member of his family to any specialist whom he deems qualified to pass upon the particular disability confronting him. Such examinations, consultations, tests, X-rays, etc., are paid for as part of the association expense. Last year, for this outside service, which includes general medicine, surgery and dental service, we spent only \$2,253.75. We felt rather than to put one dentist on our staff to maintain a dental clinic we would use the money this would take to provide consulting dentists. These consulting dentists are specialists in their line. They take any X-rays, make thorough examinations of the mouth, do any extracting or surgical dentistry that is required and give whatever advice regarding other work that is necessary or desirable. This phase of medical service has just recently been added and is proving most popular and beneficial.

This same principle is also applied to surgery. We believe that surgery should be performed by the very best surgeons available, and therefore we designate the American College of Surgeons. During the last year, 299 operations were performed, at a total cost to the association of \$12,278.42, or an average per operation of \$41.06. This includes the cost of both major and minor operations. We pay three-fourths of the cost of any operation performed on any dependent member of an association member's family.

It is interesting to note that our surgery has produced tangible results. In a study of members who were operated on during a certain year we discovered that those whose efficiency standing rated 75 per cent or over showed a 3 per cent increase in efficiency, while those below 75 per cent and on down to as low as 50 per cent showed an increased efficiency, after a six months period, of 35 per cent. Therefore, we conclude that a considerable amount of surgery we do is corrective in its results. Surgery means an emergency expense that neither the man nor his family can afford and for this reason we assume a mutual responsibility in this matter. A committee is now studying the proposition of paying the hospital expense as well.

### SICK AND DEATH BENEFITS ARE PROVIDED

Our association provides for the payment of benefits ranging from \$1 to \$2.25 per day for a period of fifty-two weeks or any one disability. Last year we paid 1,183 different sick claims, or a total of \$21,274.90. We also paid forty-seven accident claims, or a total of \$1,273.32. The average amount paid during the last six years on account of sickness amounted to \$22 per individual case.

At the outset of the association we were warned that men would take advantage and stay away longer than they should on account of being paid too large benefits. There may be such cases, but I am convinced that the family spirit has so thoroughly found its way through the organization that there is very little renigging. The first year the average length of time off was eighteen days, the second year this

\*Abstract of paper presented at the annual convention of the Industrial Relations Association of America, New York, Nov. 1-4, 1921.



announced to twenty days. Then we employed a registered nurse as our home visitor and for the next two years it dropped to fifteen days per case. The next year it came down to thirteen days, and this last year it has been 11.3 days per case. This shortening of absence from duty is largely due to increased efficiency in our medical service, home visitors' work and the growing family spirit throughout the organization. When the association first started we did not pay for the first seven days. After trying this for a year, we came to the conclusion that it was not just. Now we deduct only the first two days on all sick claims and none on accident claims.

The association also pays for the prescriptions written by our physicians. Arrangements are made with certain drug stores and by ordering only such quantities as are actually needed we have been able to keep the association prices of the prescriptions down to 40 cents. Last year 4,143 prescriptions were written at a cost of \$1,161.03. The association also pays for all medical appliances that are ordered by our physicians.

It is our belief that benefits should be paid for a long enough period to determine whether the illness is to be permanent or not. By paying benefits for a full year it gives us a chance to help the man make such readjustments in his home as are usually necessary when the breadwinner becomes permanently disabled.

It is hard sometimes to determine the actual value of these things, but I feel that the man who drags around the shop or the office with perhaps a slight fever is performing an inferior type of service and his efficiency is reduced materially. Efficient medical service heads off this sort of thing for the man has easy access to the doctor, and it is far better for such a man to be sent home for a day than to do half work for several days and finally have to give up and remain at home a longer time. Medical service should also insist upon a man not coming back to work until he is well. The man who comes back but partially recovered will give a mediocre service only. We require that members have suitable medical attention while off duty. On the whole, medical service shortens the absence and the total number of days lost by employees over a period of time.

Our association also pays death benefits ranging from \$150 to \$700, according to the class of membership held. In the last six years ninety-eight members have passed away and their beneficiaries have been paid on an average of \$478.57.

#### OTHER SERVICES FURNISHED

The association feels that it has a mission in the home as well as to the employee on duty. In 1917 we employed a registered nurse as our home visitor. Two years ago it was necessary to add another nurse, and last year they were called into 710 different homes, making a total of 4,081 visits. We are just hiring the third nurse now. They deal with emergency needs of all sorts and have the privilege of calling for any medical assistance that is needed in any emergency that may arise.

It is the practice of the general director of the association to call upon every member who is sick for a period of a week or more, and the welcome

that is extended to those in charge of the association as they go to the homes is *prima facie* evidence of the way the members feel toward their organization.

The association staff comprises what might be called a general service bureau. Last year more than 1,300 persons called on the general director for varied services and advice. One can hardly conceive of any human problem which has not been dealt with through this service bureau. In many instances where unexpected emergency expenses have come into the home it is necessary to lend the employee money. In every such instance the matter has been thoroughly investigated, and almost invariably there are other services needed which are more important than the lending of the money.

The association has made arrangements with certain oculists to examine eyes at a price of about half of what is ordinarily charged and also with two wholesale optical companies to furnish the glasses at cost. This arrangement has meant a saving of thousands of dollars to members and their families. A similar arrangement has been made with a group of undertakers located in the various parts of the two cities and this has been greatly appreciated. A saving of from 25 to 50 per cent has been made in this manner. The executive committee of the association went a step further this year and contracted to buy coal of a certain dealer and so far this has meant a saving of approximately \$12,000 on the coal already sold. Only members are entitled to this reduced price.

The association, through its committees, conducts activities such as parties, tournaments of various sorts, health talks, educational work, Americanization work, etc.

During the six years of our association we have paid in actual benefits the sum of \$268,511.30. In addition to this sum the company has paid \$130,062.47 for medical services, nurses, consultations, etc., which means that the average budget for the last six years has amounted to \$66,428.92.

The company provides old age pensions which members of the association are eligible to receive upon reaching the required number of years of service and age. The pensions are calculated upon the basis of 2 per cent of the employee's average monthly salary or wage during the last ten years of service and this multiplied by the number of years of service. For those who reach the age of sixty-five, the pension cannot exceed 50 per cent of the average salary or wage. For those who reach the age of seventy, the pension cannot exceed \$75 a month. A recent provision makes it possible for any employee member of the association who has been in the service thirty years and who chooses to accept a pension to be granted a pension not to exceed \$50 a month. The entire expense of the pension system is met by the company out of its current expense account. The management of the pension system is vested in a pension board composed of three officials of the company and two employees appointed by the president, the pension board serving for one year.

#### RESULTS CONSIDERED SUCCESSFUL

In conclusion, we have found that the principles enumerated at the beginning have worked out in practice. The spirit and purpose of our company have been recognized by the em-

ployees. Co-operative management of the organization has been successful. In fact the employees feel that the association is their very own. The best evidence of the real value of the association to the membership has been shown by the high percentage of employees who have identified themselves with it. The original form of organization has been altered but slightly. The activities of the association have met the needs which have arisen.

The growth and development of a new consciousness in matters relating to health and sanitation and the inculcation of higher ideals and living standard show conclusively that the program of activities of the association has been constructive and thorough. I do not mean to intimate that our plan is perfect or that there are not other plans which are just as good, but after over six years of successful operation we feel that our efforts have produced definite results.

### Annual Meeting of Iowa Engineers Soon

THE twenty-fourth annual meeting of the Iowa Engineering Society is to be held in Sioux City, Iowa, Jan. 17-20, 1922. Headquarters and meetings are to be in the Woodbury County Court House. The Sioux City Engineers' Club is making elaborate arrangements for the care and entertainment of the visitors. Speakers of national repute are being secured to address the meetings and the Chamber of Commerce is combining with the local club to make the visit of the engineers and their wives most enjoyable, as well as profitable.

The exhibits of manufacturers and material men which have been of such interest at previous conventions will be in evidence again on a greater scale.

### International Railway Congress

THE program for the Congress of the International Railway Association, to be held in Rome, Italy, in April, 1922, has now been definitely decided. A formal opening will be held on April 18, and the first technical session on April 19. Meetings will be held thereafter on every day except Saturday and Sunday up to and including April 28, when the meeting will formally close. On May 1 the delegates will travel by special train to the northern part of Italy to inspect the electric railway installations there. The meetings will be held in Rome in the Palais de l'Exposition des Beaux-Arts. The president of the association this year is V. Tondelier, president of the Belgian State Railway System, with headquarters at Brussels.

### Indiana University to Entertain Utility Men

THE annual meeting of the Indiana Public Utility Association will be held on Jan. 14 at Indiana University, according to an announcement by W. A. Rawles, dean of the School of Commerce and Finance of the university. The members of the association will be guests of the School of Commerce and Finance and are planning to hold open sessions with the students of the commerce department in attendance. Fra-



ternity houses will entertain the business men, according to plans being perfected by the Boosters' Club.

Charles L. Henry, president of the State Public Utility Association, in outlining the program for the meeting, said that William Lowe Bryan, president of the university, will be asked to talk and that Dean Rawles will explain to the visiting business men the scope of the work of the School of Commerce and Finance.

In addition to the business session, the utility association will hold its annual dinner in the student building on the campus.

### Mid-Winter Meeting of New York Association Announced

SECRETARY W. F. STANTON has announced that the mid-winter meeting of the New York Electric Railway Association will be held at the Hotel Astor, New York, on Jan. 24. The program of the subjects to be discussed has not yet been drawn up nor have speakers been decided upon.

### Standardization of Screwed Fittings

THE Sectional Committee of the American Engineering Standards Committee on the standardization of pipe flanges and fittings held its second meeting in the rooms of the American Society of Mechanical Engineers, New York, N. Y., December 16. Those present were C. P. Bliss, chairman, New York University; A. A. Ainsworth, secretary, Committee of Manufacturers on Standardization of Fittings and Valves; J. C. Bannister, Walworth Mfg. Co., Boston, Mass.; Commander Bass, United States Navy, Washington, D. C.; S. G. Flagg, Jr., Philadelphia, Pa.; N. S. Hill, Jr., Consulting Engineer, New York, N. Y.; L. H. Jenks, Frick Company, New York, N. Y.; F. E. Johnson, The Kelly & Jones Company, Greensburg, Pa.; J. R. Meloon, General Fire Extinguisher Co., Boston, Mass.; E. L. Moreland, Jackson & Moreland, Boston, Mass.; C. W. Squier, ELECTRIC RAILWAY JOURNAL; C. W. Stephen, Reading Steel Castings Company, Reading, Pa., and J. R. Tanner, Pittsburgh Valve, Foundry & Construction Co., Pittsburgh, Pa.

It was recommended that O. S. Styer of the Reading Steel Castings Company be added to the members of the committee, and that the American Engineering Standards Committee be requested to make this appointment. The sub-committee on the standardization of the dimensions for malleable, cast iron, steel, and non-ferrous screwed fittings reported that it had finished its investigation and submitted a drawing in accordance with the final decision of the committee with a table of dimensions which it recommended for adoption as standard. This report was received with the recommendation that it be submitted to letter ballot of the entire committee and if an affirmative vote is received that the secretary be instructed to forward copies of the report together with recommendations to the various sponsor bodies and to the American Engineering Standards Committee.

The committee on flange standards reported progress, but due to the large amount of material which it is necessary to analyze and tabulate, a comprehensive report will not be ready for another two months.

## American Association News

### Mid-Year Meeting Transportation Committee Appointments

THE transportation committee has been appointed for the mid-year meeting and dinner of the American Electric Railway Association which is to be held on Feb. 28, 1922, at the Claypool Hotel, Indianapolis, Ind. H. J. Kenfield of *Electric Traction* has appointed the following men to act as chairmen in their respective territories in charge of securing special railroad accommodations to Indianapolis for those expecting to attend:

*New England States*—Edward Dana, Boston (Mass.) Elevated Railway.

*New York, New Jersey and Eastern Pennsylvania*—C. B. Keyes, General Electric Company, New York.

*Washington, D. C., Maryland and Southern Atlantic States*—L. H. Palmer, United Railway & Electric Company, Baltimore, Md.

*Western Pennsylvania, West Virginia and Southern States East of the Mississippi*—J. C. McQuiston, Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

*Ohio and Michigan*—Charles J. Laney, Northern Ohio Traction & Light Company, Akron, Ohio.

*Illinois and Northwestern States*—J. V. Sullivan, Chicago Surface Lines, Chicago, Ill.

*Missouri, Nebraska, Iowa, Colorado, Utah, Kansas and Southwestern States*—Frank O. Grayson, La Salle Building, St. Louis, Mo.

*Pacific Coast States*—J. H. Handlon, Market Street Railway, San Francisco, Cal.

### Executive Committee of the Engineering Association Holds Busy Meeting

THE executive committee of the American Electric Railway Engineering Association met at the Association headquarters in New York City, Friday, Dec. 16. Those present were C. S. Kimball, president, Washington Railways & Electric Co., Washington, D. C.; C. H. Clark, Cleveland Railway, Cleveland, Ohio; R. C. Cram, Brooklyn Rapid Transit Co., Brooklyn, N. Y.; Daniel Durie, West Penn Railways, Connellsville, Pa.; C. R. Harte, Connecticut Company, New Haven, Conn.; H. A. Johnson, Metropolitan West Side Elevated Railway, Chicago, Ill.; Martin Schreiber, Public Service Railway, Camden, N. J.; A. B. Stitzer, Republic Engineers, Inc., New York, N. Y., and J. W. Welsh, executive secretary.

A resolution was adopted defining the duties of the sponsors which have been appointed on the various standing committees of the Engineering Association. The problem of providing a method whereby employees of steam roads which have electrified divisions can become members of the Engineering Association was discussed, and it was recommended that a plan be worked out to enable such employees to become members. Plans for the reorganization of the Engineering Association were discussed and the president was authorized to appoint a committee on reorganization.

P. G. Agnew, secretary of the American Engineering Standards Committee, discussed the relationship of the Engineering Association with that committee and cleared up many points which were not entirely clear. It was agreed that a representative should be appointed on the sectional committee of the American Engineering Standards Committee which is investigating the conductivity of aluminum conductors. The recommendation of the Power Distribution Committee that the question of forming sectional committees for standard specifications on overhead crossings and high conductivity trolley wire be taken up with the American Engineering Standards Committee was approved.

### Attorney Addresses Public Service Railway Section

ADDRESSING the Public Service Railway company section of the American Electric Railway Association on Dec. 15, Charles S. Straw, assistant prosecutor of Camden County, N. J., in relating how times have changed, stated that the day of the grouch conductor and motorman had gone by.

Continuing, he showed the similarity between the duties of the prosecutor's office and those of the trainmen in handling the "dear public." He assured the members that in his experience as prosecutor, law suits that now go before a judge and jury can rely on a fair and impartial trial without a verdict being reached before the case is heard simply because a corporation is defendant.

The speaker also brought out in the course of his address that at no time has he ever been approached by any officials of the Public Service Railway to minimize the facts of an accident, but on the other hand they desired to be informed only of the true facts of the case.

Mr. Straw prophesied a great future for Camden City in the advent of the bridge across the Delaware River. He emphasized the point of how the trainmen's courtesy and efficiency to visitors made a lasting impression. The speaker concluded his address by complimenting the trainmen for their efforts to "keep smiling" under sometimes most trying circumstances, and stated the motto that should always be kept in mind is "he who serves most, serves best."

Instructor Reilly addressed the members on his favorite subject "Safety First," and related the good news of only one trivial accident reported during the current month.

Chief Engineer Waters, president of the new Athletic Association, gave some interesting data regarding the association, stating that a membership of 1,000 is anticipated and that a new building will, in all probability, be erected in the ensuing year.

Mr. Hanf, master mechanic, gave some very interesting information on equipment repairs and in his smiling and good-natured way he won the cooperation of the trainmen in "Playing Safe."



# News of the Electric Railways

FINANCIAL AND CORPORATE :: TRAFFIC AND TRANSPORTATION  
PERSONAL MENTION

## Mr. Mitten Offers Private Operation

Proposes That P. R. T. Run Frankford Elevated Under Cost of Service Plan

Operation of the city-owned Frankford elevated line in Philadelphia, Pa., by the Philadelphia Rapid Transit Company was proposed by Thomas E. Mitten, president of the company, at a meeting with the City Council on Dec. 13. President Mitten cast out all previous negotiations, and presented his proposal on an entirely new basis. The plan was submitted to a commission of city officials for consideration.

The cost of service system is the method suggested by Mr. Mitten. Under it the company would pay to the city all the Frankford elevated earnings, and charge against such earnings the full operating costs of the road from Frankford to Front and Arch streets, and a further charge for the use of the Market street subway from Front to Fifteenth street.

