

# Electric Railway Journal

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## ANNUAL REPORT AS PUBLICITY MATERIAL

Practically all electric railway companies recognize the necessity of keeping the public informed on matters of interest on their lines, but many of them are often at a loss to know what to give out. At this season of the year most companies are completing their annual reports for the state public service commissions, and this fact gives them a splendid opportunity to make good newspaper "copy" out of material which otherwise very few people would see in the commission reports, and then probably not for six months or more. We do not mean that all of the statistics required by a public service commission necessarily make interesting reading matter for the daily papers. But the principal statistics undoubtedly would, and they could be accompanied by an explanatory note pointing out the important features of the year's work. Of course, a few companies now issue regular annual reports to their stockholders, and these reports, as well as the monthly reports of those companies which give out figures of this kind, usually receive attention in the local press, but only the larger companies issue such reports. The plan suggested applies therefore more to the smaller companies which do not issue printed reports to their stockholders. We believe that matter of this kind would be welcomed as "news" by nearly any paper serving the same territory as a railway, but if not, it could be published in the form of an advertisement as an evidence of good faith to the public on the part of the railway company.

## CAR FAMINES AND FREIGHT INTERCHANGE

When an electric railway starts interchanging freight traffic with steam roads one of the first lessons it learns is that it is a better freight gatherer than it is a distributor. The steam road partners in the interchange agreement are, of course, glad to take of the carload freight handed over to them by the electric road, but because most steam road organizations are not prone to do things out of the old and beaten paths, they do not usually try to do their share in building up a traffic in which the distribution will occur on the electric road. Freight interchange between a big steam system and a small electric road is not so vital to the life of the steam system as it is to the electric, and, therefore, the steam operators do not try as vigorously to make use of the advantages of interchange as do the electric. The result is that the balance in rolling stock is soon in favor of the steam road, and the electric road finds itself without cars to handle the traffic it has so arduously labored to build up. This point was well emphasized in the article, "Developing Carload Freight

Traffic on the Illinois Traction System," published in the ELECTRIC RAILWAY JOURNAL for July 8, 1916, page 48.

The fault is not all with the steam roads, however, because there has been a tendency for the traffic departments of electric roads to spend more time and thought on the subject of freight origination than on that of freight distribution. In order to maintain the proper balance in rolling stock, it is absolutely essential that the electric road pay at least as much attention to the latter subject as the former. In the article above referred to the value of belt lines and industrial tracks as freight accelerators was pointed out. Quite aside from the revenue resulting from freight handled for them, industries, located along such lines, requiring carload material originated on steam roads are essential if the proper balance in rolling stock is to be maintained.

## MEETING THE INDIVIDUAL PATRON

Utilities have often, through placards, newspapers and company publications, asked their patrons for suggestions and criticisms, and such efforts have undoubtedly proved profitable. In such work, however, the companies have been handicapped by the lack of an individualistic appeal to their patrons. In other words, general and impersonal advertising is not quite so successful in overcoming the scoffer, removing grounds for misunderstanding and inspiring honest, well-meaning criticisms as a direct personal approach to individuals would be. A good example of such an approach is that of the City Light & Traction Company, which under the Doherty management recently opened a house-to-house canvass in Sedalia, as described in this week's issue, to find out how the car schedules and other operating conditions did not meet the views of the patrons. The company also endeavored to increase its ticket sales through newspaper advertising and personal solicitation, and to a praiseworthy degree succeeded, but on account of the essentially non-saleable aspect of electric railway transportation as compared to light and power service, we are not so much interested in the new-business feature of the campaign as in its public relations side. Even an approach to individuals for the purpose of bettering general relations would, of course, be increasingly difficult in proportion to the utility's size, but we are of the opinion that electric railways in small cities and towns should be able to derive almost as much good from this publicity method as would a utility with a definitely listed patronage. If a railway is desirous of criticism and is prepared to remove the causes of complaint, wherever such procedure is warranted and possible, then a campaign like the Sedalia one should prove of great benefit in creating better public relations.

## MUNICIPAL RAILWAY OPERATION

Elsewhere in this issue we are publishing income figures for the Municipal Railways of San Francisco that should be of interest to electric railway operators, for they present the first authoritative picture of the municipal lines without exposition traffic. For the first four months of 1916 the lines showed a deficit of \$80,216 after making charges for depreciation, taxes, and legal and clerical services. It would, of course, be unjustifiable for anyone to jump to the conclusion that the deficit for 1916 will be a directly proportional amount, for the contributing conditions may not remain the same throughout the year. In fact, city officials state that in the first part of the four-month period there was unprecedented bad weather, that the percentage of casual riders is normally low in this period, and also that the municipal lines could reduce only gradually the service they had been giving in 1915. Nevertheless, we are of the opinion that the showing made will only increase the desire of electric railway officials to see returns of the municipal lines for a full year's operation without the inflated traffic due to exposition travel. Roughly speaking and comparing the figures for the first four months of 1916 with one-third of the total figures for 1915, we may state that the operating revenues have decreased 12 per cent, the operating expenses have increased 6 per cent, the net operating revenue has decreased 69 per cent and the interest on funded debt has increased 28 per cent. These figures are quoted, of course, not to show a comparison between similar periods but to indicate generally the relation between the figures of the first four months of this year and all of those of the last fiscal year.

It is noteworthy that practically the entire reduction in revenues in the 1916 months was on the exposition lines. We are now told that the extensions built with the 1913 bond issue were constructed because of civic pride in order to give exposition service as well as to develop districts with a light population. Probably civic pride did have much to do with securing the bond votes of a number of citizens, but it would be a safe wager that the average man was less actuated by civic pride than by a desire to secure transportation for favored districts or by a craze for municipal ownership. Moreover, although civic pride is a most commendable attribute it is doubtful whether that variety of it which commits a city to a most doubtful experiment as well as to unfair competition with an existing private utility is the best thing for the municipality.

As regards the desire to build up unprofitable territory, we believe that one of the serious objections to municipal ownership of electric railways is the pressure that is certain to be brought to have the municipal system extended through light-traffic districts with the view of developing real estate. The judicial control of private railway extensions by regulatory bodies is much more likely to bring systematic development of the city as well as satisfactory financial results than the wire-pulling, political bickering and sectional disputes which almost invariably accompany extensions to municipal

plants. In the latter case the sane viewpoint of the traffic expert in regard to the business wisdom of the extensions is neglected, with the result that the interests of a few speculative real estate owners become paramount over the interests of the general riding public.

Accepting as true, therefore, the assertion that the unprofitableness of some of the San Francisco municipal lines was foreseen, we are glad to recognize the fact that the city officials went into the matter with their eyes open. It is not at all certain, however, that the general public in San Francisco had clearly explained to it the inevitable unprofitableness of certain lines at least for a few years. When the municipal railway has stood on its own feet for a time and showed the true earnings from its tributary districts and a proposition is then made to the citizens for further unprofitable extensions, the real test of the system will come.

The list of municipal electric railway enterprises in this country is not a long one, and it is also not a cheerful one for the advocate of municipal ownership to contemplate. By a coincidence it is less than a month ago that we had occasion in our news columns to publish a special official report on the Seattle Municipal Street Railway, the only other large municipal electric railway in this country, and a property which has not succeeded since it has been in operation in earning, by a considerable percentage, even its operating expenses. It may be, of course, that time will improve the financial outlook of both the Seattle and San Francisco properties and that each will prove to be an exception to the general rule that American municipalities are not organized to conduct commercial undertakings successfully, but this remains to be proved.

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 ADVANCE IN THE SETTLEMENT OF  
WAGE PROBLEMS

By the terms of the new wage agreement which has just been made between the Boston Elevated Railway and its employees, there is, perhaps for the first time in such a settlement, a definite recognition of the street railway company's financial condition and necessities. This agreement, which dates for three years from May 1, 1916, provides certain specific increases for practically every employee during the course of the next three years, but also for additional increases in the final year, provisional upon the ability of the company to pay them. More specifically, the arrangement is that if the company receives some form of relief from its present financial difficulties so that it is enabled to pay its former standard dividend of 6 per cent for either of the two fiscal years ending June 30, 1918, or June 30, 1919, then an additional advance in wages of  $\frac{1}{2}$  cent per hour during the last year of the agreement is to be granted to all employees affected by the present agreement. Nearly 10,000 employees are included in the settlement.