### SUGGESTS APPOINTMENT OF COMMITTEE

Mr. Mitten, in the statement proposing the new plan, said:

As I have already said, 10,000,000 passengers would be carried on the Frankford "L" if operated by the city with terminus at Front and Arch streets. If operated by P. R. T. as a part of its Market street system, with a single fare from Frankford to Sixty-ninth street, an additional 10,000,000 passengers would be drawn from P. R. T.'s cars and added to the number carried on the Frankford "L," making 20,000,000 thus carried, instead of 10,000,000 if operated by the city.

Ten million of P. R. T.'s present passengers thus diverted to the Frankford "L" would cause a considerable loss in P. R. T.'s present revenue which, however, would be compensated for by the rental charged to operating costs of Frankford "L" for proportionate use of the Market street subway terminal between Front and Arch streets and Fifteenth street station.

If P. R. T. operated the Frankford "L" in this way, paying to the city all of Frankford "L" earnings between Frankford and Fifteenth street station, and charging against such earnings the full operating costs of the Frankford "L" from Frankford to Front and Arch streets and for the proportionate use of the Market street subway to Fifteenth street, the financial result would be at least as good for the city as would follow city operation of Frankford "L" to a terminus at Front and Arch streets, the city being the gainer through serving twice as many people—20,000,000 instead of 10,000,000—and being saved the initial expenditure of \$500,000 required to put its Frankford "L" in condition for municipal operation.

If this plan be acceptable, I would suggest that a committee be now appointed consisting of Director of City Transit Twining, City Controller Hadley and City Solicitor Smyth for the city, and Vice Presidents Richardson and Dunbar and Counselor Joyce for the company, and that this committee shall agree upon the methods to be used in determining the division of earnings and expenses to be apportioned between the Frankford "L" and Market street system and make such changes in the operating agreement now before City Council as will make it conform to this proposed understanding.

Transfers will be issued to Frankford "L" passengers as now issued to P. R. T.'s own passengers on the Market street "L" system.

Transfers cannot be issued between the Frankford "L" and the connecting surface lines because if this were done 10,000,000 additional passengers would be diverted to the Frankford "L," and this would represent such a great additional loss to P. R. T. as

could not be sustained, nor can it hope to secure payment of this loss from the city under present circumstances.

Mr. Mitten maintained that while no financial benefit would accrue to the city, nevertheless the elevated would serve more riders and furnish better service than was possible under municipal operation. He also emphasized the fact that the agreement would be temporary and would terminate six months after the conclusion of the valuation proceedings. The Frankford elevated, he said, would be charged for the use of the Market street subway and at the same time the Frankford rider would be enabled to go from Frankford to Sixty-ninth street for a single fare. That fare, he pledged, would be the same as at present, four tickets for 25 cents.

The issue of transfers from Frankford surface lines would necessitate the payment of additional compensation to the company by the city, he said, although the Frankford riders would be accorded the usual transfer privileges at West Philadelphia stations. The P. R. T., he added, was contributing 10,000,000 passengers to the elevated and taking back the financial loss resulting in the shape of rental for the Market street subway.

## Buses Prove Popular

Auto and One-Man Car Are Saving Connection Suburban Line—Public Likes Autos

Judge J. Moss Ives, receiver of the Danbury & Bethel Street Railway, Danbury, Conn., has received permission from the Superior Court to purchase four more new cars of the one-man safety type. The order for the cars has been placed.

With the arrival of the new cars the road will have an entire new equipment of rolling stock, and it is the plan of the receiver to put into operation as soon after Jan. 1 as possible, the date depending upon the delivery of the new cars, a ten-minute service throughout the day and evening.

A new Graham motor bus, to replace a bus of the Bethlehem type, which has been in service on the West Danbury belt line, has arrived and been put into use. The Bethlehem bus was a second-hand vehicle when purchased.

The announcement that the road will have an entirely new equipment of rolling stock within another month is of especial interest in connection with the operation of the line under Judge Ives' receivership, as it is comparatively a short time ago that the prospect of finding means of procuring even a few new cars for the road seemed almost hopeless and there was even talk that it might be necessary to discontinue the operation of the road entirely.

Judge Ives says that patronage of the motor buses on the belt line is increasing gradually and that, so far as expression of opinion has been heard, the patrons of the buses are much pleased with that form of service, finding it even quicker and more certain than the former electric railway service.

## Seattle Taxpayers Win

Residents There Successful in Their Contentions Against City in Municipal Railway Case

The United States Circuit Court of Appeals at San Francisco, Cal., recently rendered a decision, refusing to enjoin the "fourteen taxpayers" headed by S. B. Asia, from bringing suit in the state court to prevent the city of Seattle, Wash., from delving into the general fund, for support of the municipal railway system. The decision is regarded as a material victory for residents of Seattle who have been opposing any move to force the city to set aside a special fund to meet interest on the \$15,000,000 municipal street railway bond issue before paying operating expenses of the railway.

The Circuit Court's decision upholds the action of Federal Judge Jeremiah Neterer in District Court in dismissing the action brought by the Stone & Webster interests, from whom the street railway system was purchased, and refusing to restrain the taxpayers from trying the case in the state court.

The Circuit Court decision paves the way for an early trial of the "Taxpayers" suit in the Superior Court, and counsel for the city and for the taxpayers have agreed to request the earliest possible trial of the suit, which will be set by Presiding Judge Everett Smith. The main contention of the taxpayers is that a city utility must be self-supporting and not use city general fund money for defraying its expenses. Victory for the taxpayers in the Superior Court would mean the City Council could not use money from the general fund for support of the municipal street railway unless such action was approved by vote of the people, according to counsel.

A question which the State Supreme Court will be asked to answer, as a result of the Circuit Court's decision, is whether:

The entire gross revenue of the municipal street railway is pledged to payment of principal and interest on the bonds issued to purchase the system, or are the bondholders entitled only to what is left after the cost of maintenance and operation has been paid?

The State Supreme Court, according to counsel, will be asked to place its own construction on the case of Twichell against the city of Seattle, a friendly suit carried to the State Supreme Court to test the legality of the bonds issued to buy the railway. Counsel for the Stone & Webster interests maintain the decision in this case holds that the gross receipts of the railway system are pledged to payment of principal and interest of the bonds. Counsel for the taxpayers contend the decision cannot be construed to hold that the bondholders are entitled to more than the balance left after maintenance and operation expenses have been paid. The only security the railway bondholders have, the taxpayers contend, is the utility itself.

As a direct result of the suit the sum of \$83,000, taken from the general fund last December as a loan to the street railway, has been returned.



## Hearings Completed for Year

Lawyers, Financiers and Traffic Expert Examined This Week—Valuations of the Properties of the Various Companies to Be Included in the Commission Plan Next to Be Taken Up

A hearing on Thursday, Dec. 23, at which anyone who wished to testify was invited to do so, closed the hearings of the New York Transit Commission for this year. It also completed the hearings of the present series. With the exception of certain matters of what the chairman called "a minor character" the next stage of the investigation in New York will take up valuations. This will be some time next year. The sessions of the investigation beginning on Dec. 14 were given up largely to the examination of other than operating men. They are reported below up to the session on Dec. 20. An account of the plan for rerouting submitted by Mr. Turner on that day is published on page 1109 of this issue. The remainder of the testimony on Dec. 20 and that presented on Dec. 21 will be reported next week.

THE first witness on Dec. 14 was John C. Cobb of Boston, chairman of the protective committee of the holders of income bonds of the New York Railways and a director, representing these bondholders, on the New York Railways. He said that his committee represented about \$23,000,000, or about 70 per cent of these income bonds. Assuming that municipal control of the railways had been decided upon, the plan of the commission was a desirable one and perhaps the only practical way. He saw no objection in a combined control of the rapid transit lines and the surface lines because each served a different kind of traffic. The experience in New York had been that the construction of a rapid transit line above or under a street had not seriously hurt the surface line on that street. It would lose some long-haul business, but would gain short-haul business.

He thought it unwise to attempt to force holders of all the underlying securities to exchange their securities for new issues, but arrangements could be made for amortizing these issues when they matured. He believed the surface lines in New York, carrying a million passengers a day, were not "mere junk," as they had been characterized by some, but provided an absolutely essential public service. He had never had any fear that the lines would be discontinued or that the underlying security holders would not receive fair payment for their property.

The value of such properties should not be judged from their performance while in the hands of a receiver, but even before the appointment of a receiver the lines had not been operated as well as they could be. He criticized the Legislature for permitting a condition "which makes it possible legally to run the traction systems of this city through shoestring equities and holding companies and to capitalize prospective profits or contracts."

The next witness was R. E. McDougall, manager of New York & Harlem Railroad (traction division), who said that since this road had been returned to its owners by the receiver of the New York Railways about \$50,000 had been spent on car overhauling and \$150,000 on track improvements. Further improvements in the way of new cars, carhouses or power stations had been held up until the question of the future of the system could be determined.

Otto H. Kahn of Kuhn, Loeb & Company, bankers, was the next witness. He explained that his firm was a member of the protective committee for the Brooklyn Rapid Transit 5 per cent notes. His testimony related principally to the financial aspects of the

proposed commission's plans. Everything, he said, depends finally on what offer in tangible realizable value is made to the security holders and what they are asked to give up. When the B. R. T. 5 per cent notes were sold to the public they were thought to be a wholly sound investment security. The speaker still believed that the security pledged for these notes was good and sound and nearly sufficient at this time to yield the interest on the bonds, and probably before very long entirely adequate so to do. There is nothing ahead of them except \$18,000,000 in receiver's certificates and a certain amount of various bonds not of a very large amount, while behind them is \$100,000,000 in city money. He did not believe that this particular noteholder, for instance, would come into a plan which took away from him the priority of his lien until possibly, after the lapse of some years, the new securities are found to be sound and to bring that return to which he feels himself entitled. He has seen a great many unpleasant things happen to him in putting his money into traction securities; he will not feel inclined to take another chance, but will say, "This is an admirable plan, but let me see how the thing will work out. In the meantime I want my property earmarked somehow as being a special equity pledged to me under the law, and I do not intend to give it up if I can help it."

Coming, then, to securities other than those covering principal priorities, the speaker was doubtful if bonds should be issued for them or whether it would not be better to have a security to represent what the equity would earn under good management in the future. As to new money, the difficulty would be that the new bonds under the proposed plan would not be sufficiently seasoned to make them salable at a price which the commission could afford to accept, and the commission would not want to sell them as a speculative security. The only other ways to raise money would be on the credit of the city or to leave the matter to the existing security holders.

George E. Warren, vice-president Columbia Trust Company, was the next witness. He said he was a member of several bondholders' committees of electric railway securities in New York City. He is prepared to recommend the commission's plan to the committees with which he is connected, provided the valuations are satisfactory and the new securities a safe form of investment. He urged, however, the application of the surplus from operation of the new company toward the reduction of the debt before the reduc-

tion of the fare; that is, to use a more rapid rate of amortization.

Frank D. Pavey, counsel for the stockholders' protective committee of the Broadway & Seventh Avenue Railroad, of the Columbus & Ninth Avenue Railroad and of the Atlantic Avenue Railroad, gave facts in regard to the liens in those bond issues and the conditions under which in each case the committee recommended the entrance of its security holders into the proposed reorganization. In general the Columbus & Ninth Avenue recommendation was in favor of the exchange, while the Atlantic Avenue and the Broadway & Seventh Avenue were for retention of the original lien. The speaker was sceptical also as to the desirability of providing a bonus for good management, to be payable either to the bondholders of the company or to the management, although if the bonus is to be used for providing an employees' benefit fund, as had been suggested by counsel, that might be proper. He also questioned the desirability of a 5-cent universal fare, certainly for the surface lines, and recommended for certain routes a bus service at a 10-cent fare.

### MORE BONDHOLDERS ON THURSDAY

The first witness on Thursday morning was Alvin W. Krech, chairman of the committee of the Board of Directors of the Manhattan Railway, appointed to make a study of the traction situation and the lease of the Interborough, also chairman of the stockholders' protective committee of the Manhattan Railway. He said the successful operation of the plan depended to a large extent upon the valuation, but to balance the budget as compared with that at present, either the revenues must be increased or the facilities decreased. With revaluations there is a possible saving of fixed charges, and there might be some saving in unified management and in taxes, but he was sceptical about the proposed barometer fund and to any plan that did not contemplate the immediate increase of the revenue unit. As for the marketability of the proposed bonds, he thought the investing public would want some greater assurance than is furnished by the set-up of the barometrical fund out of borrowed money. He expressed the opinion of other speakers that some underlying bonds could very well be left undisturbed in the reorganization. Those who would be asked to put in new money would expect fair treatment.

A statement was then received from Mr. Garrison, receiver of the Brooklyn Rapid Transit Company, giving a statement of receivership expenditures from Jan. 1, 1919, to Oct. 31, 1921. They covered a total of \$634,665, including the following items: "Compensation of receiver and counsel, \$283,903; Stone & Webster, engineers, \$126,623; Price, Waterhouse & Company, accountants, \$47,223; special master's compensation, \$37,500; Mr. Royce, \$26,709." An accompanying letter said: "In order to reach the conclusion you state in your question you desire to reach, you should know that previous to the receivership Colonel Williams' salary was \$75,000 a year, so that \$225,000 approximately should be deducted on this account."

William Greenough, counsel for the South Ferry and the Broadway & Seventh Avenue bondholders' committee, pointed out that all the South Ferry bondholders had paid as high as 106½



for their bonds and the Broadway & Seventh Avenue bonds sold as late as 1914 for 103½. He thought that a sliding scale rate for fare was desirable and the vesting of the title in the city would remove the tax question. He agreed with Mr. Kahn about the unwillingness of bondholders to change their lien to an unseasoned security.

John L. Wells, representative of the holders of the B. R. T. 5 per cent first mortgage bonds, in general favored the plan, if political influence could be kept out of the actual operation of the system. He pointed out the necessity of providing constantly new money for extensions. If the city's investment could be released from the debt limit, that would provide funds for extensions, otherwise some other provision would have to be necessary. He favored the Massachusetts plan of financing by stock.

Samuel E. Morrow, auditor Fifth Avenue Coach Company, then testified as to the figures of that company. He stated the operating costs per passenger for the year ended June 30, 1921, was 8.38 cent, or a total business of 51,237,442 passengers.

Julius P. Cotton, attorney and representative of the New York Railways real estate and refunding bonds, was another witness. He spoke as if the bondholders would prefer that the Manhattan surface lines be treated separately so as not to be overshadowed by the greater and more serious troubles in the Interborough. If they should be relieved from taxation and some other burdens it might be possible for them to work out the solution themselves, even with a 5-cent fare. Chairman McAneny said the commission would be delighted if this could be done, but he reminded the witness that the service on the New York Railways had been greatly cut within the last five years and there was a large element of deferred maintenance and unpaid taxes, etc., which would have to be met.

Another witness was Edward T. Maynard, president of the Brooklyn Trust Company and representative of certain bondholders' protective committee, said that in general the plan commended itself to him.

Grayson M. P. Murphy, chairman of the Interborough Metropolitan 4½ per cent bondholders' committee, was also a witness. Personally, he approved of the plan but could not definitely promise approval of his entire committee. He thought, however, that if the board which exercised supervision could be more definitely separated from the actual management of the property it would be desirable. He said that in the long run the man or the board that had control of the funds was bound to exercise a very substantial influence on the actual operation.

John A. Richie, president of the Fifth Avenue Coach Company, declared that the average operating cost in cents per passenger during the thirteen years ended June 30, 1920, was 6.77 cents, divided as follows: Maintenance, 1.59; transportation, 4.71; general, 0.47. In taxes the company pays a 5 per cent gross earnings tax to the city or 0.5 cent out of each fare and a total amount of taxes of 0.86 cents out of each fare. As reserves for injuries and damages 0.08 cent and for depreciation and obsolescence 0.6 cent are charged, leaving as gross income 1.69 cents from the 10-cent fare. Interest on

the investment at 6 per cent amounted to 0.55 mills per passenger, leaving 1.14 cents. The operating cost in 1920 without taxes was 6.85 cents, and after taxes were paid the balance was 2.19 cents.

#### COST OF BUS EXTENSIONS

In estimating the cost of possible extensions the witness gave the cost of the bus as from \$9,000 to \$11,000 and garage cost as about \$2,000 per bus. He said that they had recently constructed a new garage at 132d Street of three stories, which cost \$1,200,000 and will accommodate about 300 buses. This is an investment of about \$4,000 per bus, but is an unusual condition. About 92 per cent of the total number of buses owned are in operation, 2 per cent being reserved for general overhaul and 6 per cent for general inspection. In an estimate to determine how many buses would be required to carry the number of passengers on the surface cars, Mr. Richie used the following figures: On the cars the average passengers per car mile were nine, whereas on the buses it was six, so that 6,653 buses would be required. This, at an investment for buses and garage of \$11,000 per bus, would mean an expenditure of \$73,183,000. He criticized the design of certain buses in New York other than those owned by his own company as having too high a center of gravity.