All the signs of the times seem to be pointing to a more general understanding and appreciation of the fact that a street railway cannot go on forever meeting increased expenses with a fixed and limited source of

income. It was a little more than a year ago that Prof. Irving Fisher, the well-known Yale economist, testified to this effect in the Bay State Street Railway wage arbitration proceedings. Professor Fisher, who appeared for the employees, frankly stated that when a street railway company was unable, financially, to pay what he considered a fair standard of wages, the situation should be remedied as in ordinary business by increasing the rates charged the consumers, in this case the fares of the street car riders.

It is unnecessary to discuss here the merits of the case of either the Bay State Street Railway or the Boston Elevated Railway for increased revenue. These matters are being taken up by the proper public authorities or soon will be, and we believe that public opinion will support any fair decision that may be made by the Massachusetts Public Service Commission. The present discussion may be confined to commenting upon the encouraging signs exhibited in this recognition by a large body of railway employees of their share in the company's financial problems. The knowledge that an increase in pay depends to some extent at least upon the prosperity of the company should spur them on, not only to help create a favorable public opinion toward the Boston Elevated Railway but also to strive both individually and collectively for greater economy and efficiency of operation.

#### CONSTRUING WORKMEN'S COMPENSATION AND LIABILITY LAWS

Thanks to the compilation of decisions of the courts affecting labor, issued by the Bureau of Labor Statistics, it is possible for laymen to follow the adjudication of cases arising out of the federal employer's liability act and the workmen's compensation laws of the various states. The federal law seems likely to be broadened in scope, if we may judge of the future by the decisions so far rendered. This tendency will, of course, increase the extent to which the law will apply to electric railway companies which may deem themselves, as intrastate institutions, immune from its provisions.

To make this clear it is only necessary to refer to a few decisions in which the question as to what is and what is not interstate commerce was involved. In a Missouri case (*Harrington vs. C., B. & Q. R.R.*) it was held that a switchman who was injured while handling coal cars to a storage track for the use of locomotives engaged in both intrastate and interstate service did not come under the federal act because "the coal has not yet taken on any definite interstate character." How easy it is for coal to acquire an interstate character is shown in a New York case (*Barlow vs. Lehigh Valley R.R.*), involving the status of a switchman who was also engaged in placing cars on a trestle for the use of engines engaged in interstate as well as intrastate traffic. The cars had come from another state, and had been standing on a siding for several days. The court upheld the contention that "the act of placing the cars on the trestle . . . was so closely connected with and related to interstate commerce as to be a part of

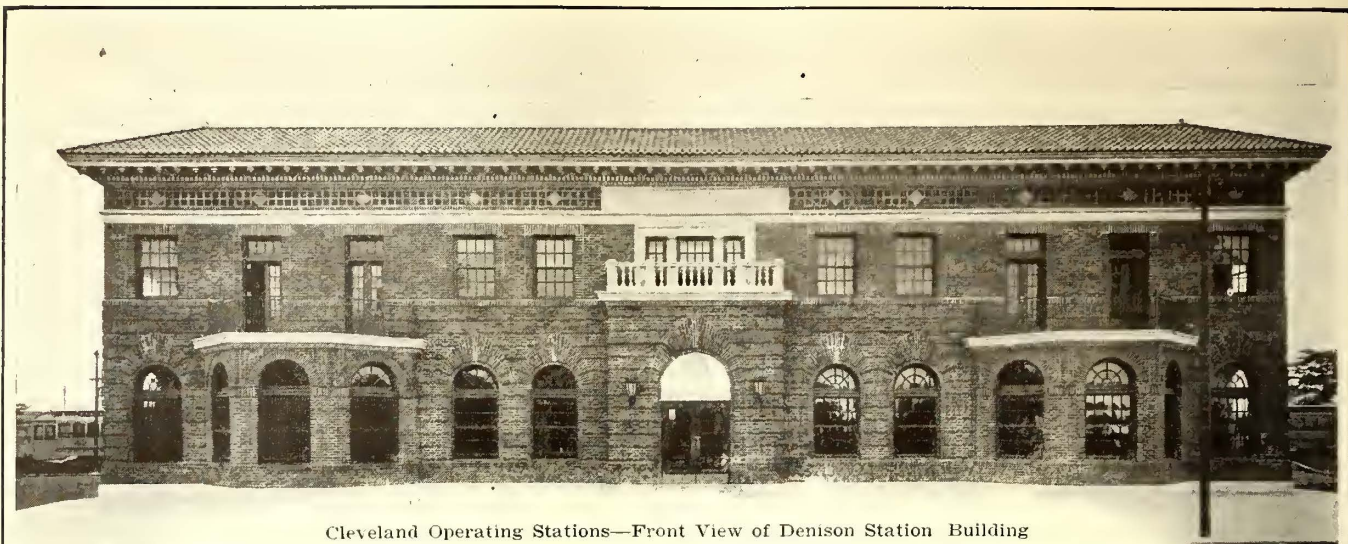
it." This decision is in line with another (*Kamboris vs. Oregon-Washington R. & N. Co.*), in which it was decided that the federal act applied to the case of a workman engaged in shoveling coal to be used by engines in interstate service, while in a California case it was held that injuries incident to the repair of engines in a roundhouse came within the federal statute.

The interesting and important fact to be observed in connection with these decisions is, of course, the very broad view taken by the courts as to what acts and employments are a part of interstate commerce. This tendency is also maintained as to things, it being held in a Pennsylvania case that the non-use of a car for three days in any form of transportation did not destroy its interstate character if its last use was in interstate traffic, and that, therefore, an employee injured while the car was being shifted was entitled to recover under the provisions of the federal employers' liability law.

Aside from another class of cases involving injuries due to violations of the safety appliance laws, there are one or two which emphasize the fact that liability is a word of ever-widening meaning and scope. From one of these cases it appears that the circumstance that a public authority had approved the height and condition of a piece of equipment is not a good defense against charges of negligence in connection with the injury of an employee due to the use of an unusually high car. As to the definition of "equipment," it was held to cover ordinary tools in the case of a railroad employee who was hurt by the breaking of an adz.

The broadening meaning of the phrase "injuries arising out of and in course of employment" is observed in many cases arising under state workmen's compensation laws. About the only case that does not seem to stretch the meaning of this phrase out of its ordinary meaning is that of an employee of an electric railway who, after working hours, was taking his watch to be tested and was killed by an automobile. A lower New York Court awarded the widow compensation, but the Appellate Division reversed this finding and held that the workman was not killed in the course of employment.

There are decisions from the courts of seven States upholding the constitutionality of compensation laws, and it is plain that they have not only come to stay, but that their scope will be extended not so much by change in existing laws as by liberal interpretations based upon the ground, as stated in a New York decision, that "An opinion has gradually developed which almost universally favors a more just and economical system of providing compensation for accidental injuries to employees as a substitute for wasteful and protracted damage suits, usually unjust in their results either to the employer or to the employee, and sometimes to both. Surely it is competent for the state in the promotion of the general welfare to require both employer and employee to yield something toward the establishment of a principle and plan of compensation for their mutual protection and advantage."



Cleveland Operating Stations—Front View of Denison Station Building

## Cleveland Completes Two More Terminals

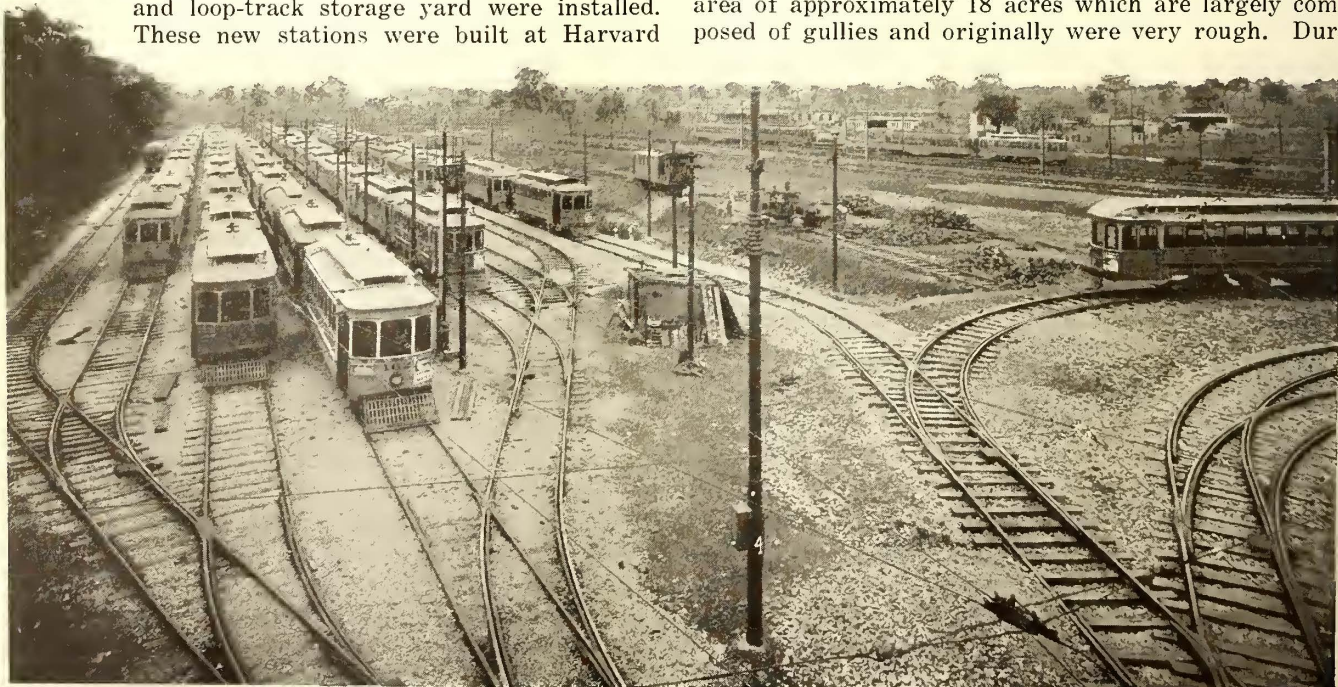
*Four New Operating Stations Have Been Built by the Cleveland Railway Company at a Cost of \$1,000,000—Permanency and Architectural Attractiveness Governed the Design of the Station Buildings, and Loop-Yard Tracks Were Adopted for Car Storage Purposes*

**T**WO more operating terminals have just been finished by the Cleveland (Ohio) Railway and put in operation. These complete, at least for the present, the operating station rehabilitation program which included four stations of this character. The general features of these station layouts were described on page 356 of the *ELECTRIC RAILWAY JOURNAL* of Aug. 28, 1915. In the two new stations just completed the original plan has been adhered to, namely, that of providing a permanent and attractive operating station building at the front of the terminal site, and immediately back of these the running repair shop, washroom and loop-track storage yard were installed. These new stations were built at Harvard

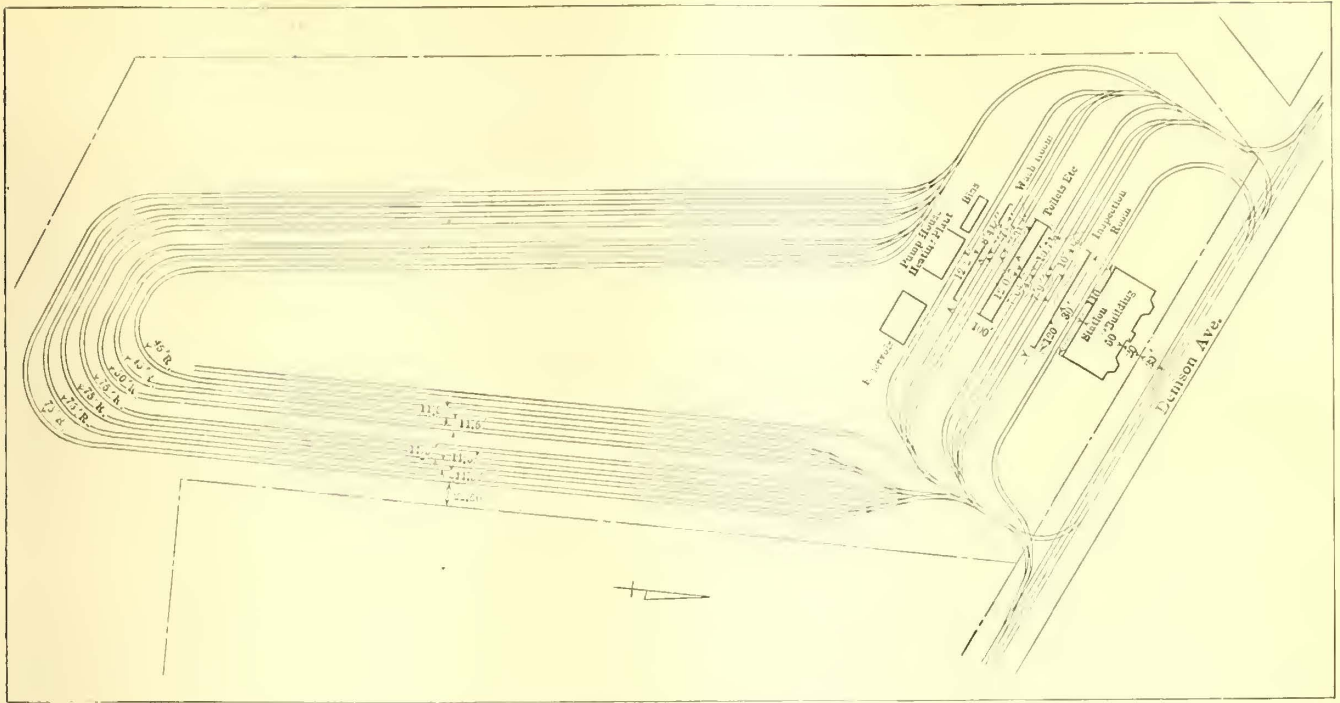
Avenue and Fifty-fifth Street and at Denison Avenue and Seventy-third Street, both of which sites are located near the southern limits of the city. The Harvard Avenue station site is a new one, whereas the Denison station simply replaces an old layout with the storage yard enlarged by the purchase of additional land.

### PREPARING DENISON TERMINAL SITE

The Denison Terminal, as shown on the accompanying layout plan, is a rectangular piece of property fronting on Denison Avenue, having a width of approximately 510 ft. and a depth of 755 ft. This site contains an area of approximately 18 acres which are largely composed of gullies and originally were very rough. Dur-