The present cost of upkeep on his line is more than \$2,000 per bus. On Fifth Avenue the neck of the bottle as regards congestion is at Fifty-seventh Street and Fifth Avenue. Buses reach that point at a rate of say 10½ to 11 m.p.h. Then they are slowed up to 4½ m.p.h., so that the company has practically reached its capacity on Fifth Avenue. The demand for service is probably for twice as many buses, but the service cannot be given. In the speaker's opinion there should be in addition an East Side line and a West Side line, the West Side line using Seventh Avenue and the East Side line Park Avenue for part of the distance. The speaker thought the bus did not cause more congestion, as has been charged. A street car occupies about 368 sq.ft. of street surface, but a bus only 184 sq.ft. It accommodates fifty-one passengers (with a double-deck bus), as against the same number for the street car.

#### BONUS IDEA FROM ARMY

At the beginning of the session on Friday morning, Counsel Shearn submitted reports for September of the different electric railway companies in Greater New York. On the whole they showed an improved condition as regards earnings. The first witness was Gerhard M. Dahl, vice-president Chase National Bank and a member of the B. R. T. stockholders committee. Mr. Dahl was the first street railroad commission under the Tayler plan in Cleveland. In commenting on the commission's plan Mr. Dahl said that he did not fear politics in the Board of Control, though he thought the private owners in the operating company might want more to say about the operation of this system, and he pointed out that each of the three directors selected by the investors in the Board of Control would represent only one company, that is each operating company would have only one director in the Board of Control, as against six on the other

side. He also saw some difficulty in inducing security holders of prior securities to exchange them for the same kind of security as that received by the stockholder. He believed voluntary reorganization a more satisfactory plan. He was also asked his opinion in regard to the proposed bonus of an extra 1½ per cent for efficient operation, which Commissioner O'Ryan said had been based on a somewhat similar plan used in the army to encourage marksmanship. The amount to be allotted to the operating personnel, General O'Ryan explained, might be divided, for example, into five equal parts to be distributed to the same number of groups, one for the managing group, one for the supervision group, one for the foreman's group, one for the administrative or clerical group, and one for the labor group, and the reward to be sufficiently substantial so as to constitute a stimulus for at least the best 50 or 60 per cent in each group. In reply Mr. Dahl said it would be an interesting experiment.

The next witness was Charles E. Chalmers, receiver of the Second Avenue Railroad, who explained that he was both receiver and manager of the companies. Two receivers had preceded him and both had died. The part of the city through which the Second Avenue lines run is very largely populated by foreigners. The road had done a large transfer business in the days when it was a part of the Metropolitan System, but the elimination of transfers greatly reduced the traffic. After being appointed receiver he first gave the cars a good coat of paint. After this was done he had a balance of \$198, while his payroll per week amounted to \$11,000. He sold forty cars to the city of New York for use on Staten Island for \$150,000 last summer, but has not yet been paid for the cars. He has also transformed a number of his former two-man cars to one-man cars at a cost of \$1,200 each. These cars make better speed and have fewer accidents, and are more popular with the employees. The saving in operating expenses is about 6 cents per car mile. These cars are popular also with the public. All improvements have been made out of the receipts obtained from the 5-cent fare, as the company has some receiver certificates outstanding on which no interest is being paid.

At the Monday morning session, Counsel Shearn explained that he had invited Mayor Hylan and Comptroller Craig to testify. Later a letter was received from the Comptroller specifying conditions under which he would testify. The city administration claims that the law under which the board acts is unconstitutional.

#### MR. UNTERMYER ON THE STAND

The first witness on Monday morning was Samuel Untermyer, a lawyer, who had been asked to give his views on the commission plan. The witness explained first that he had no interest personally, professionally or otherwise in any of the traction securities. He then explained that while he recognized the character, high purpose, and public spirit of the commission he did not agree with its plan, which he thought economically unsound. He thought the barometer system wrong in principle, and an incentive to extravagance and mismanagement, to make good the operating expenses and interest on the securities, whatever they may be, with



the sky as the limit. Continuing, the witness said:

When your valuations have been made, no matter how fair they may be, a deafening cry of assumed indignation and distress will go up from the ranks of the security holders in which they will denounce them as disastrously low no matter what may be the valuations.

Under the law as it now stands they are not bound to sell. You, on the other hand, in order to carry out your purpose for which your commission is created, are bound to buy such of the properties as you believe will be needed for the unification of the system and you have no power to compel the sale at a fair price. There should be an immediate amendment of the law so as to permit you to take the property by the right of eminent domain, so if the owners will not sell at a fair price you can condemn it.

I approve of the general plan of three operating companies and a holding company, and each operating company should issue its own securities based upon the purchase price of that property.

I insist, however, first, that the city should have a clear majority of the directors of the holding company.

Second—The holding company should be supreme over the operating companies except as to questions of mere physical operation.

Third—The holding company should purchase all supplies.

Fourth—The city should receive bonds for its present debt, which should rank *pari passu* with the bonds to be given in payment of the property, and with the same voting power per bond as is given to those issued for the property.

Fifth—The directors of these companies should be elected by the system of cumulative voting, so that as the bonds are retired the city will get more and more representation in the holding companies.

Sixth—In no event shall the city at any time have less than three of the seven directors in each of the operating companies.

The first witness in the afternoon session was William M. Chadbourne, attorney for the contract creditors of the New York Railways Company, representing in the main, materials and supplies furnished. Individually, he approved in general the plan of the Commission.

**RESULTS ON NEW YORK'S MUNICIPAL RAILWAY**

Grover A. Whalen, Commissioner of the Department of Plant and Structures was the next witness, and he was examined particularly about the operation of the Staten Island Midland Line, which this department of the city took over Dec. 1, 1920, under a contract with the company. Mr. Whalen described the line as consisting of about 32 miles of track with road-bed and equipment in poor operating condition and the line shut down when the city took it over. About \$69,000 of improvements have been made in track, which, under the contract, was charged to receiver's certificates, but to put the track and overhead construction in good shape would require a large sum, perhaps \$300,000, or with new paving, perhaps \$1,000,000. The first twelve months, or for the period up to Nov. 30, 1921, showed a credit balance over operating expenses of \$4,806, made up of:

Operating income.....	\$401,953	
Operating Expenses:		
Maint. of way and structures..	\$17,801	
Maint. of equipment.....	65,059	
Operation power plant (purchased power).....	90,860	
Operation of cars.....	180,650	
Injuries and damages.....	4,132	
Traffic expenses.....	754	
General and miscellaneous....	13,734	372,994
Balance.....	\$28,959	
Taxes.....	17,252	
Income from street railway operations.....	\$11,706	
Income deductions.....	7,619	
		\$4,087

The commissioner explained that the contract provides that one-half of the profit goes to the city and half to the receiver after the payment of operating expenses and taxes. The interest deduction of \$7,619 was an estimate for money invested by the city, principally for cars. The taxes included taxes on land and franchise taxes, but not the usual tax on gross earnings. This tax is payable to the city and was omitted for this reason. It was also brought out in the cross examination that there was no charge for paving because none was done, although the Borough President had required \$134,000 of repaving during the past year from the other line on Staten Island, the paving between whose tracks was at least no worse than that on the municipally operated line. Analysis of other items showed that certain legal work had been done by men connected with city law departments. The charge passed in favor of the city for the amount which these services were considered to be worth included only \$96 for legal expenses for seven months. There were some unsettled pending suits for damages against the city because of accidents, but it had not been determined whether the city was responsible. There was no allowance made also for depreciation for track. The 28 Birney cars purchased for \$200,000 were paid for by the issue of special revenue bonds, but the second-hand cars had not been paid for yet, as it was considered the Second Avenue Railroad, from which they were purchased, had not lived up to its obligations to the city. The wages paid to transportation employees run from 57 cents to 72 cents, depending upon seniority of service. Mr. Whalen himself receives no compensation from the property.

The safety cars had given very good satisfaction. The witness saw no reason why a safety car could not be used anywhere in New York. He did not know of any place where the traffic was more intense than to the beaches in Staten Island during the summer, and as the passengers were on pleasure bent they had no respect for the rights of others, and crowded and pushed. The one-man cars handled these crowds very efficiently. The traffic on the Midland line is mostly a morning and evening business. The witness thought the installation should not be considered in any way as a municipal experiment in the operation of street railways. Operation was begun because the road had stopped some months previously and the people had no service. Service had been given, although the conditions were very unfavorable. He believed better results would be secured if all the lines in Staten Island were municipally operated.

The next witness was John J. Kuhn, receiver of the Richmond Light & Railroad Company, the other line on Staten Island. The witness said that when he was appointed the employees were on strike because they were receiving only 41 cents an hour and were demanding 75 cents an hour. On authority of the United States Court the fare was raised to 8 cents with ten tickets for 75 cents. At one time there was some competition from city buses, but their operation was enjoined by the court. Even at an 8-cent fare the company lost last year about \$100,000, but had made money in operating its electric light plant. As yet

neither the receiver nor the counsel had received any pay. Charges last year for paving amounted to \$134,471, which is 60 per cent of the total sum paid all motormen and conductors. However, the company has not yet paid the bill for this paving which is owing to the city. One reason the company has not paid it is that it had no money. Another reason is that some time ago the authorities revoked the franchise. The witness was not willing to admit that the franchise was revoked, but if he had no franchise he had no obligations to pave. While the Midland road was not in operation some public official covered the rails over with asphalt paving so as to make the operation of buses more easy. After the city started operating the Midland it was necessary to remove this asphalt. The witness attributed recent falling off in traffic to the stoppage of work in the shipyards.

The final witness for the day was R. L. Rand, vice-president and general manager, Richmond Light & Railway and South Beach Railway, who testified that he had not seen any new track laid on the Midland Railway.

**Additional Bus Routes Denied**

By a two-thirds vote, the present Democratic minority voting with the majority members, the Common Council of Albany, N. Y., on Dec. 20 defeated the franchise conferring upon the Woodlawn Improvement Association Transportation Corporation the right to operate its motor buses on certain other designated streets in Albany.

The ordinance was in no respect a blanket franchise, but simply conferred upon the bus corporation the right to connect up some of its present routes by intersecting streets.

The United Traction Company and a number of representative citizens of Albany emphasized at the hearing on the subject the fact that the traction company is a heavy taxpayer of the city and that the proposed franchise would not add any revenue to the city's treasury or pay any appreciable cost of the upkeep of the pavements.

This apparently seemed to bear more weight than the argument put forth by the bus corporation that the franchise it requested was to enable the company to serve better the territory not now reached by the United Traction Company and into which the railway may never build an extension.

**Jersey Transit Commission Suggested**

At the recent Paterson conference called for the purpose of considering a unified transportation plan for New York and New Jersey a New Jersey Rapid Transit Commission which would work in unison with the New York Commission and with the Port of New York Authority was suggested. This solution to the traffic problems facing both these states was proposed by R. G. Hughes, chairman of Paterson's zoning commission. He asked for a committee of fifteen members to push forward the necessary legislation.

In a letter to the conference Samuel Rea, president of the Pennsylvania Railroad, told how impossible it would be in a few years for his company to handle any more rapid transit lines. A bi-state plan was proposed by H. S. Swann, who favored electrification of railroads in the vicinity of New York.



## Seattle's Tangle Tragic

Expert Says All Must Pull Together and System Be Put on Pay-As-You-Go Basis

Peter Witt's report on the Seattle (Wash.) Municipal Railway has been presented to the Mayor and the City Council. His statement is dated Dec. 10. As indicated previously, the carrying out of Mr. Witt's recommendations would involve the expenditure of \$2,000,000 for betterments to the railway. He says that "what the undertaking needs most, and surely has least, is a unity of purpose between the Mayor and the Council. Co-operation must supplant dissension."

Mr. Witt starts his report with a review of conditions that led up to the city buying the railway and engaging in municipal operation. All this is, of course, historical and has been covered fully in the *ELECTRIC RAILWAY JOURNAL* previously. Mr. Witt is not concerned with what might have been, but with what actually exists. The concern of the city must be with tomorrow. The march must be forward. As Mr. Witt sees it, "the success or failure of the present undertaking means more to the weal or woe of the people of the city than the success or failure of all other municipal activities combined." In his opinion, if the enterprise is to be made a success, the principle of "pay-as-you-go" will have to be established at once.

A considerable part of Mr. Witt's recommendations is taken up with suggestions for rerouting, economies in management through curtailment and rearrangement of service, etc., and if given in detail here would mean little or nothing except to those intimate with the topography of the city. Some of the other of his important recommendations follow:

The elevated structure in East Marginal Way and Spokane Street, as the story comes to me, was erected as a war necessity in order to take care of the shipyard workers and to provide entrance into the city for the cars of the previously city-owned line to Lake Burien. The "war" necessity being a thing of the past, and the city being now the owner of the tracks in First Avenue, the route of the cars now using the elevated structure should at least from Spokane Street North be over the tracks in First Avenue. This recommendation is not only made in order that there may be saved the cost of maintenance of two tracks, but to avoid the heavy and extraordinary maintenance which soon must take place on the elevated structure itself.

Your action in removing jitney competition, though highly commendable, has left the residents of Cowan Park without transportation. As a matter of right and fair play the people living in this district are entitled to street car service. It is therefore recommended that an extension of the tracks into the district affected should be made at once.

Because of the increased safety to the car rider and greater economy of operation, all cars should be operated by one man. I therefore urge the speedy rebuilding of all cars now in service requiring two men for their operation, excepting, however, from this rebuilding program the cars of the 600 type.

In my oral report I recommended the scrapping of the cars of this type, because of their excessive weight, slowness of speed, and inconvenience of boarding and alighting. For the same reasons I again urge their relegation to the junk pile and recommend as a substitute therefor the purchase of 200 low floor, light weight, high power, double truck cars.

Instead of reducing wages and saving \$100,000 per year, the wise thing to do is to reduce the number of employees and make the annual saving \$300,000. To this sum can be added another saving in power consumption amounting to \$100,000 per year, if the old cars are discarded and new ones of type as suggested are purchased.

The Law Department having held that

the raising of funds to purchase cars in the manner suggested in my oral report being contrary to the laws of the State, another way must be found in order that the saving of \$900,000 per year may be made. To that end I offered for your earnest consideration the following:

Permit the car rider to use the city's credit to the extent of the necessary down-payment for the purchase of the equipment on the car trust certificate plan. Using the savings as made to pay back the loan and to retire the car trust certificates as they fall due.

That your cars may be speedily loaded, the convenience of the car rider increase, and the expense of the front-end collection eliminated, I suggest and recommend that your system of fare collection be made pay-enter when cars are inbound and pay-leave when out-bound.

I am told that it is the habit of many of the platform men to work every day in the week. This is more than any man should be asked or permitted to work. There should be a department rule or ordinance of the city employed to correct this evil. Six days out of seven should be enough for any man.

In the allotment of work as called for in the runs provided by the schedule, the older men in length of service have first pick. This is as it should be. In the matter of pay, however, the system of giving to the older men the higher pay, and to the newer men the lower pay, is all wrong. All that it has to commend it is that it has been the custom and is also the practice elsewhere. The record shows that some men report for work at 5:00 a.m. and remain on the cars until 12:35 p.m.—seven hours and thirty-five minutes of actual time for which they receive eight hours' pay. Other men report at 7:00 a.m., work two hours, and report again at 1:00 p.m. and continue on the cars until 7:00 p.m.; eight hours' work but spread over a twelve hour day. This cannot be avoided. Runs of this kind must be made. The men who make them are the valuable men to the department. They are on the job during the hours of greatest demand, and should therefore receive the highest pay.

In my opinion the difference in pay between the good runs and the bad runs should be from 75 cents to \$1 a day. What is here suggested will not meet with the approval of the older men. Let your answer to their objection be, that through the rule of seniority they still will have the best of it: The first pick is theirs, and they can elect to take the long hours with the high pay or the short hours with the low pay.

The earnings of \$17,000 from the car advertising privilege is far below what it should be. If this contract is of short duration, the remedy of course can be quickly applied. If, however, it has a long time to run, effort should be made with the beneficiaries of this privilege for a change in the terms of the contract.

## Joint Operation Now a Fact

The city of Detroit and the Detroit United Railway took the first step towards the actual unification of the Detroit railway system on Dec. 15 when the cars of the municipal railway started operating alternately with Detroit United Railway cars on Trumbull Avenue line. The operation of the city's cars on the Trumbull Line brings the first Municipal Ownership service to the down-town section. The same transfer arrangements are adhered to as between cars of the Detroit United Railway system. One cent is collected for each transfer in addition to the regular 5-cent fare. Transfers are issued only to cars going in the same general direction as the car from which the transfer is issued.