CLEVELAND OPERATING STATIONS—GENERAL VIEW OF DENISON STATION STORAGE YARD



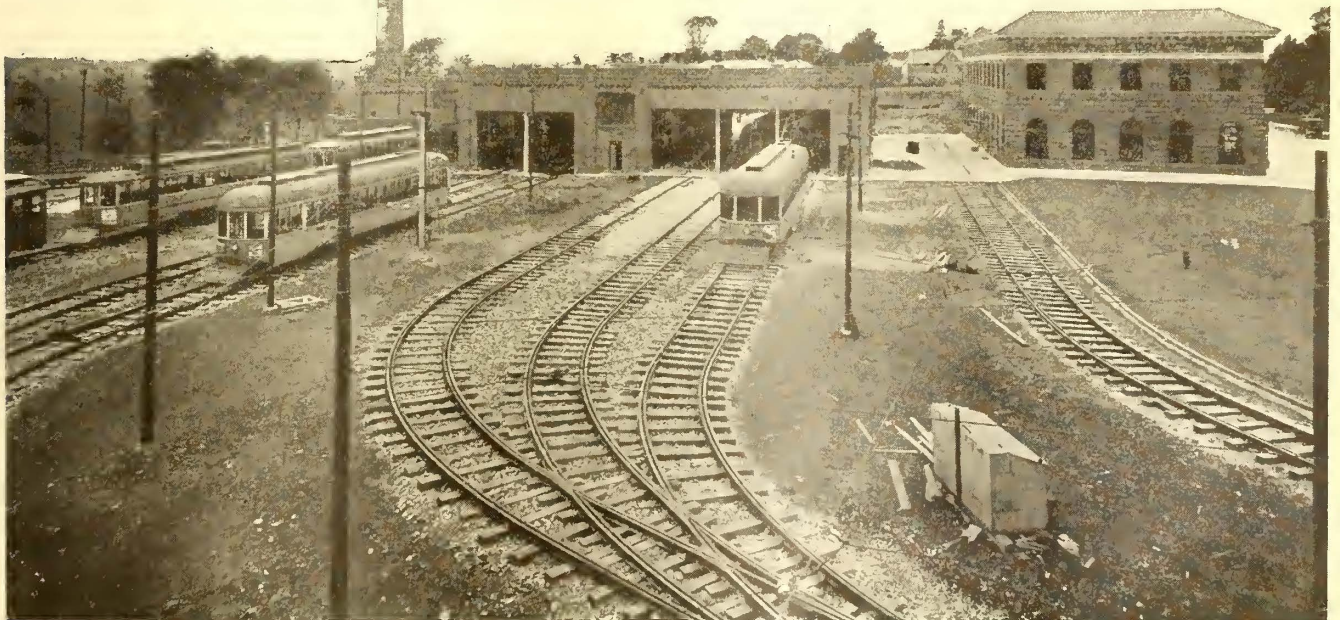
CLEVELAND OPERATING STATIONS—PLAN OF DENISON AVENUE OPERATING TERMINAL

ing the past two construction seasons, however, the track department has been dumping material excavated from the street into the depressions and the property is now practically all up to a uniform level. The cost of filling these gullies was practically neglected in the cost of the station, because they served as a convenient point to dump this waste material. Present and perhaps future car storage requirements will not make it necessary to utilize the entire tract, and with this in mind the management decided to leave vacant a strip of 146 ft. in depth, fronting on Ridge Avenue, a street running parallel to the open storage tracks. In accordance with the experience at other operating stations, an increase in the value of the real estate surrounding the operating station is expected. In that case the management intends to take advantage of a portion of this unearned increment by dividing the vacant strip into building lots and selling them if they

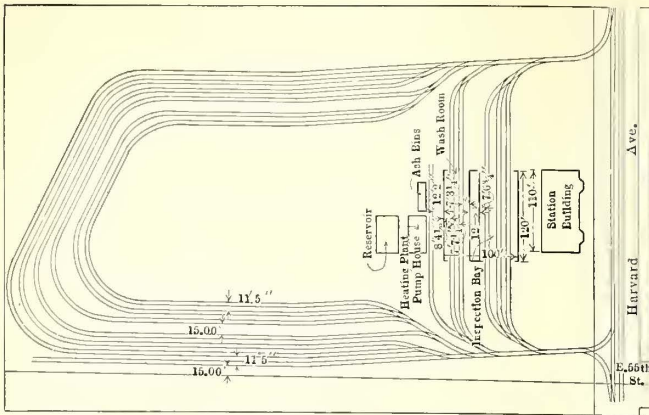
are not required by the railway company for other purposes.

As also shown on the accompanying plan of the yards, there is one Y-track entrance and exit to the repair shop and washroom tracks, and the storage yard proper. A separate loop track for turning back cars also leads from Denison Avenue around the operating station building. The loop yard is composed of seven tracks in two groups of three and four tracks respectively, spaced at 11½-ft. centers with approximately 19-ft. centers between the two inside tracks in the groups. This forms a 15-ft. aisle which was provided to give ample clearance for the monitor fire extinguisher system, the tubular steel poles supporting the overhead, the standard sand houses and trash bins. A general view of these features in the storage yard is shown in the illustration on the opposite page.

It is also of interest to note that all the yard special



CLEVELAND OPERATING STATIONS—SIDE VIEW OF DENISON STATION BUILDINGS AND TRACKAGE



CLEVELAND OPERATING STATIONS—PLAN OF HARVARD AVENUE OPERATING TERMINAL

work is of the manganese-steel, rail-bound type, including the switches and mates. The tracks are all laid with 80-lb. A. S. C. E. rail and, in fact, the track construction is first quality in every respect. The track department was of the opinion that there was no economy in laying poor special work and track in car storage yards. As may also be observed in the illustrations, the track is all laid on crushed stone ballast, surfaced with screenings to make it easy for the trainmen to walk about the cars in the yard. The Denison yard has storage capacity for 320 cars, but at the present time only 136 cars are being operated out of this station.

#### PLAN OF STATION BUILDINGS

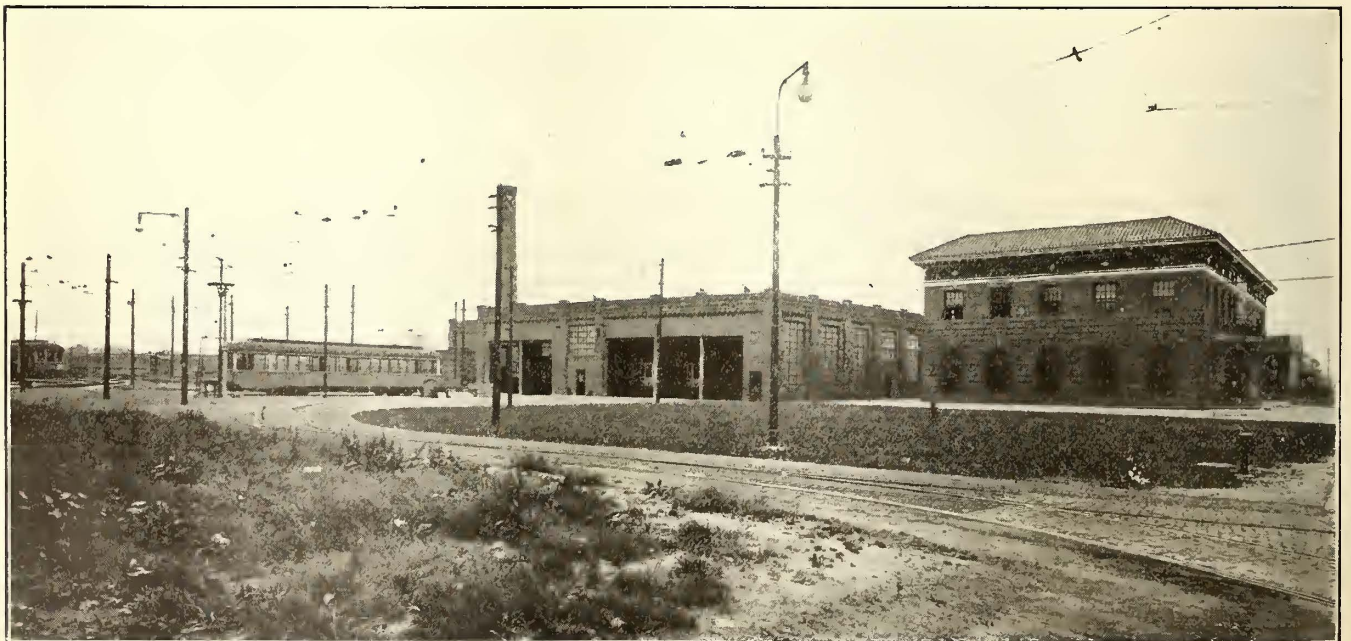
The station building is 50 ft. x 110 ft. in plan, which is exactly the same size as the Superior Avenue station building which was described in the *ELECTRIC RAILWAY JOURNAL* of Aug. 28, 1915. Like the Superior Avenue station, this one is also two stories in height and built of a cherry-red brick laid with white mortar and trimmed with white terra cotta, and has a red tile roof. The interior arrangement and furnishings are also essentially the same as the Superior Avenue station and include red tile floors and wainscoting with all metal furniture in both the offices and the trainmen's quarters. The attractive appearance of this station is illustrated in the views on pages 132 and 133.

Immediately back of the office building, and separated from it by a 30-ft. space paved with concrete, is the running repair shop and washroom building which is 100 ft. x 120 ft. in plan. This is a brick, concrete and steel structure with three inspection pits in the running repair bay and two well-drained tracks in a concrete floor in the wash room. The repair shop equipment includes a wet and dry grinder, an engine lathe, a vertical drilling machine, one power hacksaw, one power-driven bandsaw, a forge, an anvil, pit jacks and air hoists for changing armatures and wheels. A pump house and heating plant unlike the earlier stations are in a separate building immediately back of the running repair shop. The steam-heating plant is of the central boiler type equipped with a vacuum return system, and the pumping equipment is a part of the monitor fire protection system. It consists of an electrically driven, manually controlled, centrifugal pump which provides additional pressure at the monitor nozzles by pumping water from the submerged water storage reservoir which is installed beside the pump house.

#### HARVARD OPERATING STATION

The Harvard Avenue operating terminal is built on essentially the same plan as the Denison terminal, and the initial layout occupies a tract 450 ft. wide by approximately 840 ft. deep. A deep ravine traverses the rear portion of this tract, and the creek in the ravine has been confined in a concrete arch so that the ravine may be filled with waste track excavation and the area which it occupied utilized for additional storage tracks. The track layout at the Harvard station did not provide for a loop around the operating station building, and only one Y entrance and exit gives ingress and egress to the storage yard and the running repair shop tracks. In the present layout six storage tracks make the complete loop. The present capacity of this yard is sufficient for 146 cars but only ninety-eight are being operated out of this station at the present time.

Like the Denison Avenue terminal, the station building fronts on Harvard Avenue and is 50 ft. x 110 ft. in plan. Immediately back of this, and with a 30-ft. paved area intervening, is the running repair shop building which is 100 ft. x 120 ft. in plan. The station building proper is built of cherry-red brick laid in white mortar trimmed with terra cotta, and has an



CLEVELAND OPERATING STATIONS—SIDE VIEW OF HARVARD STATION BUILDINGS AND YARD OUTLET TRACK

ornamental tile roof. The running repair shop is of plain construction, but is also built of red brick laid in white mortar with a reinforced concrete roof on structural steel supporting beams. The area between the entrance and exit Y-tracks and the station building has been sodded and the lawn is carefully kept so that the appearance of the station layout from Harvard Avenue is quite pleasing. Other construction details are essentially the same as the Denison Station.

The construction of these terminal stations was under the general supervision of Terence Scullin, master me-

chanic, who also has charge of the running repair shops. Station operation, in so far as it affects the trainmen, is under the direction of the division superintendent, who makes his headquarters in the station building. The track layout was designed and installed under the direction of C. H. Clark, engineer maintenance of way, and the overhead lines and lighting system by L. P. Crecelius, electrical engineer. David W. Morrow, of the firm of Morrow & Cross, was the civil and architectural engineer who designed the buildings and supervised their construction.

## “How to Treat the Public”

During the Past Year a Special Series of Heart-to-Heart Talks on the Duties of Trainmen to Passengers Has Been Given in the Twin City Carhouses—Excerpts from a Recent Address Are Published

**W**HILE the Twin City Lines of Minneapolis and St. Paul, like all other companies, have always endeavored to teach their trainmen how to handle passengers most efficiently, nevertheless during the past year J. J. Caufield, general superintendent, and A. W. Warnock, general passenger agent of the company, together have worked out a plan for effectively training conductors and motormen, which has brought forth most gratifying results.

Under this plan all complaints of whatever nature are referred to the general passenger agent, who thus acts as a buffer between the public and the company. The general superintendent co-operates closely by helping to remove the causes for complaints as soon as the general passenger agent refers the complaints to him, as well as by checking the employees against whom the complaints have been made. At intervals of about a month the general superintendent arranges to have as many men as can be spared from their work called into the various station clubrooms to listen to a heart-to-heart talk by the general passenger agent. Every employee about whom any complaint has been received since the last talk is obliged to attend these meetings, as well as all the extra men and as many regular men as possible. In these talks Mr. Warnock begins by referring specifically to each of the complaints entered against that station, although he does not mention the badge numbers or names of the offenders, and as each complaint is mentioned he offers friendly suggestions as to how the trouble with the passenger might have been avoided and how the trainmen should have acted under the circumstances so as to have avoided any dispute. After these specific cases have been taken up, Mr. Warnock gives a general talk of about twenty minutes on how to meet all the inevitable troubles that are bound to arise with passengers. These talks are always received enthusiastically by the men, and when a notice is put on the bulletin board a few days in advance of the meeting, it is sure to bring out a large attendance.

The Twin City Lines have six stations, and the attendance at the meetings at each station averages about 200 men. No less than fifty-four of these addresses have been given during the past year. Every effort is made to have the talks entertaining as well as practical, the thought being closely followed that if a man is to be taught anything he should be entertained as well. The following excerpts from a talk by Mr. Warnock will give the readers of this paper an idea of his mode of treatment.

“Rules can be made to cover every situation, but, after all is said and done, you must use common-sense

in following them. And we expect you always to use common-sense. By using common-sense you can do much to make our service more attractive and avoid cause for complaint as to your conduct.

“The company expects you to be careful and zealous to protect its property and interests, to take a just pride in the service in which you are engaged, and urges you to bear in mind that in any public service, whether street railway work or any other employment where you come in contact with the public, you are constantly called upon to exercise care, patience, forbearance and self-control.

### COURTESY TO PASSENGERS

“First, last and all the time, always be civil and courteous, no matter what the provocation. Trying situations may arise, when it is difficult to follow that rule, but strict adherence to the rule of politeness to every passenger under all circumstances will save complaints being made against you. You will also make friends for yourself and for the company by which you are employed. It is often difficult to be courteous to people who are not courteous to you. But you must learn to take such difficulties in good temper; it is a part of your job. You must treat passengers courteously, no matter how they may treat you.

“Common courtesy is the duty of every man who meets the public, in any capacity. In handling the public we must all take the public as it is and not as it should be. Those of us who come in contact with the public can do much toward educating it by our example. The good-will and friendship of the communities served by this company are greatly desired. The strongest recommendation for promotion which an employee in any department can have is the fact that by uniform courtesy and accommodation to patrons he has secured for himself and for the company the good-will and friendship of the public he serves each day. For this reason all employees of the Twin City Lines are earnestly urged to extend to patrons of the road every courtesy and to bear in mind the fact that our sole purpose is to furnish the public the highest class of service and that the character of the service—its acceptability to the public—depends in a great measure upon the spirit in which it is rendered.

“If every conductor and motorman will treat every passenger in the same way that he would like to have his mother, wife, daughter or sister treated under similar circumstances by some other trainman, we are sure the resulting good service will cause all our passengers to feel kindly toward us.

“Kindness is one of the manliest of qualities. Be

kind and considerate even though the weather is disagreeable and your passengers are irritable. Make it a habit to be kind. Kindness is the greatest friend-maker and friend-keeper in the world. People won't stop riding on your car because they do not like you, but they will judge our whole service by your conduct. It is up to the company to give the public satisfactory service, not only in cars and equipment, but in men, and that is the reason why we strongly emphasize the necessity of being kind and courteous as well as careful at all times.

"And be courteous not merely most of the time to most of our patrons, but all of the time to all of our patrons.

#### COLLECTING FARES AND MAKING CHANGE

"Sometimes a dispute arises between a passenger and a conductor as to whether fare has been paid or not, the passenger contending that he has already paid it. A conductor may also make the mistake of asking for a second fare from a passenger, particularly if the passenger has changed his seat after paying his fare. In both of these cases the conductor should accept the passenger's word without any comment whatever, and not demand another fare. The same rule applies when a parent in charge of a child says that the child is under six years of age, and therefore should ride free. Conductors must not question such statements from parents. The parent certainly knows how old the child is. Even though the conductor has good reason to doubt the parent's word, he must not say so.