The joint operation of cars will probably be extended within the next few weeks to include the Woodward Avenue, Fort Street, Grand Belt, Hamilton and Fourteenth lines. At the same time that municipal cars started operation on the Trumbull line, the Municipal Ownership lines on Fenkell and Davison were put into operation.

The joint operation is the outcome of negotiations started a few weeks ago. The ultimate aim of Mayor Couzens

is to have the city take over all of the Detroit United Railway city lines on a day-to-day basis until such time as a plan can be formulated and placed on the ballot providing for purchasing the entire system. Under the present arrangements the city is to pay the Detroit United Railway 20 cents per car mile for the use of company tracks. Arrangements have also been made whereby the city will rent space in the company's carhouses and yards for the cars being operated over the lines being served by the barns.

## Ontario Railroad Considers Electrification

The Temiskaming & Northern Ontario Railway Commission has decided to investigate the feasibility of electrifying the road with particular reference to the extension from Cochrane to Oil Can Portage, 70 miles further north. It is estimated that 500,000 hp. can be developed on the Abitibi River.

S. B. Clement, chief engineer of the Temiskaming & Northern Ontario Railway, and J. G. Kerry, consulting engineer, Toronto, have been authorized to report in three months as to the power possibilities. The plans, profiles and all matters pertaining to the extension of the road from Cochrane have been approved by the Provincial Government. Contracts have been let for 75,000 ties and a contract for 6,000 tons of rails for the first 40 miles of the extension has been awarded to the Algoma Steel Corporation of Sault Ste. Marie.

Bids for additional material will be received at the office of W. H. Maund, secretary-treasurer of the commission, North Bay, Ontario, until Jan. 9.

## Ten Per Cent Wage Cut Recommended

A 10 per cent cut in wages was recommended by a board of conciliation in Vancouver, B. C., on Dec. 10 to the British Columbia Electric Railway and its employees. This, if accepted, will reduce the present maximum of 65 cents to 58½ cents an hour. The board recommended further:

The substitution of time and a quarter instead of time and a half for Sunday work, although the board did not agree with the principle of paying extra for such work.

Another feature was the recommending of a monthly minimum of \$87.50 instead of a daily minimum of six hours pay.

Payment for "spread-over" time is reduced from 25 cents an hour to 10 cents an hour.

Track and carhouse men are to get time and a half for overtime except when such overtime amounts to more than five hours, in which case double time shall be paid for all time in excess of five hours.

Ten per cent extra is recommended for operators of one-man cars when they are introduced by the company.

"Box-time" is abolished by the report. This provision allowed the men ten minutes when making relief on the road, the idea being that they had to prepare themselves for the run.

The report says:

A majority of the board were of the opinion that the company was justified in asking for a 15 per cent reduction, but they did not agree that so drastic a cut should be made at this time. They felt that any reduction necessary should be made as easy as possible for the men, and that they should keep pace as nearly as possible with the rate increases made previously. They are, therefore, prepared to recommend that a general reduction of ten per cent be made on all wages except as hereinafter mentioned as and from Dec. 1.

The employees affected are members of the Amalgamated Association. The men have not yet intimated whether they will accept.



## Pittsburgh Makes Progress

New Traction Contract Passed by Council and Signed by Mayor and Philadelphia Company

The agreement between the city and the Philadelphia Company and Pittsburgh Railways for the reorganization of the railway has been formally executed. Mayor E. V. Babcock and A. W. Thompson, president of the Philadelphia Company, affixed their signatures to the document early in the week ended Dec. 24.

The agreement was executed under the ordinance approved finally by Council late during the week ended Dec. 17 and signed by the Mayor. The agreement will continue in force for ten years. It defines the rights and duties of the city and company in reorganizing the railways properties under the valuation of \$62,500,000, with a fixed annual return of 6 per cent, and the supervision by the city, through the Traction Conference Board, of the service, facilities, extensions and finances of the company. The agreement becomes effective when \$5,000,000 additional capital is provided by the company.

### COMMISSION MUST APPROVE

A petition to the Public Service Commission by the city and company for approval of the reorganization plan and agreement has been taken to Harrisburg by Mr. Thompson, George N. Munro, Jr., special city solicitor, and A. W. Robertson, counsel for the Philadelphia Company, and filed with the commission. Following approval by the commission, steps will be taken within thirty days by the company for the termination of the receivership, under the agreement.

Following the execution of the agreement, Mayor Babcock said:

This agreement will prove a benefit for the people and the company. It means the cessation of hostilities of years and substitutes co-operation by the city and company that is sure to result in better service and a lower fare. I want to congratulate the members of the Council for their efforts in reaching this plan. They spent much time and labor in studying this situation. Mayor-elect Magee assisted us before the plan was adopted and his suggestions were welcome, as would have been any assistance that would produce the best plan possible.

## Mayor Thompson Scored for Delaying Transit Solution

Impatient of delay under Mayor Thompson's assurance that he would work out a solution of Chicago's transportation problem, Alderman U. S. Schwartz made public on Dec. 19 the outline of a plan under which he thought progress could be made. He proposes to acquire the surface and elevated lines under a plan by which the municipality would guarantee payment out of earnings to be based on a fluctuating rate of fare. As chairman of the local transportation committee of the City Council he appointed a subcommittee of eight members to hear from all interested parties. Representatives of the companies were invited to express their views at a meeting to be held Dec. 22.

Under the Schwartz plan an agreement would be made by the city that the charge for service would be high enough at all times to produce a revenue sufficient to meet all charges and accumulate sinking funds. By issuing city bonds it is expected that the interest charges would be lowered to a

point where fares would be decreased. If an agreement could not be made as to purchase price he would have the lines acquired by condemnation.

The plan also contemplates the building of subways. In connection with his statement, Alderman Schwartz referred to the failure of the Mayor to make any headway under the full authority given him by the City Council although several hundred thousands of dollars had been spent in hiring lawyers and engineers. The only hope for further progress under the Mayor's plan is through a special session of the Legislature.

No announcement has yet been made by the federal court on the injunction proceedings against the 8-cent fare order of the Illinois Commerce Commission.

## \$200,000,000 Transit Program for New York

The New York Transit Commission expects to make public soon its plans for the immediate development of transit routes in the city at a cost of about \$200,000,000. Manhattan, Brooklyn and Richmond lines are included in the plans.

Extension of the subway under Forty-second Street clear through to Lexington Avenue on the east and to Eighth Avenue on the west, and the construction of moving sidewalks parallel to the tracks between the Grand Central Terminal and Times Square are among the improvements which the commission believes must be undertaken at once.

Eighth Avenue is fixed as the western terminus of the Forty-second Street tunnel for the reason that the plans of the commission call for the eventual construction of a subway beneath that thoroughfare.

Another improvement which the commission deems to be of vital importance is the construction of a subway for passenger service to Staten Island.

For Brooklyn the plans call for lowering the Fulton Street elevated tracks to the Fourth Avenue subway at Ashland Place and the construction of a cross-borough subway to connect Long Island City with the Brighton Beach line at the Prospect Park station.

More than \$300,000,000 has already been spent in building and equipping the present transit lines in the greater city and that program has not yet been completed.

## Ottawa Will Vote Again

The voters at Ottawa, Ont., will have another opportunity on Jan. 2 to make known their wishes as to the future of the Ottawa Electric Railway. The present contract between the company and the city expires in August, 1923, and on Jan. 2 the voters will be asked to vote on (a) municipal ownership and operation, (b) another contract with the city, (c) service at cost. Last year the Ontario Legislature authorized the city to carry out the purchase upon approval by the voters. The possibility remains of all three questions being lost at the election. This might happen if more than 50 per cent of the electors do not want municipal ownership and split their yes! votes between another contract with the company and service at cost. The company has gone before the voters with a frank statement of why it favors service at cost.

## Boston Elects Mr. Curley

Another Five-Cent Fare Advocate Rides Into Public Office Over Good Government Candidate

As in other recent municipal elections, the question of the electric railway fare played its part in the Boston mayoralty election on Dec. 13, when James M. Curley was elected to serve for the next four years. Mr. Curley, who several years ago filled the Mayor's chair for one term, received a majority of only about 2,000 votes over his nearest opponent. There were two other candidates who received a small scattering of votes.

### ELECTIONS NON-PARTISAN

The elections in Boston are supposed to be non-partisan in that no party designation is printed on the ballot. Three of the candidates, including Mr. Curley and his nearest opponent, John R. Murphy, are Democrats by personal affiliation. Practically the entire strength of the Republican party, including Governor Cox and the present Mayor of Boston, was thrown in favor of Mr. Murphy in an unsuccessful endeavor to defeat Mr. Curley. The previous record of Mr. Curley as Mayor of Boston was not such as to commend him to voters favoring reform in civic administration.

The successful candidate made a strong plea, among other issues, on a promise to fight for the restoration of the universal 5-cent fare in Boston. The lines of the Boston Elevated Railway are now operated by Public Trustees, under State legislation passed in 1918. The fare is 10 cents, with 5-cent fares in certain suburban communities for short local rides. Just how the Mayor-elect proposes to carry out his plans for restoring the 5-cent fare was not made clear in his pre-election promises. To do this will apparently require the repeal of existing State legislation and the acceptance of the repeal by the stockholders of the Boston Elevated Railway.

### PERSONAL POPULARITY A FACTOR

It is doubtful if this issue played such an important part in the Boston campaign as it did in the recent election in New York. Mr. Murphy, who ran within about 2,000 votes of winning, came out early in his campaign with a plain statement of facts concerning the inability of any Mayor of Boston to change conditions created under authority of the State Legislature. It is generally conceded that the personal popularity of Mr. Curley among certain elements of the population had much to do with the defeat of the "good government" candidate.

## Hartford May Seek an Expert

The city of Hartford, Conn., has under consideration the hiring of statistical experts in an effort to secure a fare reduction on the local lines of the Connecticut Company. Before a petition is filed with the Public Utilities Commission asking for a fare reduction the municipality has declared that statistical testimony would be advisable in an effort to get a reduction. The city feels that it should be prepared to give detailed testimony should the Public Utilities Commission grant a hearing on the application of the city for a reduction of fare.



## Financial and Corporate

### Branch Lines May Be Abandoned

Communities Protest Plan of Interurban to Quit Service on Three Lines

Efforts on the part of the receiver for the Indiana, Columbus & Eastern Traction Company to lighten its financial burden by abandoning service on three single track branch lines in Ohio are being bitterly contested by the various communities served by the branch lines. The application of the company, filed with the State Public Utilities Commission, is now before that body for investigation and an initial hearing was held on Dec. 14. Owing to the mass of evidence submitted and the desire of counsel for the various communities contesting the application to digest this evidence, the commission continued the hearing until Feb. 8 and 9, 1922.

The branch lines authorized by order of Judge Killitts of the federal district court at Toledo to be abandoned, but subject to the approval of the state commission, run between Lima and Defiance, between Columbus and Orient and between Carlisle Junction and New Carlisle. The Lima-Defiance line is the longest and most important of the three. It has a main track mileage of 39.92, with thirteen sidings whose combined length is 1.7 miles.

Figures submitted by the company covering operation of the Lima-Defiance branch show that in 1920 there was a deficit in operating revenues over operating expenses of \$18,092 and during the first six months of 1921 there was a deficit of \$5,910, while there has been an actual loss after deducting taxes, interest and depreciation charges ever since and including 1916. These "red ink" figures for the five and a half years beginning with 1916 are shown to be as follows: \$99,581, \$99,547, \$106,125, \$11,127, \$136,095 and \$64,893, the last figure being that for the six months ending June 30, 1921.

#### IMPROVEMENTS NECESSARY TO CONTINUE SERVICE

In order to continue operation of this line the company says it will be necessary to institute track and roadway improvements costing \$47,000 in 1922, \$22,500 in 1923, \$20,000 in 1924 and \$12,500 each year thereafter. It will also be necessary to spend \$48,000 for power improvements.

This branch has an interesting history. Organized in 1899 under the name of the Columbus, Lima & Milwaukee Railway, the name was changed some time prior to the beginning of its operation in 1899 to the Columbus & Lake Michigan Railroad. It was operated as a steam railroad until its acquisition by the Indiana, Columbus & Eastern Traction Company on June 19, 1906, and thereafter until 1910, when it was electrified in so far as passenger service was concerned. Freight service continued to be handled by steam locomotives for about two years. On Feb. 13, 1913, electric locomotives were substituted for the old steam motive equipment in freight service.

The Columbus-Orient line is 12.11 miles long. It was built in 1898 by Adam Grant, the line extending between Columbus and Grove City only at that time. In 1900 the line was extended to Orient, service starting in June, 1902. About 1901, ownership of the road passed to the Appleyard syndicate and it was re-named the Columbus, Grove City & Southwestern Railway. In January, 1905, a receiver was appointed and on June 19, 1906, the road was sold to the Indiana, Columbus & Eastern Traction Company.

The New Carlisle branch is 4.22 miles long and was originally known as the Springfield & Western Railway. It was placed in operation in 1901, under the management of the Dayton, Springfield & Urbana Railway. In June, 1906, the Indiana, Columbus & Eastern Company acquired the Dayton, Springfield & Urbana Company.

The Indiana, Columbus & Eastern has been in the hands of a receiver since January, 1921, up to which time it was under lease in large part to the Ohio Electric Railway. The present receiver is James H. McClure, Springfield, Ohio.

### Utilities Want Better Terms

Two Indiana public utilities have petitioned the Public Service Commission to permit more favorable terms for disposing of securities already authorized by the commission. The Interstate Public Service Company, a gas, electric and interurban utility, requested permission to sell \$130,000 of its first and refunding bonds at 75 per cent of par. The Commission some time ago authorized the company to sell the securities at 80 per cent of par. The company avers that it cannot now market the bonds unless it gives a greater discount.

The Indiana Power Company, Vincennes, requested leave to increase from 7 to 8 per cent the dividend rate on \$1,303,000 of unsold preferred stock. The Commission originally authorized the company to issue \$1,590,000 of 7 per cent stock, but the company avers that it cannot now dispose of the remainder unless it pays a higher dividend. The company requested leave also for a technical change in a previous order authorizing it to issue \$800,000 of 8 per cent notes, because of the increasing of the interest rate on some of its bonds from 6 to 7.5 per cent. The notes are convertible into the bonds.

### Boston Elevated Eliminates Deficit

As was reported previously in the ELECTRIC RAILWAY JOURNAL the deficit of the Boston (Mass.) Elevated Railway had been reduced on Nov. 1 to \$209,245. On Dec. 1 that deficit was eliminated and according to Edward Dana, general manager of the property, there is now \$49,042 in the reserve fund, which under the terms of the public control act must be restored to \$1,000,000. The favorable result obtained during November was accomplished, although the revenue during the month was \$155,938 less than a year ago.

### New Shore Line Plans

Details of Financing Are Given to Which It Is Planned to Rehabilitate Road

Further details are available with respect to the plans for the new company formed to operate the old route of the Shore Line Electric Railway from New Haven through Saybrook and Chester, Conn., to which reference was made in the ELECTRIC RAILWAY JOURNAL for Dec. 10, 1921, page 1047. As stated in the previous item the successor company will be known as the Shore Line Traction Company. It has been incorporated and will take over all the assets of the old operating company, the Shore Line Electric Railway, in the territory to be served. In this connection it is now learned that the statement was in error that Ford, Bacon & Davis would act as operating managers for the property. It is true that some time ago Ford, Bacon & Davis were requested to make an examination of the present physical condition of the properties, to report upon the cost of rehabilitation and to make a study of probable operating conditions. The report has been delivered and Ford, Bacon & Davis have announced that their work has been completed.

The line cost originally more than \$3,000,000, but due to a favorable purchase contract the Shore Line Traction Company has been able to acquire it for a little more than \$400,000. This amount includes the cost of practically everything except the power house equipment.

It is estimated that \$450,000 will be needed to put in new power house equipment and to replace a certain few miles of track which have been taken up, to clear the surface of the roadway, put in transmission lines, etc. This means that the total cost for the purchase of the road and putting it into first-class operating condition will be \$860,000 to \$875,000, including the sum of \$50,000 cash to be reserved as a working fund.

To cover the cost of the purchase of the line and the intended improvements the Shore Line Traction Company is selling \$900,000 of first mortgage thirty-year 7 per cent gold bonds and also 6,500 shares of stock. Under the plan as now proposed the property goes to the holders of the stock and the bonds in the new company at less than one-third of the original cost and at an estimated cost of less than one-third of its present replacement value.