"If a passenger pays fares for other passengers on a car and points out where the passengers are sitting or standing, the conductor must take pains to see that the second fares are not collected from such passengers. If he should make such a mistake and a demand is made for refund, the conductor must not refuse the passenger in a rough or uncivil manner. The conductor should explain that when once he has rung up fares on his register he is not permitted to make refund of same under any circumstances, or fail to ring up the next fares collected. He should say: 'I am sorry I made this mistake and that you are put to any trouble, but if you will please drop a postcard to the general passenger agent, he will make the matter right with you.'

"There is no definite rule as to how large a bill you are obliged to change. We want you to change any piece of money that you can. A good way to check yourself as to what you have received from a passenger is to name the denomination when you receive the coin or bill. If a passenger hands you a 50-cent piece, say to him, 'Fifty cents,' as you take the coin, or 'Five dollars,' as you take a five-dollar bill or gold piece. Such a check will not leave any room for doubt as to what the passenger gave you. It will save you from giving wrong change.

"Be sure, absolutely sure, you give every passenger his proper change. Let there be no mistake about that. Every passenger must get what is coming to him. While you can accept Canadian coins for fare, nevertheless, if passengers object to receiving Canadian coins in change from you, give them United States coins.

"Conductors must not show annoyance when passengers give them large pieces of money to change, nor should they take out their feelings on passengers by returning them a lot of bulky change. If a passenger asks for any particular kind of change, whether bills or large silver pieces, instead of small change, try to accommodate him and give him what he wants. If you cannot give him what he desires or are obliged to hand him small coins, say: 'I am sorry I cannot give you anything better than this.' Change must always

be returned to a passenger in a civil manner. Never throw change on the lap of a woman, but hand it to her in the same decent way you would like to have change handed to you.

"Conductors must never make comments as to money they receive from passengers, so long as it is good money. Do not tell passengers that they should provide themselves with smaller change before getting on your car, or threaten that you will not change any more money for them, if they offer you large coins or bills in the future.

"If, when you hand money to a passenger, any of it is dropped on the floor, pick it up and hand it to the passenger, even though the accident was the passenger's fault. Such a little service is a courtesy sure to make a friend. The more little courteous things we do for those with whom we come in contact, the more friends we shall make for ourselves. If a passenger hands you a bad coin or a foreign coin of such a kind that you cannot accept, explain to him quietly and politely why you cannot accept his money. By handling such a situation in a gentlemanly manner you will avoid another cause for complaint.

#### ISSUING ENVELOPES

"We believe this is the only company in the United States that issues envelopes to passengers when they find themselves on our cars either without any money or with bills or coins of such size that conductors are not able to make change. While this practice is abused considerably, nevertheless we are glad to continue it, not as an obligation on our part, but as an accommodation. Unless a bulletin is posted directing you not to issue an envelop to any particular passenger and he tells you that he has no money with him to pay his fare, you must issue him an envelop promptly without talking to him discourteously or lecturing him for not having money with him.

#### ISSUING AND COLLECTING TRANSFERS

"Let there be no doubt whatever that you have offered a transfer to each passenger when he pays his fare. Sometimes a passenger will complain that a transfer was not offered to him. He may not know our general rule, which is the same as in all large cities and designed particularly for the benefit of passengers, that transfers are issued only when fare is paid. See that the passenger gets a chance to take a transfer by asking him distinctly if he wants one, and to what line he desires to transfer so that you may punch same correctly. If care is taken in this regard, many other complaints will be avoided.

"Keep thoroughly informed as to all our transfer rules, know and understand how to punch your transfers properly, and be careful to do so. Also understand what transfers are good on your line, and how they should be punched. Be careful that you do not refuse a good transfer, and be absolutely sure when you do refuse a transfer, for any reason, that you are in the right and following your rules intelligently.

"If a passenger gets on a car with a transfer that has been mispunched in any way by the issuing conductor, or if he gets on a car away from the proper transfer point, or if he presents a mutilated or torn transfer, it is necessary to collect a second fare from him. But be sure that you do so civilly. Explain to the passenger politely why the transfer is not good and why you are not able to accept it. If the passenger says that the transfer was given to him mispunched or torn, or that he was told to get on the car at the wrong place and that he took the first car, in other words that he was not to blame, we are sure you will have no trouble with him if you will say to him: 'I am sorry that



our rules do not allow me to take your transfer' (explaining the reason). Please pay me another fare and mail your transfer to the general passenger agent, and he will reimburse you for the transfer, as well as for the postage you spend in sending the transfer to him.' Such a civil explanation is sure to satisfy the passenger in such cases.

"If a passenger finds a misplaced transfer and asks for a return of his cash fare after you have rung it up, tell him that you are not allowed to refund a fare after you have rung it up, but that it is not necessary for him to be out of pocket by reason of his mistake. Tell him to mail the transfer to the general passenger agent, who will promptly refund, as already mentioned.

"If a passenger takes a transfer when he pays his fare, and later on decides that he wants a transfer to another line, you should exchange it for him on his request, without any comment on your part, such as telling him in the future to make up his mind what he wants.

#### NO NUISANCES ON CARS

"In order to give our patrons the best service, all nuisances on our cars must be stopped. This includes passengers who act in a disorderly manner, who use profane, vulgar or obscene language, who mutilate the company's property, such as cutting car seats, who spit anywhere on the car, and who smoke in the car except on the platform, as well as those who are intoxicated to the extent that they are offensive or frighten other passengers. Handle all such cases with good judgment without getting angry or losing your self-control.

"If a passenger gets on your car thinking it is the car he wants and almost immediately afterward finds that he has made a mistake, let him get off at once on his explanation to you that he made a mistake. Do not insist on collecting his fare and issuing him a transfer, unless you know positively that such a transfer will be accepted on the car he wants. If you cannot issue him a transfer to his proper car, let him off without collecting any fare. Do not tell him to keep his eyes open next time or make any uncivil remarks. We all make mistakes.

"Keep your car seats and floor free from paper and other rubbish and thus have your car neat and tidy at all times.

#### SERVING PASSENGERS

"We want all conductors to comply readily with the reasonable little requests made by passengers that contribute to good service. As far as possible help on and off your cars women and children, the aged, the weak and the helpless, and open and shut the doors for them, as well as shut the doors after all passengers who do not do so themselves. Shut the doors promptly when a passenger asks you to do so. Do not say: 'Shut it yourself,' or anything of that sort.

"If you see a passenger trying to open or close a window and you can take the time to do so, step up and open or close it for him. The passenger probably does not know how to do it as quickly as you do. Do not tell him you haven't time. Take time. If a passenger asks you to open a ventilator, do so even though it is best to close it after the passenger gets off. Ventilating a car is a serious problem, which we are studying, and our cars are not all equipped with the same sort of ventilators.

"If a passenger raises a front curtain when the lights are turned on, do not pull it down angrily and tell him to mind his own business, that you are running the car, or anything of that kind. He may have raised the curtain unthinkingly. Simply pull it down and say: 'Please do not raise the curtain. The motorman can-

not see to do his work properly with the curtain up while the lights are on in the car.' Such a suggestion is sure to be received in good spirit, and you will avoid unnecessary trouble. When it is necessary to ask passengers to move up in front on account of blockade in the rear part of the car, do not say, 'Move up in front, there,' in a surly tone. Put a smile in your voice and say, 'Please move up in front.' Here again courtesy will do the work best.

"If a passenger gives the signal for a car to stop and for any reason the car does not stop, the conductor must give the overhead signal promptly to let the passenger off. If a passenger gives the overhead signal himself, the conductor must not resent the action in any way, as a passenger has a right to do so under the circumstances.

"While we do not believe it is good policy to permit conductors to give information to passengers relative to articles claimed to have been lost on our cars, nevertheless that does not mean that conductors should mislead passengers by telling them that they have not found any articles, when they have. Simply say: 'I cannot give out any information as to lost articles. Please call at the general office and inquire at the lost article department.'

#### PERSONAL APPEARANCE

"All trainmen are urged to present a neat personal appearance at all times. A man's appearance has much to do with his success or failure in any work involving contact with the public. A man of slovenly appearance is often taken for a man with a slovenly brain, and hence is overlooked when chances for promotion come up. Keep well-washed, well-shaved, well-brushed. Get the clean, well-groomed habit.

#### ANSWER QUESTIONS PROMPTLY

"Questions must be answered carefully and correctly and with a cheerfulness that does not offend or discourage the questioner. It should be remembered that questions which on their face appear to be foolish to those familiar with our business are not foolish to the person asking them and should be answered promptly and kindly. You, with your experience and training, are thoroughly familiar with many things that strangers in the city, and even local people, do not know, and you should bear that fact in mind, and, in replying to questions, always give the information fully and plainly in as few words as possible and without any suggestion of superiority born of greater knowledge. It is true that the manner in which a statement is made or question answered by any person serving the public is frequently more aggravating and offensive than the words that are used. A kind and gracious manner is the mark of a self-respecting man—and a man who respects himself rarely fails to command the respect of others.

"The efficient trainman, or man in any walk of life, does not discriminate between rich and poor, men, women or children—or between a well-dressed person and a poorly-dressed one. He treats everybody with equal consideration. Keep posted as to location of streets or public buildings and points of interest along your line and all other lines, so as to give the public accurate information. Every employee has many opportunities to increase the value of his services by a little personal effort that costs him nothing, and wins smiles of approval that are more desirable than frowns.

#### FINALLY—NEVER GET ANGRY

"Do not get angry under any circumstances. Remember, if you are in the wrong, you can't afford to get angry; if you are in the right, you don't need to get

angry. When a man gets angry, he discounts his ability heavily.

"For his own personal good and the strengthening of his character, every street railway employee should cultivate the art of smoothing things out—truly more satisfactory than to end the run of a day with some useless altercation with a patron rankling in his mind and filling his hours off duty with worry. A prominent street railway man has wisely said: "There is no place in which the golden rule can be so effectually employed or will pay such large dividends as on our modern street cars." And the application of the golden rule with Twin City trainmen simply means this:

"Treat every passenger with whom you come in contact exactly as you would like to be treated if you were the passenger."

"Every victory over discourtesy is well worth the effort and makes the man bigger and stronger and a better employee. It brings him nearer promotion and raises him in the esteem of his family. It pays to be good-humored. It pays to control yourself.

"We feel confident that our trainmen will all join in the effort to be watchful and considerate of our passengers' safety and comfort. Let us all check ourselves and resolve that as far as we are each concerned, no patron can ever complain justly against us for failure to do our work honestly, cheerfully and properly."

### San Francisco Municipal System Without Exposition Traffic

Comparison of Figures for Fiscal Year 1915 with Those of First Four Months of 1916—Comment and Criticism Thereon

ELECTRIC railway officials throughout the United States may be interested in up-to-date figures for the Municipal Railways of San Francisco. The accompanying income statement is made up from the official report of the municipal lines for the year ended June 30, 1915, and from figures on file with the public authorities in San Francisco for the first four months in the calendar year 1916. The statement, therefore, involves a comparison between an abnormal period, which included four and one-third months of exposition travel, and four months of the post-exposition period. Comparison on this basis shows a deficit of \$80,216 for the first four months of 1916. There is some difference of opinion in San Francisco as to how these figures should be interpreted, and points on both sides of the question are presented below.

#### PRESENT STATUS AS CITY OFFICIALS SEE IT

City officials in close touch with the situation point out that it is unfair to take as an indication of future conditions any figures compiled for the months following the exposition period or to make a comparison between these figures and the earnings during the heavy travel of 1915. In San Francisco the first four months of the year always contain a low percentage of the casual or occasional riding element. This year, in addition to the reaction from the exposition, this period included unprecedented inclement weather—twenty-six rainy days in January and fifteen in February. The extremely heavy service last year required of the municipal railway system (which carried 50 per cent of the exposition attendance, totaling almost 19,000,000) could not be consistently cut down in a day to meet the adverse January conditions. The average car mileage operated at present is approximately 18 per cent less than the average for the year 1915, and naturally this reduction

INCOME STATEMENTS OF MUNICIPAL RAILWAYS OF SAN FRANCISCO FOR FISCAL YEAR ENDED JUNE 30, 1915, AND FOUR MONTHS ENDED APRIL 30, 1916

	Year Ended June 30, 1915	Four Months Ended April 30, 1916
Operating revenues:		
Passenger revenues	\$1,630,778	\$475,787
Miscellaneous revenues	7,886	†2,628
Total	\$1,638,664	\$478,415
Operating expenses:		
Ways and structures	\$40,716	\$17,689
Equipment	64,787	27,194
Power	201,098	75,708
Conducting transportation	564,186	211,604
Traffic	308	79
General and miscellaneous	52,293	15,182
General and miscellaneous (comparison charges required by charter)	7,768	†2,590
Depreciation, 18 per cent of gross revenue*	294,959	85,642
Total	\$1,226,115	\$435,688
Net operating revenue	\$412,549	\$42,727
Miscellaneous income	10,407	†3,500
Gross income	\$422,956	\$46,227
Deductions from income:		
Taxes (comparison charges required by charter):		
State franchise, 5¼ per cent on gross operating revenue	\$86,030	\$25,116
Municipal franchise, 3 per cent on passenger revenue	48,923	14,274
Municipal car license	2,471	610
Federal income, 1 per cent on net income	830	.....
Total taxes	\$138,254	\$40,000
Interest on funded debt	202,567	86,443
	\$340,821	\$126,443
Net profit or deficit	\$82,135	†\$80,216

NOTE: The Municipal Railways pay no taxes, nor is any payment made for services rendered to the railway by other departments of the municipal government. The above income statement includes the comparison charges required by the charter.

Taking the profit shown above for year ended June 30, 1915	\$82,135
And adding comparison charges for legal and clerical services	\$7,768
And comparison charges for taxes	138,254
	146,022
Produces the true net profit for the year	\$228,157
Taking the deficit shown above for first four months of 1916	†\$80,216
And deducting comparison charges for legal and clerical services	\$2,590
And comparison charges for taxes	40,000
	42,590
Produces the true net deficit for the four months	†\$37,626

†Estimated on the basis of one-third of the 1915 figures. †Deficit.  
\*The reserve for depreciation and renewals is computed at 14 per cent of the gross operating revenues, instead of an annual percentage of physical value of the property. The rate of 14 per cent is arbitrary, being based on Chicago experience as reported by Bion J. Arnold (12 per cent) and the opinion of Delos F. Wilcox as expressed in a paper on "Elements of a Constructive Franchise Policy." There is added 4 per cent on the gross revenue for injuries and accidents, this percentage being based on the experience of United Railroads of San Francisco. This method is simple and direct and if subsequent actual experience shows the rate to be too high, adjustment may easily be made.

in service has of necessity been gradual and readjustments are still being made.

Practically the entire reduction in revenue in the 1916 months under that of 1915 is on what may be considered primarily the exposition lines. The municipal railway extensions constructed under the bond issue of 1913, subsequent to the original Geary Street municipal line, were built with the view of giving necessary and immediate service to the exposition and at the same time forming a nucleus of a comprehensive municipal railway system. In order to serve the exposition considerable mileage of these extensions was built through districts with a very light population density. This naturally meant that, with the passing of the exposition, the revenues on these lines were bound to fall off materially, necessitating operating them at a loss until, owing to the transportation facilities, the population density and the riding habit would be developed. As an instance of this, it is pointed out that passengers carried on the "C" line this year will be in excess of the total number carried on this line during the exposition year, if the record of the

half year just ended is continued. This is owing to the development of the district which this line serves. Traffic on one or two other lines into sparsely settled areas is rapidly developing in the same way.

It must be realized further that in order to accommodate the exposition crowds the municipal railway provided car capacity approximately 75 per cent in excess of the actual maximum requirements for the conditions following the exposition. These cars will be required for extensions of the municipal railway system now under construction or contemplated, but the interest charges on these cars and the carhouse, together with \$500,000 of construction in progress and not operating, appear as a charge against operation.

"To consider the city's interest from a broader point of view," said M. M. O'Shaughnessy, city engineer, "it is almost axiomatic that the railway extensions should precede population rather than follow it in these new districts. The exposition lines of the municipal railway system are serving to develop permanently those districts through which they pass, and it will be but a short time until their growth will respond to the railway service. It cannot be too strongly emphasized that while the tabulation of operating revenues and costs sets forth all of the results in which a privately owned railway system is interested, to a municipality there is the large, unseen, but nevertheless real, return caused by the increase in the taxable value of the property served by the railway."