It has been figured that the net income of the road, after providing for operating expenses and depreciation, will be about \$118,000. This estimate is based on the past revenue of the road over a period of three normal years and on savings to be effected by the elimination of an unprofitable 7-mile spur and based on additional freight and passenger revenue over and above that enjoyed by the old line. After deducting from the estimated net earnings the interest charges of \$63,000 for bonds and about \$5,000 for interest on car trust notes, the net income applicable to the common stock would show up better than \$7.50 a share.

The securities of the new company are being sold in units of \$3,000 in bonds and \$2,000 in stocks, or a total par value of \$5,000, for \$3,250. This is in a sense equivalent to a price of \$300 for three bonds and \$25 for \$200, par value, of stock.



## One Year of Service at Cost at Rochester

Public Sentiment for the Railway Improved—Changes Result in Better Service

The report of Charles R. Barnes, Commissioner of Railways, City of Rochester, on the service-at-cost contract between the City of Rochester and the New York State Railways was submitted to the Mayor and Common Council on Nov. 30. The financial report follows:

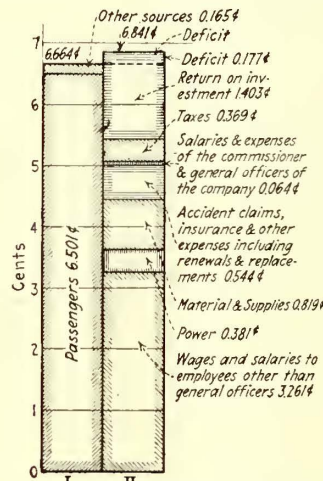
SUMMARY OF OPERATIONS—AUG. 1, 1920, TO AUG. 1, 1921		
Miles of track.....	167.53	
Miles of road operated.....	78.10	
Car mileage.....	9,572,773	
Car-hours.....	1,092,382	
		Per Cent of Railway Operating Revenue
Revenue from transportation:		
Passenger revenues.....	\$4,899,125.74	97.80
Chartered car revenues.....	4,965.00	.10
Miscellaneous transportation revenues.....	1,790.12	.04
Total revenues from transportation.....	\$4,905,880.86	97.94
Revenues from other railway operations:		
Station and car privileges.....	\$45,054.92	.90
Rent from track and facilities.....	47,449.28	.95
Rent from buildings and other property.....	10,910.85	.21
Total revenues from other railway operations.....	\$103,415.05	2.06
Railway operating revenues.....	\$5,009,295.91	100.00
Railway operating expenses:		
Ways and structures.....	\$513,844.71	10.25
Equipment.....	483,239.27	9.65
Power.....	292,470.12	5.84
Conducting transportation.....	1,895,041.06	37.83
Traffic.....	9,348.34	.19
General and miscellaneous.....	480,733.59	9.60
Renewals and depreciation.....	145,833.33	2.91
Total railway operating expenses.....	\$3,820,510.42	76.27
Net revenue from railway operations.....	\$1,188,785.49	23.73
Auxiliary operations revenues.....	\$7,493.88	.15
Auxiliary operations expenses.....	3,808.99	.08
Net revenue from auxiliary operations.....	\$3,684.89	0.07
Net revenue from operations.....	\$1,192,470.38	23.80
Taxes assignable to operations.....	278,016.23	5.55
Operating income.....	\$914,454.15	18.25
Non-operating income.....	8,645.37	.17
Gross income.....	\$923,099.52	18.42
Return on investment.....	1,057,098.00	21.10
Deficit.....	\$133,998.48	2.68

In his accompanying report, Mr. Barnes says that to a material extent the contract has been effective in modifying public sentiment against the railway company and that this is as it should be, because the transportation system is now to all practical intents and purposes solely that of the people of Rochester. The rate of fare in force during the fiscal year except from Aug. 1, 1920, to Aug. 28, 1920, was 7 cents cash and tickets for 6½ cents. At this rate the return to the company is the minimum rate—that is, 6 per cent per annum. As the rate of fare is lowered the company secures the right to receive a higher fare, but in no case more than 8 per cent.

One of the first acts of the commissioner was to make a survey of traffic. This was completed during August, 1920, and beginning on Sept. 1 the rush-hour service was increased 22 per

cent. Increases were also made as to the base schedule during non-rush hours. A reduction in vehicular obstruction of the tracks was also accomplished. A higher maintenance standard of equipment was introduced, and a track rehabilitation program was carried out, including the addition of loops. The track reconstruction work and construction of loops when completed will involve the expenditure of more than \$400,000. Approximately 6,000 track repair jobs have been completed during the year and more than 6,000 ties installed in the suburban lines. In the distribution system 250 poles were reset or replaced with concrete poles, 2,500 ft. of underground cable was replaced and 5,000 bonds were installed.

The revenue passengers during the year were: City system, 72,855,320; suburban lines, 2,462,509. The revenue passenger per car-mile were: City, 8.0; suburban, 6.7. The average rate of fare in the city service-at-cost zone was 6.501 cents per revenue passenger. In this zone there was a decrease of 10 per cent in number of revenue passengers, carried, compared with last year.



RECEIPTS AND EXPENSES PER REVENUE PASSENGER—ROCHESTER

This decrease, in the opinion of the commissioner, was almost entirely due to business depression, and the increased fare had very little effect on any reduction in traffic. The commissioner believes that the worst period of street railway operation is passed, and with improved conditions it should soon be possible to wipe out the accumulated deficit. An accompanying chart shows graphically the distribution of expenses.

In discussing possible extensions the report says that the population of the city between 1910 and 1920 increased 35.6 per cent, but during that period there had been no material extension of the trackage of the street railway system. Additional crosstown connections seem necessary now, but their cost at present prices would be prohibitive, and probably these requirements can best be met by use of the trackless trolley. In fact, an experimental installation of this kind will be made shortly.

**Will Sell Bonds.**—The Illinois Public Utilities Commission has granted permission to the Urbana & Champaign Railway, Gas & Electric Company, Champaign, Ill., to sell \$49,000 consolidated and refunding mortgage bonds.

## Connecticut Company Coming Back

\$700,000 Surplus Predicted for Current Year Under Changed Economic Conditions

A surplus of about \$700,000 in the treasury of the Connecticut Company, New Haven Conn., at the end of the current year is forecasted by returns filed with the Connecticut Public Utilities Commission for the eleven months ended Nov. 30. It will be practically the first time the company has shown a surplus since the war.

This reversal of last year's deficit of \$1,436,000 is attributed to the increased fare, together with economies in operating methods, a gradual reduction in the cost of material and fuel, a slight recession in recent months in rates of pay and relief from unregulated jitney-competition.

### PERIOD OF TRUSTEESHIP EFFECTED MANY IMPROVEMENTS

The records show that during the period of trusteeship—seven years—trackage of 16 miles has been added to the Connecticut Company's system, \$2,264,000 has been spent for new rolling stock and \$1,100,000 for additional power house capacity and other necessary additions to the property. If the electric railway should not be returned to the ownership of the New York, New Haven & Hartford Railroad the property would be in fully as good condition, as far as can be seen by utility commission records, as it was when separated from the steam railroad under the federal dissolution decree of 1914.

Notwithstanding stringent financial conditions brought about by excessive costs that forced the discontinuance of payments of rentals and an extension of time for the payment of taxes to the extent that the Connecticut Company now owes the New Haven \$3,443,000 for rent and the State \$1,882,220 in back taxes, the trustees have refused to decrease the amounts spent for the upkeep of the physical property and so have been enabled to bring about material reductions in operating costs. In years prior to the trusteeship 21 per cent of the gross income was considered sufficient to keep the property in good condition. At no time since the trusteeship has the expenditure for that purpose been less than that percentage, and in 1920 more than 26 per cent of the gross income was so applied.

Dividends at the rate of 3½ per cent were paid for the three years preceding the change of control in 1914. The most prosperous period in the company's history was the record year of the trusteeship, when the net income, over all charges, was a trifle less than \$2,000,000. The operating costs for 1914, 1915 and 1916 varied from \$5,185,000 to \$5,643,000. The prevailing rate of fare then was 5 cents.

Operating costs, which were \$5,643,000 in 1916, have more than doubled. In 1917 they increased \$7,821,000, in 1918 to \$8,150,000, in 1919 to \$9,210,000, and in 1920 to \$12,417,000. In other words, operating costs, taxes and fixed charges required 83 cents of each dollar revenue in 1916, 99 cents in 1917, 98 cents in 1918, 99 cents in 1919 and \$1.11 in 1920. The Connecticut Company appears to be one of the first properties of its kind in the country to begin to "come back."



## Receivers Sought for Three Massachusetts Roads

Petitions have been filed in the Massachusetts Supreme Court asking the court to appoint receivers for the Northern Massachusetts Street Railway, the Connecticut Valley Street Railway and the Concord, Maynard & Hudson Street Railway. The petitioners declare that if the court does not take jurisdiction individual creditors will assert their rights in different courts, so that there will be many suits.

Levies and attachments will be made upon cars, material and supplies of the companies and trustee processes will be begun which will tie up the finances so that the roads will be unable to maintain their properties.

These petitions have been filed in behalf of members of a firm of insurance brokers doing business under the name of Gilmour, Rothery & Company. They declare that the credit of the companies is so impaired that they cannot borrow money with which to meet maturing obligations, and that the Connecticut Valley Road owes them \$7,060 in premiums overdue on insurance policies; that the Concord, Maynard & Hudson road owes \$147 in premiums and the Northern Massachusetts company owes \$850 in overdue premiums.

Judge Jenney of the Supreme Court has ordered the petitioners to give notice of these proceedings to the Massachusetts Department of Public Utilities and to the Selectmen of each town and Mayor of each city in which the three roads operate cars.

## Purchase Recommendations Approved by Municipalities

At a conference of municipal representatives in the Niagara district of the Ontario province held in St. Catharines, Ont., the report of the Hydro-Electric Power Commission regarding the acquisition of the Niagara, St. Catharines & Toronto Railway was indorsed and the municipal representatives recommended to the councils of the various localities that by-laws be submitted at the coming municipal elections to take over the railway.

W. B. Burgoyne, president of the Niagara District Radial Union, explained that the meeting was merely a continuation of a conference held two years ago to discuss the proposed electric lines through the district when it was decided to ask Sir Adam Beck to secure an option on the Niagara, St. Catharines & Toronto Railway lines in the Niagara district. Chief Engineer Gaby of the commission said the railway could be bought for \$3,544,374, to be paid by \$2,446,374 of 4½ per cent fifty-year bonds of the Hydro-Electric Commission and the assumption by the commission of \$1,098,100 outstanding 5 per cent bonds.

The property to be acquired consists of the main tracks connecting Niagara-on-the-Lake, Port Dalhousie, St. Catharines, Merritton, Thorold, Niagara Falls, Welland, Humberstone and Port Colborne, also the local railway systems in St. Catharines, Merritton, Thorold and Niagara Falls, Ont. These new lines would be reconstructed at a cost of \$344,999, and an extension built in Thorold to the industrial district and to local lines in St. Catharines and Merritton. To place the line in first class condition would cost an additional \$774,456.

## Financial News Notes

**Petitions Court for Receiver.**—A bill of equity has recently been filed in court in Norristown, Pa., requesting the appointment of a receiver for the Montgomery Transit Company. This line operates between Norristown and Harleysville. It is said that the company is insolvent.

**P. R. T. Realizes \$1,447,394.**—For the eleven-month period ended Nov. 30, 1921, the Philadelphia (Pa.) Rapid Transit Company realized a net income of \$1,447,394, against a deficit of \$45,429 for the corresponding period a year ago. The accumulated deficit for the twenty-three month period to Nov. 30, 1921, is \$1,045,540.

**Abandonment of Service Authorized.**—The Ohio Service Company, New Philadelphia, Pa., by a decision handed down by the Public Utilities Commission has been granted the right to abandon its railway service between Uhrichsville and Dennison on Jan. 1. The application was based on the grounds that the line is now being operated at a loss.

**Approval of \$1,200,000 Issue Sought.**—Formal application by the Eighth Avenue Railway, New York, N. Y., for a \$1,200,000 bond issue secured by the company's real estate has been made to the Transit Commission. The purpose of this bond issue is to provide funds with which to take up certain bank loans and bring about improvements in the physical condition of the company's properties.

**Extended Bonds Offered.**—Dillon, Read & Company, New York, N. Y., offered for subscription on Dec. 19 at 100 flat to yield 7 per cent the remainder of \$5,000,000 of 7 per cent extended gold bonds of the Minneapolis (Minn.) Street Railway and the Minneapolis, Lyndale & Minnetonka Railway not accepted by the original holders for extension. The issue was promptly oversubscribed.

**Interurban Bondholders Organize.**—Action has been taken by some of the larger bondholders of the Dayton, Springfield & Urbana Traction Company, Springfield, Ohio, to protect their interest and property. Failure of the company to pay its coupons on the first mortgage bonds due on Nov. 1, 1921, was the cause for the action taken. A bondholders' protective committee has been organized.

**Taxes on Electric Railways Raised 15 Per cent.**—Electric railway properties in Wisconsin will have to pay an aggregate tax of \$1,594,242, or an increase of 15 per cent over that of 1920, on the basis of the preliminary valuation fixed by the Tax Commission. Their rate of taxation was increased from \$18.53 a thousand to \$21.06 a thousand, or more than 12 per cent; their valuation was increased from \$71,360,000 to \$75,700,000, or more than 5 per cent.

**Bids Wanted for \$680,000 of Bonds.**—Bids will be received until Jan. 7, 1922, by Harry W. Carroll, City Comptroller of Seattle, Wash., for the sale of \$680,000 of municipal street rail-

way extension bonds, the bonds to be sold for the purchase of new street railway tracks on First Avenue, purchase of twenty-five new cars and paying of the city's debt to the Western Washington Power Company, incurred at the time of the purchase of the Greenwood Avenue carline in Ballard.

**Mortgage Releases Being Arranged in Detroit.**—Suit has been started before Judge Webster to arrange for the release of mortgages existing on the day-to-day lines of the Detroit United Railway, which the city has voted to take over and for which the city seeks title. The suit is against the Detroit United Railway and the Guaranty Trust Company, New York, which acts as trustee of the mortgage on the lines in question to determine who is to receive the money which the city is to pay for the lines under the terms of the arbitration. The day-to-day lines include the Grand Belt, Twelfth Street, Linwood, Kercheval and Hamilton lines.

**October Showing Is Favorable.**—The loss from operation at Findlay, Ohio, by the Toledo, Bowling Green & Southern Traction Company has been cut down to its lowest point for the month of October. The street car commissioners believe the new cost-at-service grant put into effect last March will ultimately succeed. The \$20,000 stabilizing fund has been cut down to \$10,286 since the new plan was adopted. The monthly loss has run as high as \$2,000 but during the last month was only \$325. No change in car fare is expected soon. Cash fare is 10 cents, tickets, two for 15 cents or seven for 50 cents.

**\$1,600,000 of Bonds Offered by Interurban.**—Stone & Webster, Boston, Mass., are members of a syndicate which offered for subscription on Dec. 20 \$1,600,000 of first mortgage 5 per cent gold bonds of the Washington, Baltimore & Annapolis Electric Railroad, Baltimore, Md. The offering price was 78 and interest yielding 7.10 per cent. The proceeds of the issue are to be used for retiring at par and interest \$1,400,000 of 7 per cent notes of the company. The company made a wonderful record of earnings during the war-time period of heavy traffic between Baltimore and Washington and even in 1920 and 1921 earned respectively \$287,007 and \$337,000 after payment of interest.

**Bonds Paid at Maturity.**—The Kentucky Traction & Terminal Company recently announced that the \$191,000 of 5 per cent bonds of the Georgetown & Lexington Traction Company, due on Nov. 15, 1921, would be paid off at maturity at the office of the Cincinnati Trust Company, Cincinnati, Ohio, trustees. In connection with the payment the Kentucky Traction & Terminal Company issued \$196,000 of 5 per cent first and refunding mortgage bonds dated Feb. 1, 1911, and due February 1, 1951. These \$196,000 of Kentucky Traction & Terminal bonds have been exchanged with the Lexington Utilities Company for an equal amount of face value Lexington Utilities Company's first lien and refunding 6s, Series B, due April 1, 1936, which have all been sold. The \$196,000 of Kentucky Traction & Terminal bonds have been pledged under the indenture executed on April 1, 1919, by the Lexington Utilities Company through the Commercial Trust Company, Philadelphia, Pa., trustee.



## Traffic and Transportation

### First Bus Order in Nebraska

Commission There Takes Cognizance of New Form of Transportation in Competition With Trolley

The Nebraska State Railway Commission has taken official cognizance of motor bus transportation. Its first order on the subject bears date of Nov. 25 and refers to a complaint filed with the commission by the Omaha & Lincoln Railway & Light Company against Frank Henry. The complaining company operates an electric railway between South Omaha and Pappilion. Mr. Henry operates a motor bus line between South Omaha and Ralston, following a route identical with part of the route of complainant, with one terminal identical and its other terminal at a midway station in use by the complainant.

#### BASIS OF RAILWAY'S OBJECTIONS

The railway alleged that the operation of the Henry buses was confined to that portion of its whole route where it never had been able to operate successfully from the revenues there received. Other allegations were made by complainant as to practices of respondent inimical to the safety of its own passengers and to the performance of its duty.

In its order the commission prescribed schedules of service which complainant and respondent shall observe. The commission further ordered that the management of the bus line shall install books of accounts which shall show:

(a) Financial statement, including in assets the cost of trucks, office furniture and fixtures, shop equipment, supplies, miscellaneous items and cash on hand, and in liabilities the actual investment by the owners, money borrowed and money earned, amount set aside for depreciation and the accrued surplus.

(b) Revenues from regular passenger schedules and separately from other sources.

(c) Expenses, to include gasoline and oil, drivers' wages, drivers' expenses allowed, tire repairs and renewals, repairs to buses, repairs to buildings and shop equipment, salaries of officers and clerical help, rent, heat, light, insurance, taxes, etc.

(d) Dividends paid on investment.

(e) Daily total of revenue passengers carried, non-revenue passengers carried and monthly and annual summaries of these.

#### BUS LIMITS PRESCRIBED

It is further ordered that the buses abstain from driving on interurban or street railway tracks, or near enough to obstruct the clearance to electric cars, except when traffic conditions on the highway make it temporarily unavoidable. The buses are to yield the right-of-way to any approaching electric railway car and are not to obstruct tracks until after electric car has passed.

The commission also ordered the bus line to secure liability insurance for the protection of passengers of not less than \$10,000 for each bus operated as a common carrier, nor less than \$500 for each passenger carried at any one time, the proposed policies to be submitted to the commission for approval.

A one-way fare of 14 cents was established by the commission for the 5-mile route of the bus line, with an intermediate fare of 7 cents.

An excerpt from the order reads:

Regulation in the public interest which might as an incident materially reduce the earning power of this respondent does not violate his constitutional property rights. He is using the highway as a place of business. He operates entirely upon license, or, more properly, consent, and no vested right is involved. The fact that he has money invested in buses, which regulation of his schedules might jeopardize, is not material. The State may even prohibit this respondent and others like him from continuing to operate, if the reasons for its exercise of the police power are defensible as in the interest of the general public.

T. A. Browne, member of the State Railway Commission, offered the following comment on the subject of motor bus regulation:

This commission has not attempted regulation of motor bus lines in any degree except in so far as represented by the order in the Ralston case, which came before us on complaint. I cannot say just what is contemplated. There is no question that these buses are common carriers and are subject to regulation just as are other common carrier residents of Nebraska. While it is probably the commission's duty to do whatever regulating is essential, we have considered the provisions of the law as directory only and have been reluctant to embark into the field of regulation because of the great complexities surrounding the subject.

#### COMMISSION LACKS KNOWLEDGE

These motor buses which operate inter-town lines on country roads are subject to so many conditions over which they have no control that they must be more or less erratic as to schedules. We attempted a rather comprehensive regulation of freight trucks, but were not very successful because of the lack of knowledge of the subject either in our possession or elsewhere.

We do not know how many motor bus lines there are in this State. We have not required them to file anything in our office. We have not assumed that the commission's jurisdiction required them to obtain consent before beginning operation. We do know that some of them have been rather short lived and that others have tried out the business where their predecessors have failed. It is easy to go into the motor bus business. It is not a stable business and therein lies its chief menace, particularly if by operation it menaces the continuance of stable transportation.

### Georgia Railway Redeems Rebate Slips

In accordance with a contract between the city of College Park, a suburb of Atlanta, and the Georgia Railway & Power Company, operating the city electric traction and suburban lines, by which a 5-cent fare was granted College Park with the original franchise, the railway has been compelled to make a refund of 2 cents each on 682,670 fares, amounting to \$13,653.

When the company was granted a 7-cent fare in Atlanta some months ago the same fare also was charged in the suburbs of Decatur and College Park, but due to a suit being brought against the company on the old contract, rebate tickets were issued with each 7-cent fare to citizens of these two suburbs. Recently the Supreme Court ruled that the 5-cent fare would have to stand in accordance with the original contract, and the amount paid back by the company represents the refund on the rebate tickets issued in College Park. Such an order was not obtained for the Decatur line. This case has been referred to previously.

### Electric Railways Upheld

Both Muskegon and Battle Creek Vote to Retain Their Electric Railways—Fight on in Grand Rapids

Two Michigan cities, Muskegon and Battle Creek, have voted to support electric railways in the latter's fight against encroaching jitney competition. In each city popular elections held during the week ended Dec. 17 resulted in an overwhelming indorsement of the stand taken by the railways that competition by buses on streets occupied by railway lines must be stopped in order to preserve the railways. The system in Muskegon, known as the Muskegon Traction & Lighting Company, is controlled by the American Light & Traction Company, while the lines in Battle Creek are operated by the Michigan United Railways.

#### TWO BUS LINES AFFECTED

In Muskegon two bus lines were affected. In that city the vote was 4,605 for the cars and 1,316 for the buses. Muskegon Heights, a large suburb, gave a majority of 430 for the electric railway. By the terms of the vote the Council there is authorized to pass ordinances denying use of the street to the bus lines affected. Three bus lines will not be affected by the vote. If the vote had gone the other way the railway planned to cease operation on the following day, permission to take such action having been granted the operating company by the Michigan Public Utilities Commission following a showing before the commission that the cars could not be operated at a profit in the face of the claimed unfair competition of the jitney lines. Even in districts served exclusively by the bus lines the vote was overwhelmingly in favor of the retention of the electric railway system.

The Battle Creek vote resulted in a ten to one victory for the street cars. The vote for the cars was 5,638 and for the jitney 568. The expenses of the Battle Creek election were borne by the electric railway. In this city both the electric railway and the jitney men carried on extensive publicity campaigns. The publicity for the railway was in charge of Henry Tinkham and was of a high order and exceptionally effective. In Muskegon, on the other hand, the jitney men spent thousands of dollars in striving to persuade the voters to support them, while the railway spent not a cent, leaving the whole matter to public opinion. In both cities the newspapers supported the electric railways. In Battle Creek the railway employees appealed direct to the voters by circulars.

#### GRAND RAPIDS ALSO A BATTLEGROUND

These victories followed the partial one scored in Grand Rapids, where an ordinance requiring a \$10,000 bond for jitney men was adopted. Following the adoption of this ordinance the bonding company refused to give the bonds and the jitney men found themselves unable to meet the city laws. Several operated as free lance drivers, announcing in placards on their cars that they would give free rides and asked for contributions. Such contribution customarily was left on the seat as the passenger alighted at the end of the ride. This practice has proved far from effective and now the bus men are asking that the amount of the bond be reduced appreciably, it being regulated by the capacity of the car.



## Kansas City Jitney Problem Up Again

**Operators There Seek to Take Advantage of Recently Enacted State Law  
—Whole Case Now Before Court for Settlement**

Kansas City, Mo., is the battleground for a new attack by jitney operators upon the right of a municipality to control vehicles operated for hire. The occasion for the renewal of the contest between jitneys and city officials in Kansas City is the passage of a new traffic law by the State Legislature. This measure, the jitney men claim, relieves them from municipal control. This is the Bestor law, apparently intended to make uniform the regulation of traffic throughout the State. It has to do with the manner in which vehicles operating on public streets and highways shall be equipped and run.

**T**HE jitney operators contend that since the State has assumed a certain control of motor vehicles, the cities have no longer any authority to regulate traffic. The jitney men have therefore reopened litigation on existing ordinances and are trying to secure a court decision invalidating the effect of the ordinances that have made present jitney operation illegal. A brief review of the Kansas City situation will make clearer the importance of the pending litigation.

### ORDINANCE EFFECTIVE LAST MARCH

A city ordinance became effective in March, 1921, prohibiting jitneys from running on streets having electric railway tracks. The jitney men sought an injunction to prevent the city from enforcing this ordinance; the local court upheld the ordinance, and the jitney men appealed to the State Supreme Court. The appeal is still pending. This ordinance has been fairly well obeyed.

A second ordinance regulating jitneys was passed in August; this reaffirmed the prohibition against jitney operation on electric railway streets, and provided for designated jitney routes, applications for routes by jitney men to carry written consents of 51 per cent of resident-owned property on such routes. After lenient delay by the city, there was insistence that this ordinance be complied with. Several applications were filed by jitney operators for designated routes, with "consents" by property owners. But in no case, as checking of assessors' books revealed, were the consents sufficient.

Jitneys continued to operate, however, despite the ordinance, and the jitney association sought an injunction against the city, to restrain it from enforcing the measure. The city filed a cross bill, asking injunctive relief against threatened violation of the ordinance. A temporary restraining order was granted to the city, later made an injunction. The injunction was asked, and granted, against the jitney association, and also against fifty-one named jitney operators.

### HOPE SEEN IN BESTOR LAW

The proposal in the State Legislature of the Bestor law and its passage gave jitney operators hope that the city control would be abrogated. As soon as the Bestor law became effective they sought a reopening of the injunction proceedings and full relief from effectiveness of the ordinance. It may be remembered that while the injunction proceedings on the ordinance prohibiting jitneys from so-called electric railway streets are pending in the State Supreme Court, the ordinance on which local injunction prevails covers the material of the first city law as well as that regarding consents of property owners and other matters.

In the presentation of their case to the local court recently, the jitney men have tried to show not only that the ordinance conflicts with the Bestor law, but that it is in itself unfair. They have in fact recovered the original ground of controversy, possibly to display the lack of necessity for any municipal action in regulation, additional to the regulation by the Bestor, the state law.

The Bestor law specifies the manner in which motor vehicles shall operate on the public streets and highways and provides for a state license for motor vehicles. It permits cities to levy license taxes on vehicles, which cannot be more than half the state license fee.

The city's counsel pointed out precedents both in Missouri and in other states for its contention that the Bestor law, like other similar laws, does not withdraw regulation of privileges from cities, and does not, indeed, prevent cities from passing and enforcing regulations of similar character to those of the state law, and in addition to the state's regulations.

Testimony by witnesses for the jitney men was intended to prove that jitney service was necessary in Kansas City as an adjunct to the electric railway service, since, it was claimed, the railway company could not handle the traffic.

### RAILWAY FULLY PREPARED TO MEET TRAFFIC DEMANDS

Documents and evidence were introduced by the city demonstrating that the Kansas City Railways was able not only to handle the traffic which the jitneys sought, but an amount greatly in excess of that. The most striking evidence of this was the display of passengers handled during the American Legion convention, when, for the peak days, the railways transported more than 726,000 persons a day. The daily average carried by the street cars, cash and transfer, is about 550,000, so that the Legion figures displayed an ability to care for about 175,000 in excess of the usual number. These figures were made more impressive by comparison with the claims of the jitney witnesses, that the jitneys had been carrying about 50,000 passengers a day, who could not have been served except by jitneys.

D. L. Fennell, superintendent of transportation of the Kansas City Railways under the receivers, was called by the city as a traffic expert. He was asked to testify on subjects related to the reasonableness of ordinances regulating jitneys. He testified as to the damage to headways of street cars caused by jitneys operating on streets having tracks; that maintenance of schedules by street cars was improved 20 per cent after the jitneys had been prohibited from streets having tracks; on these streets, vehicle accidents had

decreased 25 per cent since the removal of jitney routes.

Mr. Fennell testified that the operation of jitneys had caused a loss of \$3,500 to \$4,000 a day to his company, or about \$1,000,000 a year, and was largely responsible for the fact that the company is now in receivers' hands.

Briefs are to be submitted and final decision by the court may not be given for several weeks. In view of the importance of the matter reflected in the extent of legal assistance, it is likely that appeal will be taken from the Jackson county circuit court, whatever the result here.

## Special Master Now Hearing New Jersey Case

Former United States Judge Thomas G. Haight has started to take testimony at Newark, N. J., to settle the question as to whether the 8-cent fare is to continue on the Public Service Railway or whether it is to be set aside. The order of United States District Court Judges Rellstab and Woolley authorized the 8-cent fare only temporarily, or until the entire question as to the propriety of such an 8-cent fare could be fully investigated by a Federal tribunal.

Last July the Public Utility Commission fixed a fare of 7 cents with 2 cents for a transfer for the company. An appeal was taken by the company on the ground of confiscation of property and hearings were held before the special Federal statutory court, resulting in the company being granted a temporary injunction restraining the State commission from enforcing its order, and allowing the company an 8-cent fare pending final hearing.

The commission and the State appealed this decision to the United States Supreme Court. They were denied a stay of the lower court's ruling pending hearing. Their request for advancement of the date of hearing was made because they wanted their appeal disposed of as soon as possible.

## City Wins Point Against Jitneys

The city of Seattle recently won another angle of its legal fight against jitney buses in the city, when Judge J. T. Ronald, in the Superior Court, denied the application of twenty residents of the Cowen Park district for a writ compelling the Sound Transit Company to operate its Cowen Park and Roosevelt Heights jitney stages. The Cowen Park people were seeking to compel the company to comply with a certificate of necessity issued by the State Department of Public Works, which the company has contended requires continuous service for the two districts.

T. J. L. Kennedy, first assistant corporation counsel, who appeared for the city as a friend of the court, declared the Sound Transit Company holds no franchise under which it is obligated to furnish transportation, and that only the State Department of Public Works, which issued the certificate, has jurisdiction to judge whether the company is fulfilling the terms of such certificate. Judge Ronald held that, there being no franchise, he could not compel the company to operate its buses. The case was referred to in the *ELECTRIC RAILWAY JOURNAL*, issue of Dec. 17.



## One-Man Car Experiences Related

The Capital Traction Company at Washington, D. C., has discontinued the use of the only one-man car which it has been operating in the city. The car has been transferred to a shuttle service at Tacoma Park, Md. Officials state that there is no significance to be attached to this change. This car was fitted up several months ago with the idea of seeing what could be done with some of the company's old equipment. It happens that the Capital Traction Company is not likely to be in need of new equipment for some time to come. If it were necessary to undertake a study of equipment types, it was stated that one-man cars certainly would come in for consideration. The car simply was withdrawn from city service because of its peculiar fitness for the only shuttle service which the company maintains.

The Washington Railway & Electric Company has constructed and is operating thirty-one one-man cars. This has given rise to considerable complaint. To one of these complaints the Public Utilities Commissioners have replied to the effect that the cars are equipped fully with safety devices.

## City's Fare Complaint Answered

The answer of the International Railway, Buffalo, N. Y., to the city's complaint against the 7-cent fare charge and alleged inadequate service has been filed with the Public Service Commission by Herbert G. Tulley, president of the company. The company maintains that the 7-cent fare is insufficient to meet operating costs, make a reservation for surplus and contingencies, provide for maintenance and depreciation and pay a reasonable return on the value of the system. The commission is asked to allow a higher fare than now is charged.

It is conceded that if a 5-cent fare were charged it would have a tendency to increase the number of car riders, but the company contends that the increase would not be sufficient to make up for the loss in income. President Tulley says the gross revenue of the company would be less under a 5-cent fare than the 7-cent fare now charged.

With the complaint of the city answered, it is expected the Public Service Commission will fix a date for a hearing and proceed to take testimony in the rate case.

## Decision Against Free Jitneys

Judge Harry O. Chamberlin has upheld the decision of the Indianapolis city court that the operator of a "free" jitney bus who exacts no stipulated charge from his passengers, but does receive whatever sum the passengers leave in the car, is guilty of violation of the city jitney ordinance. Judge Chamberlin affirmed the verdict of Judge Walter Pritchard, who, Nov. 28, found an operator of a "free" bus guilty of violating the ordinance and fined him \$10 and costs.

Soon after the ordinance was adopted by the City Council and before it became effective several drivers brought an injunction suit in the Superior Court to prevent the city from enforcing the ordinance, but Judge Carter construed the measure to be constitutional and valid, and the police department was ordered to enforce it. In an

attempt to escape the provisions of the ordinance many jitney drivers removed the customary signs and posted on their windshields a sign, "free" bus. This was construed to be a violation of the ordinance and the police were ordered to arrest all who were operating these "free" jitneys.

Judge Chamberlin said that the test was whether or not there was an implied contract for any sum and whether that fee finally would find its way into the driver's pocket. The court said:

When a passenger gets into one of the cars it is implied that the driver will be paid something for hauling the passenger. Every one who rides expects to pay something and the driver has the same expectation. At least, he has such a strong hope that it amounts to expectation. I cannot find so much difference between that and carrying a sign announcing that a fare will be charged of those who ride. I think that it amounts to an implied contract.

## Louisville Fare Case Returned to Lower Court for Action

Louisville's railway problem will have to be threshed out in the Circuit Court of Appeals as a result of the action of the United States Supreme Court on Dec. 16 in ruling that it was without jurisdiction to construe three questions of law certified to it by the lower court.

In order to determine the question of rate contract or no rate contract, the Circuit Court of Appeals for the Sixth Circuit certified three questions of law to the Supreme Court.

The court did not announce it was without jurisdiction until it had heard the arguments of Joseph S. Lawton, City Attorney, and had returned from its recess.

When the court returned from its recess Chief Justice William Howard Taft announced it was the opinion of the court that the case did not come within its jurisdiction and that the three questions should not have been certified to it.

As a result of this action the case will go back to the Circuit Court of Appeals for a final decision, without any opinion from the Supreme Court on the three questions which the lower court certified to it.

The Circuit Court of Appeals certified to the Supreme Court three questions of law. These questions, upon which arguments were heard before the United States Supreme Court on Dec. 16, were:

- 1.—Did the act of 1856 have the effect of making revocable that immunity from rate legislation evidenced by the 5-cent contract which was purported by the charter and by the contract of April, 1864?
- 2.—Did such immunity terminate with the end of the original charter term in 1894?
- 3.—Did the acceptance by the company of the Constitution of 1891 have the effect of making revocable any such existing immunity?

The controversy between the city and the company over fares dates back to 1918. Finally in January, 1921, a suit in equity was filed by the railway against the city in the United States District Court, to establish the right to collect a 7-cent fare and to prevent the city from interfering with the company collecting that fare. On Feb. 16 Judge Evans decided the case in favor of the company. In accordance with this ruling the 7-cent fare went into effect on Feb. 21. The city then appealed to the United States Circuit Court, which in turn returned three questions of law to the Supreme Court for answer.

## New Jitney Regulations Passed in Camden

New regulations for the operation of jitneys in Camden, N. J., were included in an ordinance passed by the City Council recently. The ordinance provides that all buses must operate twelve hours a day, six days a week and make at least one trip each hour during the scheduled time of operation.

Provisions are made for excluding buses from operation in the event of accident or the necessity of making repairs. All bus owners must file with the city a designated route. They must also place signs on their cars designating the route over which they operate and the name of the owner of the bus must be painted on the side of the car.

The ordinance also compels the owners to file with the city a schedule of operation in which they must give their leaving time from the terminal for each trip. Cars operating beyond the city limits must also file a time schedule.

## Supreme Court Denies Prohibition Writ Restraining Service Commission

With a remarkable degree of celerity concerning the importance of the question involved, Justice Harold L. Hinman of the Supreme Court on Dec. 18 denied the application for a writ of prohibition restraining the Public Service Commission from interfering with the franchise agreements as to street railway fares in Troy, N. Y., which application had been made to him and argued by Corporation Counsel Guy of Troy the week previous.

The writ was asked on the ground that the public service commissions law amendments passed last winter are unconstitutional, in so far as they delegate to the Public Service Commission the right to abrogate existing franchise agreements.

The basis of Justice Hinman's decision is that under the railroad law of the State and subsequent legislation, including the public service commissions law, the state never delegated to the city of Troy the right to fix a fare except in subordination to the power of the Legislature, which might at any time withdraw the rate regulating power from the city.

The remarkable feature about the decision is its brevity and that the matter is passed on to the higher court, which in the final analysis will at a very near future date be obliged to settle once and for all, so far as the courts of New York State are concerned, the constitutionality of last winter's amendments to the public service commissions law.

The Troy case was referred to at length in the ELECTRIC RAILWAY JOURNAL for Dec. 17, page 1090.

## Seven-Cent Rate Authorized

The Empire State Railroad Corporation has received permission from the Public Service Commission to put a 7-cent fare in effect in Oswego, N. Y. This rate of fare is to be allowed until the commission has finally determined the proper fare to be charged in that city. The 7-cent fare will become effective on Jan. 1.



## Restraining Order Granted in Owl Car Suit

Justice Charles H. Brown in the Supreme Court at Buffalo, N. Y., has granted an order temporarily restraining the municipal authorities of Buffalo from prosecuting an action against the International Railway brought to collect \$139,750 in penalties for failure to operate owl car service on several local lines. The injunction will remain in effect until a decision has been reached in an action brought against the city by the railway to stop all suits on the ground that the ordinance is invalid.

In his opinion Justice Brown holds that the ordinance is invalid because it conflicts with the public service commissions law. He says the State Legislature gave the commission the sole power to determine a just, reasonable, safe, adequate and proper service to be given by electric railways in the State.

The ruling is in connection with a suit brought by the city to collect penalties of \$250 a day for each day since the enactment of the ordinance in March, 1920. The company countered with a suit attacking the validity of the ordinance and then sought the temporary injunction. The city will appeal the decision of Justice Brown.

## Second Five-Cent Fare Week Shows Improvement

The second week's trial of the 5-cent fare in Bridgeport, Conn., showed an increase of approximately \$600 in receipts over the first week of the test according to figures obtained from the Public Utilities Commission at Hartford, Conn. The receipts for the week of Dec. 4 totaled \$34,829, as against \$39,261 in the last week of the 10-cent fare, the difference being \$4,432. The first week's difference was \$5,105. In the report to the commission President L. S. Storrs of the company says:

During the week we carried a total of 433,948 5-cent passengers and 132,779 10-cent passengers. During the holiday shopping period the receipts of the last three weeks in December are normally materially higher than at any time during November.

We will, therefore, expect to see less falling off during this period than has been true under the initial period of the test and that will be doubtless found to be true after Jan. 1.

## Railway Will Co-operate with Buses

D. W. Henderson, general superintendent of the Seattle (Wash.) Municipal Railways, is co-operating with F. M. Peterson, who operates an automobile bus service under city permit, to give improved transportation to the residents of Cowen Park, Roosevelt Heights and North Ravenna districts. From 7 a. m. to midnight fast automobile buses will maintain a ten-minute service from East Sixty-fifth Street and Ravenna Boulevard and from East Eighty-fifth and 10th Avenue, N. E., to connect with the municipal cars at the north end of the University bridge. Superintendent Henderson has agreed to have an inspector at the bridge to see that cars are on hand to meet the buses and give speedy service into the city.

During rush hours extra buses and cars will be pressed into service.

# Transportation News Notes

**Opposed to One-Man Cars.**—Resolutions denouncing the present mode of operation of one-man cars in Trenton have been adopted by the Mercer County Central Labor Union at Trenton. It is asked that the City Commission declare it unlawful to continue the operation of these cars.

**Petition Rejected.**—Electric railway rates on the lines of the Evanston (Ill.) Railway will not be increased from 7 to 8 cents. The Illinois Public Utilities Commission has permanently suspended the petition of the company, saying that there has been a decided decrease in the cost of labor and equipment.

**Wants Trackless Trolleys.**—The Georgia Railway & Power Company, Atlanta, Ga., will be asked by the Ansley Park Civic League of Ansley Park, an Atlanta suburb, to provide that community with trackless trolley service. The city is planning to repave most of its important streets within the next few months and the request will be made as soon as the paving is completed.

**One-Man Cars and Unjust Rates Scored.**—The Mayor of Syracuse, N. Y., has filed a complaint with the Public Service Commission against one-man cars and rates of fare on the Syracuse lines of the New York State Railways. In his petition he requests an investigation of one-man car operation and urges the abandonment of those now in use. He further recommends fare charges which would be reasonable, just and legal.

**Will Appeal for Lower Fares.**—The board of education of Atlanta, Ga., is preparing to make a direct appeal to the Georgia State Railroad Commission in quest of a lower railway fare for school children. A petition of the board for lower fares for school children recently was denied by Preston S. Arkwright, president for the Georgia Railway & Power Company, on the ground that reduced school fares would be discriminatory and impracticable.

**31,842,317 Passengers in November.**—The Public Service Railway, Newark, N. J., has filed its November report in the Federal Court in accordance with a ruling of the court. The report shows that 31,842,317 passengers were carried in November; number paying fare of 8 cents, 13,163,277; number of tickets or tokens sold at the rate of four for 30 cents, 11,885,342; number of passengers paying fares by tokens, 11,571,103; number of transfers issued at 1 cent each, 5,227,504.

**Asks For Bus Changes.**—The residents of Barrington, N. J., have prepared a petition to be sent to the Board of Public Utility Commissioners requesting that buses running from Camden to Berlin shall be allowed to take passengers between Haddon Heights and Magnolia. These buses can only receive passengers at the Camden terminal and after reaching Magnolia, thus causing hardship to the

traveling public. It is claimed that there has been a curtailment of electric railway service between Camden and Clementon.

**"Strain a Point to Please Them."**—In order to establish the closest possible co-operative effort between street car men and the traveling public during the holiday shopping season, City Superintendent Cooper of the Portland Railway, Light & Power Company, Portland, Ore., has issued a special bulletin to all the operating forces of the traction company. He has urged the employees to do their best to lighten the burdens of all shoppers by helping them on and off the cars. He further requests the men to strain a point to please patrons.

**Safety Campaign Started.**—The jitney drivers of Newark, N. J., have started a campaign to reduce accidents to a minimum, guided by a suggestion offered them by Traffic Supervisor Crawford. Mr. Crawford told the drivers that of the 100 jitney accidents reported by insurance companies in the past eight weeks, sixty have been styled "step accidents." He told the drivers that if they reduced the number of accidents the insurance companies would reduce the premiums on jitney policies. He warned drivers about stopping their cars too far from the curb line.

**Wants Bill Prepared on Fare Issue.**—On the recommendation of Frank C. Perkins, municipal commissioner of public affairs, the City Council of Buffalo, N. Y., has directed the corporation counsel to prepare a bill for introduction at the next session of the State Legislature prohibiting the charging of electric railway fares in excess of 5 cents in any first or second class city of the State. Free transfers also must be furnished. Copies of the bill will be sent to the secretary of the state conference of Mayors and other officials, urging the co-operation of that organization in the 5-cent fare fight.

**Double-Berth Cars to Be Used.**—The Dallas (Tex.) Railway has proposed to the Supervisor of Public Utilities of the city that a system of double-berthing street cars for loading in the downtown district be arranged as a means for speeding up traffic during the rush hours. The suggestion has been approved by the City Commission and instructions have been issued to the traffic bureau of the Police Department to remark the safety zones on all downtown street corners so that two street cars may take on passengers at the same time. The safety zones are being lengthened. It is expected that the double-berthing plan will be put into effect about Jan. 1.

**New Electric Line Proposed.**—An electric road between Wildwood and Pennsgrove, connecting with Wilmington, Del., and passing through Millville and Woodstown, N. J., will be built by Philadelphia capitalists, according to an announcement recently made by Mayor Smith of Wildwood, N. J., before the Municipal League. He said plans for the proposed road had been completed, and that high-powered electric trains will be operated over the line. It is proposed to complete the line within the next two years, Mayor Smith announced. He said that he regretted that he could not disclose the various details of the proposed project.



## Personal Mention

### A Youthful but Popular Manager in Lynn, Mass.

The Nahant & Lynn Street Railway, Lynn, Mass., one of the smallest independent electric railway lines in the country, is a fine example of efficiency and service. This property, on which the same rate of fare is charged as when service was instituted fifteen years ago, is managed by one of the youngest railway executives. This youthful operator, Joseph P. Hines, is but twenty-eight years old. Manager Hines succeeded Caleb S. Harris of Nashua, N. H., late in October of this year.

The new manager, who is a resident of Nahant and a former resident of Lynn, has a familiarity with the service desired between the two points and for that reason his appointment met with high approval from both patrons and employees of the road.

Manager Hines entered the service of the electric railway company as auditor and paymaster after leaving the war service in 1919. He was not then familiar with the practical side of electric railway work, but by close application and observation and by keeping in contact with the employees, the company officials and the patrons of the railway he developed into an able executive.

Relations between residents of Nahant and the electric railway which provides the only public transportation between that place and Lynn are most cordial.

### Clevelanders Step Up

Messrs. Wilson and Mead Appointed Secretary and Treasurer Respectively of Cleveland Railway

Directors of the Cleveland (Ohio) Railway at a meeting Dec. 12 elected Paul E. Wilson secretary of the company and W. J. Mead treasurer to fill the vacancies caused by the death of Henry J. Davies early in the month. Mr. Davies had acted as both secretary and treasurer.

Mr. Wilson, who has been acting as assistant secretary of the Cleveland Railway for the past two years and who has been, since March 1, 1910, secretary to John J. Stanley, president of the company, is one of the youngest executive officers of a public utility company in the country the size of the Cleveland Railway. Mr. Wilson is still under thirty-five.

While still attending high school, Paul Wilson worked for the railway as office boy and clerk for two summers. Upon his graduation he was for three years clerk to the superintendent at the operating headquarters of the company. He attended law school at Western Reserve University for two years and did newspaper work for the Cleveland *Leader* and the Cleveland *Press* for two years before becoming secretary to Mr. Stanley.

Throughout his connection with the Cleveland Railway since its operation under the Tayler grant he has been in charge of the publicity work for the company. As a member of the traffic committee of the Transportation &



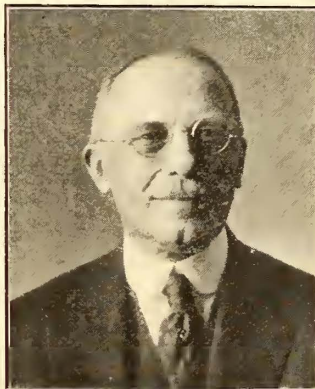
PAUL E. WILSON

Traffic Association of the American Electric Railway Association he has done considerable work in a national way. He has also contributed a number of articles to the *ELECTRIC RAILWAY JOURNAL* on skip-stops and other traffic matters.

Since 1910, Mr. Mead has been assistant treasurer of the company. His connection with the railway industry, however, dates back to horsecar days. He was auditor of the Broadway & Newburgh Company at the time of its consolidation by the Stanley interests with the Johnson-Everett lines forming the Cleveland Electric Railway. He was cashier of this company for seven years, resigning to become auditor of the water works department of the city, which position he held two years, resigning to engage in practice for himself as a certified public accountant. When Mr. Stanley formed his organization in 1910 to commence operations under the Tayler grant, Mr. Mead became assistant treasurer.

Paul S. Schreiner, for eighteen years an assistant in the office of the secretary-treasurer of the Cleveland Railway, has been elected assistant treasurer of the company.

Philip N. Cristal has been appointed secretary to the president of the Cleveland Railway. Mr. Cristal graduated from the Massachusetts Institute of Technology in 1917 as civil engineer



W. J. MEAD

and in the fall of that year entered the officers' training school at Fort Leavenworth, Kansas, was commissioned lieutenant, and a few months later captain. He resigned from the army in April of last year and shortly after joined the Cleveland railway organization.

### Colonel Kealy Severs Connection with Kansas City Railway

Col. Philip J. Kealy has completely severed his connections with the Kansas City (Mo.) Railway by announcing his retirement from the presidency of that company. Colonel Kealy had continued in this office without salary after the appointment of the receivers in October, 1920. Since that time he has ceased to have any direct participation in the operation of the property, but has been retained by the receivers as a consultant and in an advisory capacity. C. W. Armour was elected president to succeed Colonel Kealy.

Colonel Kealy, as well as R. J. Dunham and Frank Hagerman, also made known his retirement from the board of directors at the meeting of the stockholders held on Dec. 7. Although the company is now operated by receivers, the action of the stockholders in electing new directors and officers to continue the organization is assumed to indicate expectation that the property will eventually, perhaps at no very distant period, be returned to them.

The three directors have been succeeded by John G. Forrest of Clay Robinson & Company, live stock commission merchants; Herman P. Harbison, president of the Harbison Manufacturing Company, and Edward P. Moriarty, president of the Moriarty Motor Company, all Kansas City business men. These are company members of the board of directors. The city members of the board continue as before—William T. Kemper, chairman of the board of the Commerce Trust Company; John H. Wiles, vice-president of the Loose-Wiles Biscuit Company; D. M. Pinkerton, president of the Board of Education and vice-president of the Gate City National Bank; Frank C. Niles, president of the Niles & Moser Company; and John Wagner, bank president and undertaker. J. A. Harder was re-elected secretary and treasurer and L. M. Boschert assistant.

### Mr. Anderson the Good Relations Promoter in the Twin Cities

F. A. Anderson, social service director of the Twin City Rapid Transit Company, Minneapolis, Minn., is the author of a paper dealing with the activities of the employees' association of his company, published on another page of this issue. Mr. Anderson received his college education at Monmouth, Ill., and at the University of Minnesota, where he specialized in sociology and economics. After finishing his studies he was engaged for seven years as secretary of religious work with the Y. M. C. A., during which time he was principally occupied in extension work. In this connection he became personally acquainted with a large body of the wage earners of Minneapolis and this brought him to the attention of Horace Lowry, president of the electric railway of that city. In October, 1913, Mr. Lowry employed him to devote all of his time to the work among the electric railway



employees, the plans being left very largely to his own ideas.

During the eight years succeeding, a benefit association, a co-operative association among the trainmen and a veteran employees' club of 300 members have been formed. Having found the management to be in hearty accord with the principle of good will and square dealing in all its transactions, he has been able to extend the activities of these several organizations and develop a very wholesome attitude on the part of employees. Mr. Anderson has endeavored to make friends and to be friendly with people generally as a fundamental and basic principle of his work in promoting the good relations between the company's employees and public. He has spoken before nearly every organization in Minneapolis.

## Obituary

Henry Clay Evans, Chattanooga, Tenn., for the last three score years prominent in the business and public life of the south, died early last week. While still more or less active in business, he had retired a few years ago from his larger manufacturing operations. For many years he headed the Chattanooga Car & Foundry Company, builders of car wheels. He previously headed the Roane Iron Works. He built the first electric incline railway up Lookout Mountain. He served as first assistant postmaster-general under John Wanamaker. He was a candidate for Governor of Tennessee during a close election some years ago, but was never seated, his friends claiming that he was counted out by the Democratic machine of that day.

Alex W. Carey, conductor for the Southern Pacific Company and the Puget Sound Electric Railway, Tacoma, Wash., died recently at Tacoma. Mr. Carey, after graduating from the University of Nevada, where he studied law, became assistant agent with the Southern Pacific Company, later transferring to the auditing department. Shortly thereafter his health failed, and Mr. Carey, in order to have outdoor work, became a brakeman for the company. He later became conductor, transferring finally in that capacity to the Puget Sound Electric Railway, where he was for a time brakeman, and later was in the claim department.

Robert H. McKean, manager of the credit department of the McGraw-Hill Company, Inc., died at his home on Dec. 17, 1921. He was forty-seven years old at the time of his death. Mr. McKean's services began with the *Engineering & Mining Journal* in April, 1902, as assistant in the accounting department. About a year after the purchase of the *Engineering & Mining Journal* by the Hill Publishing Company Mr. McKean was appointed manager of that publication, which position he held until he was elected a director and secretary of the Hill Publishing Company. At this time he assumed the management of the credit department of the company. After the consolidation of the Hill Publishing Company with the McGraw Publishing Company he became manager of the combined credit departments and held this position until his death.

# Manufactures and the Markets

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

ROLLING STOCK PURCHASES

BUSINESS ANNOUNCEMENTS

## Deliveries Good on Fenders and Wheel Guards

Buying of repair parts for car fenders and wheel guards by electric railways is proceeding on a nearly normal basis, though orders are being placed on a basis which by no means indicates that the industry has got back to its normal kind of buying. Orders come in spasmodically and their bulk shows that this part of car equipment, in common with all others, is being kept in service until its last bit of usefulness has been realized. The market for complete equipment has also been rather quiet. If the sales had depended entirely on the number of new cars constructed, the demand would not have been very heavy. The buying of new rolling stock is still at a low point; however, the manufacturers do report that all along they have been favored with orders for new parts which the railways are using to rehabilitate their present equipment. Also there is a fairly strong demand resulting from complete renewals of older and obsolete safety appliances with up-to-date developments in this line.

Conditions of supply in this market are all that could be desired as the most important factors of labor and raw material are favorable for maintaining production on a normal basis. Fenders and wheel guards for safety cars, which some time ago became practically a standard article, can be shipped from stock. For this equipment there is also carried a heavy reserve of repair parts sufficient to care for all needs immediately. However, this favorable status exists only with respect to standardized safety car parts, for equipments for other cars cannot be shipped from stock as their manufacture is special and according to specification. The deliveries on these made-to-order equipments vary, of course, with the conditions to be conformed with, but as labor and material conditions are very good, manufacturers are able to give these orders prompt attention. Prices have received a downward revision, though it is difficult to give a composite figure for the reduction.

Manufacturers expect during the coming year a substantial increase in business to come especially from the purchase of new rolling stock. Some state that a fair volume should be the result of junking many fenders and wheel guards whose usefulness has long since passed. Also fixtures of this sort have been interchanged between active and idle cars so that a good market exists in supplying this deficiency.

## Harbirshaw Company Explains Receivership

Habirshaw Electric Cable Company, Yonkers, N. Y., recently placed in the hands of receivers, has sent out a circular reviewing the conditions that led up to the court action by creditors. It emphasizes the fact that the proceedings were part of a reorganization plan

contemplated for some time, to best meet the situation created by the reaction in business after the armistice had led to wholesale cancelation of Government contracts. The company, says in part:

"Since and including last June the company has not increased its borrowing one cent. It has reduced administration, operating and miscellaneous expenses 58 per cent compared with January, 1921, this while increasing its business, and has wiped out most of the stock accumulated previous to the depression in business.

"It has made a net profit since and including June, and each month has shown a substantial gain over the previous ones. Except for a possible seasonal slowing down in December and January, there is every reason to believe monthly gain in net profit will continue. When we consider the desperate situation which existed six months ago and the changes that have taken place since then, confidence is amply justified."

## Lackawanna Again Asks for Electrification Bids

The Delaware, Lackawanna & Western Railroad has again requested the General Electric Company and the Westinghouse Electric & Manufacturing Company to prepare estimates for the electrification of about 40 miles of track in the anthracite region near Scranton, Pa. Officials of the railroad are reported to have said that the cost would total between \$5,000,000 and \$6,000,000. This is the second time that bids have been asked for. Estimates were received by Gibbs & Hill, consulting engineers for the road, in July, but were found unsatisfactory. It is felt that more satisfactory estimates can be secured now that prices are lower. It will probably be some months before these new estimate figures can be prepared.

## New Rules for Purchase of Materials by Chinese Railways

The Department of Commerce at Washington has issued a set of regulations adopted by the Chinese Minister of Communications governing the purchase of materials by the Chinese Government Railways. These regulations were passed July 27, 1921, and promulgated Aug. 8, 1921. Among other things the rules provide that where anything is purchased of the same material or several similar materials which will amount to more than \$5,000, Chinese currency, tenders are to be called for, unless there is only one manufacturer, or when a manufacturer has a long-term agreement with any railway to furnish a certain material. Whenever the estimated cost of the material is \$50,000, a delegate or delegates of the Ministry of Communication must be present at the time of opening the bids. The result of the



opening of the several bids must be recorded by the Ministry, and before the signing of the contract it must be sent to the Ministry for approval. If it is discovered that the bidders have raised their prices by general agreement, or attempted in any other way to hold up the government, the railway should report to the Ministry of Communications to have the tenders submitted by those bidders disqualified.

A full text of the regulations just quoted were forwarded to the Department of Commerce by Commercial Attaché Arnold.

### 2,000 Miles of Japanese Railways Designated for Electrification

A fundamental policy for the electrification of Japanese railways has been formed by the Electrification Investigation Commission. The *Japan Times and Mail* of Sept. 9, 1921, published the following list of sections which have been designated for conversion into electric lines, comprising an aggregate length of over 2,000 miles.

(1) All sections in the suburbs of cities where there is a heavy railway traffic, such as Kyoto-Knobe, 47 miles; Kobe-Himeji, 34; Minatomachi (via Kitsu) Kyoto, 51; Moji-Hakata, 48; and Osaka-Tennoji, 6 miles.

(2) Sections of high gradient where there are many tunnels and also those where abundant water power can be utilized, such as Odawara-Numazu, 26 miles; Maibara-Imasho, 47; Hachioji-Shioiri, 116; Nagoya-Shinooi, 151; Fukushima-Yonezawa, 26; Yashiro-Kashima, 94; Kameyama-Nara, 46; Utsunomiya-Nikko, 25; Koriyama-Niigata, 172; Oguda-Shinjo, 58; Takasaki-Yokokawa, 18; and Karnisawa-Naoetsu, 92 miles.

(3) Sections where shortening of the line is required and where water power can be utilized, such as Numazu-Kyoto, 244 miles; and Omiya-Fukushima, 151 miles.

(4) Sections where increase of transportation capacity and shortening of the line are required, such as Himeji-Shimonoseki, 295 miles.

(5) Sections where available water power can be utilized, such as Imasho-Naoetsu, 181 miles; Nagoya-Kameyama, 38; and Ohmila-Takasaka, 46.

(6) Sections where increase of carrying capacity is required and where coal can be obtained at a low price, such as Kokura-Wakamatsu, 56 miles; and Muroran-Yubari, 90 miles.

seventeen of these cars are to be used on the Essex division in Windsor, Ont., while the remaining eight will be operated on the Guelph (Ont.) Radial Railway. Following are the details of this equipment:

Number of cars ordered.....25  
 Name of road..Hydro-Electric Power Commission, Ontario, Canada  
 Date order was placed.....Sept. 28, 1921  
 Date of delivery.....Jan. 28, 1922  
 Builder of car body..Canadian Brill Company, Preston, Ontario.

Type of car..Single truck, one-man safety Seating capacity.....34  
 Weight:

Car body.....12,710 lb.  
 Trucks.....5,200 lb.  
 Equipment.....5,590 lb.  
 Total.....23,500 lb.  
 Length over all.....30 ft. 3 1/2 in.  
 Truck wheelbase.....9 ft. 0 in.  
 Width over all.....8 ft. 4 in.  
 Height, rail to trolley base..10 ft. 7 1/2 in.  
 Body material.....All steel  
 Interior trim.....Birch  
 Headlining.....Agasote  
 Roof.....Arch type  
 Equipment:

Air brakes..Westinghouse A. B. & Safety car control  
 Armature bearings.....Sleeve type  
 Axles..3 1/2 x 7-in. Standard Aera No. Ea4  
 Bumpers.....4-in. 5 1/2-lb. channel  
 Car signal system.....Ohio Brass  
 Car trimmings..Finished in gold bronze throughout

Conduits and junction boxes..Crouse-Hinds  
 Control..Type D.B. 1 K 4, English Electric Company

Couplers.....Yoke  
 Curtain fixtures....National Lock Washer Company

Curtain material...Pantasote, double-faced  
 Designation signs.....Boothe illuminated  
 Door operating mechanism.....National Pneumatic

Fare boxes.....Cox  
 Fenders.....H. B. fenders  
 Gears and pinions..Helical, one-half equipment have Nuttal B.P. other half tool steel

Handbrakes.....National staffless  
 Heaters.....12 600-volt double-coil Cutler-Hammer, 8 cross seat, 4 truss plank  
 Headlights.....Crouse-Hinds, dash type  
 Journal bearings..3 1/2 x 7 in. Aera Standard  
 Journal boxes.....Brill for 79-E2 truck  
 Lightning arresters.....Type B, Form A, English Electric Company

Motors...2 English Electric, type DK-84, 40-hp. vent., inside hung

Paint..Krackno system enamel and varnish  
 Registers.....None  
 Sanders..O. W. Meissener sanding system modified

Sash fixtures.....National Lock Washer Company

Scrapers.....Root  
 Seats.....Brill Waylo  
 Seating material.....Rattan  
 Slack adjuster.....None

Springs.....Brill  
 Step treads....Mason carborundum filled  
 Trolley retrievers.....Ohio Brass

Trolley base.....Ohio Brass Form 1  
 Trolley wheels..H. E. P. C. wheels and harps  
 Trucks.....Brill 79-EZ

Ventilators...8 Railway Utilities Company  
 Wheels.....Rolled steel 26-in. diam., 3-in. tread. Aera and interurban contour

Special devices..M28 brake valve, furnished by Westinghouse, is supplied with attached door-selector valve. Cars are equipped with double doors, one for entrance and one for exit at each end. Selector valve gives independent operation of both the in and out doors.

**East Toronto, Ont.**—It is expected that the Toronto Transportation Commission will shortly commence laying the double set of electric railway tracks on the new Main Street bridge. The line, which is to be a continuation of the present Gerrard Street service, will extend north on Main Street to Danforth Avenue.

### Power Houses, Shops and Buildings

**Philadelphia (Pa.) Rapid Transit Company** will erect a new terminal at Willow Grove for Doylestown passengers.

**Portland Railway, Light & Power Company, Portland, Ore.**, is perfecting plans for a hydro-electric generating station on the Clackamas River, near Oak Grove, Ore. The initial installation will have a capacity of about 200,000 kw.

**Indiana Service Corporation, Fort Wayne, Ind.**, will use the new West Main Street bridge recently opened over the St. Mary's River. The bridge is a double-tracked, concrete structure. It was built at a cost of \$160,000.

**Pittsburgh (Okla.) County Railway, McAlester, Okla.**, operating city and inter-urban lines, has purchased a site on Grand Avenue in McAlester for new terminal buildings. The present terminal, shops, etc., of the company are in a badly congested section of the city.

**Los Angeles (Cal.) Railway** is now working on a high-voltage transmission line to run from the new Edison transforming station at Florence and Western Avenues to the substation at Centinella. High-tension lines are also being run from Western and Florence Avenues to the University substation at South Santa Barbara Street. It is expected that the construction of both of these lines will be completed about the first of the year.

### Trade Notes

**American Car & Foundry Company, New York**, is planning extensions and improvements at its branch plant at Huntington, W. Va., which are estimated to involve an expenditure of about \$200,000.

**Bridgeport Brass Company, Bridgeport, Conn.**, announces the appointment of C. L. Hancock as sales engineer for its Phono-Electric trolley wire. Mr. Hancock has been connected with the sales department of the Bridgeport Brass Company for the past two years, recently having had charge of the company's factory branch in Philadelphia. Prior to becoming associated with the Bridgeport Brass Company, Mr. Hancock was for twelve years an assistant of the superintendent of electrical transmission on the New York, New Haven & Hartford Railroad, which position he accepted after serving the Westinghouse Electric & Manufacturing Company during the electrification of the New Haven road from Woodlawn to Stamford. Mr. Hancock has therefore had opportunity to become fully acquainted with the characteristics of different trolley wires, as well as Phono-Electric in actual service.

### Rolling Stock

**Charleston (W. Va.) Interurban Railroad** recently purchased eight safety cars from the Cincinnati (Ohio) Car Company.

**Danbury & Bethel Street Railway, Danbury, Conn.**, through its receiver, Judge J. Moss Ives, has received permission from the Superior Court to purchase four safety cars. The order for the cars has been placed and it is expected that they will be delivered about Jan. 1, 1922.

**Hudson & Manhattan Railroad Company, New York**, is inviting proposals for furnishing motors and control equipment for twenty-five multiple-unit passenger cars. The company is also asking for bids on twenty-five motor-type and 25 trailer-type M. C. B. trucks. Specifications with accompanying drawings are available at the company's office at 30 Church Street, New York City.

**Hydro-Electric Power Commission, Ontario, Can.**, has recently made available the complete specifications for twenty-five safety cars which were ordered several months ago. As was announced in the *ELECTRIC RAILWAY JOURNAL* of Dec. 3,

### Track and Roadway

**Burlington County Transit Company, Hainesport, N. J.**, has announced through Armit H. Coate of Moorestown, N. J., treasurer of the company, that his company will make a number of changes and improvements in the road between Burlington and Moorestown.

**Trenton & Mercer County Traction Company, Trenton, N. J.**, has informed the Mercer County Board of Freeholders that it will reconstruct the line on South Broad Street from the city line to the White Horse road, a distance of 3/4 of a mile laying new ties, raising the tracks, etc.

**The Lackawanna & Wyoming Valley Railroad, Scranton, Pa.**, has installed block signals between Connell Junction and Wilkes-Barre. Thirty signal lights are placed at an average of every 1 1/2 miles. The three-light mechanism is the type installed. The installation cost \$80,000.

### New Advertising Literature

**Sanford Riley Stoker Company, Worcester, Mass.**, is distributing a circular covering the "Riley" underfeed stokers, safety shearing pin, moving grates, rocker dump and two-speed gear box.

**Roach Stoker Company, 221 South Fifteenth Street, Philadelphia**, is distributing a booklet describing the "Roach" stoker. The company has also issued a pamphlet covering the "Simplex" type of the Roach stoker.

**Wheeler Condenser & Engineering Company, Carteret, N. J.**, has issued catalog 108-C, covering its centrifugal pumps, including double-suction, single-stage, horizontal and vertical types and multi-rotor types for every purpose.

**I. L. Lee, 61 Broadway, New York**, has published a 20-page pamphlet, the "Future of Prices and Wages." It gives some extracts from a book entitled "Price Changes and Business Prospects" by Leonard E. Ayres, vice-president of the Cleveland Trust Company, and recently published by that company.