AN OPPOSITE VIEW OF THE SITUATION

A glance at the accompanying statement will show that all of the figures for 1916 are actual with the exception of the relatively small amounts for miscellaneous revenues, miscellaneous income and the comparison charges required by charter, these being liberally estimated on the basis of one-third of the 1915 figures. The primary cause for the present deficit seems to be the large increase in operating expenses and interest, combined with a material decrease in passenger revenues. For a period 33.3 per cent as long, the passenger revenues for the four months of 1916 amounted to only 29 per cent as much as those in the fiscal year 1915, while the operating expenses were 35 per cent and the interest on funded debt 42 per cent as large. This showing in operating expenses arose from the fact that, as compared to the fiscal year, maintenance of way and structures for the four months was 43 per cent, maintenance of equipment 42 per cent, power 37 per cent and conducting transportation 37 per cent as great, while the amounts for traffic, general and miscellaneous and the charge for depreciation and injuries and accidents were relatively lower.

In the note given at the bottom of the statement it is said that the true profit or the true deficit for the year should be the amount shown on the statement, exclusive of taxes and comparison charges for legal and clerical services. While figures compiled on this basis certainly would not show the true earning capacity of the property under municipal ownership as compared to private ownership, it is interesting to observe that on this assumption the deficit of \$37,626 for the four months would be turned into a deficit of about \$110,000 for the full year 1916.

At the present time there are two municipal railway sinking funds in operation: (1) the Geary bond redemption fund, amounting to \$95,000 per annum, and (2) the Market Street redemption fund, amounting to \$6,000 per annum, making a total of \$101,000 per annum. The proportion of this \$101,000 per annum for the four months ended April 30, 1916, would amount to \$33,667. Payments on account of sinking funds do not technically constitute charges against income, for which reason this stated amount does not directly

affect the income figures previously given. To meet these payments, however, in the face of the existing deficit it would be necessary to draw upon the assets represented by the preceding surplus or by the comparison charges for the four months. The net result of either course would really be to leave the depreciation reserve practically unsupported by any assets except those representing the old surplus, which condition, if maintained through annual deficits, would probably in time render the reserve meaningless. In this connection it should be mentioned that in addition to the two sinking funds already in operation there is one for the municipal street railway bond issue, amounting to \$3,500,000, which begins on Dec. 1, 1918, at the rate of \$100,000 per annum.

Recent Jitney Data from Los Angeles

THE accompanying illustration shows one of the new sixteen-passenger bodies of the "pay-as-you-leave" type, as used in Los Angeles, Cal. This type of jitney is increasingly popular, a local factory stating recently that it has been doing a thriving business in these bodies as a side line at \$500 per car. Late in June more



SIXTEEN-PASSENGER JITNEY NOW POPULAR IN LOS ANGELES, CAL.

than twenty such buses were reported operating on a single Los Angeles route. It is notable that passengers are willing to enter these buses when all seats are taken, and as a result many of the buses are now provided with straps suspended from the top whereby standing passengers may steady themselves.

The following statistics were compiled by the Los Angeles Railway in a recent check on the jitney situation in that city:

COUNTS OF LOS ANGELES JITNEYS MADE BETWEEN 6 A. M. AND 12 MIDNIGHT.

	1916		
	March 27	April 24	May 25
Number of automobiles found operating at various times during the day.....	330	364	367
Number of automobiles operating ten hours, computing from the total time of all autos.....	306.59	314.98	343.77
Average number of round trips per car.....	11.89	11.12	11.96
Average number of round trips per ten hours.....	12.80	12.23	12.77
Average mileage per car....	112.85	110.70	119.34
Average mileage per car for ten hours.....	121.47	127.92	127.40
Total mileage of all cars.....	37,242	40,296	43,799
Total passengers (by checkers).....	32,778	34,189	34,949
Total passengers (plus 20 per cent).....	39,334	41,026	41,938
Total receipts at 5 cents each.....	\$1,966.00	\$2,051.30	\$2,096.90
Round trips.....	3,924	4,050	4,390
Passengers per car-mile.....	1.06	0.982	0.95
Earnings per car mile.....	\$0.053	\$0.051	\$0.047
Earnings per ten-hour car....	\$6.42	\$6.51	\$6.09

# Advertising for Increased Business

House-to-House Canvass and Newspaper Advertising of City Light & Traction Company, Sedalia, Mo., Secured Traffic Increase for Company

THE City Light & Traction Company, Sedalia, Mo., one of the Doherty properties, recently started a novel movement in soliciting railway business by means of a house-to-house canvass and newspaper advertisements. This practice has long been used by gas and electric companies for the purpose of securing both good-will and additional business, but this is the first case of its kind—as far as is known—where it has been used by an electric railway. According to Harry D. Frueauff, general manager of the company, the publicity methods are bearing fruit in the form of traffic increases, it being his opinion that the house-to-house canvass has accomplished much toward this end in supplementing the newspaper advertisements.

## REASONS FOR METHOD USED

In the summer of 1915 many electric railways which were attacked by the jitney pest appealed to the people of their communities through newspaper publicity, and it was generally conceded that these campaigns greatly strengthened the companies through the better understanding of their problems by the public. Mr. Frueauff was greatly impressed with the merits of such a publicity plan over the one more generally used, that of using political influence and legal restrictions to control such unfair competition, it being his belief that the publicity plan left the public with some good sound arguments in the railway's favor instead of the old suspicions of the power of special privilege and the misuse of influence. Having become interested in the publicity plan used, Mr. Frueauff went one step farther and asked, if at a time of special burden like the foregoing, business could be saved for an electric railway through publicity, why new business could not be gained by the same means. The Doherty gas and electric business and almost every other modern business had been made to grow by proper advertising and publicity methods, and

he wondered why it would not be wise to endeavor to inculcate a street car riding habit by advertising and personal solicitation.

## NEWSPAPER CAMPAIGN

The City Light & Traction Company finally decided to begin a business campaign for its traction department in January, 1916. Since that time the company has been running in the Wednesday and Sunday issues of the daily papers advertisements telling the public of the value to the community of the street car system and of some of its problems, openly and honestly showing the figures involved, and telling of the company's desire to get new cars and of their cost. The accompanying illustrations show some of the different kinds of advertisements used.

In one advertisement, not reproduced, the company emphasized the fact that 109,938 fewer passengers rode in 1915 than in 1914, and asked the public how long it could continue to make improvements in the face of such a decrease in patronage. The company put it squarely up to its patrons that improvements as well as the solution of problems could only be accomplished through their help, and it at all times dealt with them on the basis of a mutuality of interest in the railway service.

Other advertisements, aimed to reach the casual rider, contained the following:

"Now why, if street cars are a convenience to you in stormy weather when it is cold or sloppy, or in warm weather when the sun is too hot to bear, isn't it reasonable that they should have enough support at other times to warrant their existence?"

"In order to keep our cars running to-day we have fifteen men working on the track with shovels, picks, brooms and salt. We do not object to this extra expense which we incur in order to give you service, but

## Summer Is Here

Get out in the open.

The wild flowers at the Fair Grounds are beginning to show color.

Liberty Park is beautiful.

The baseball season is on

First of the new league games.

Then remember that friend in the other part of town you have intended visiting all winter.

And

### TAKE THE CARS

Always

### AT YOUR SERVICE

City Light & Traction Co.

## CONVERSATION

Is Cheap But Very Often Helpful

(An actual conversation overheard in the street car.)

First Man—"What is that book you tore that ticket out of? Are you riding on passes now?"

Second Man—"No indeed, I'm not riding on passes. The Public Service Commission did away with passes, except for employees, long ago. That's a book of tickets, cost good hard earned money, but it's mighty handy. Don't have to worry about having money in my pockets for street car fare. Get 120 rides for \$5.00, but right now they are giving a special discount of 6 per cent. Then, besides, I don't have to wait while the conductor makes change or counts tickets. It's quicker, more convenient and cheaper. Better get one."

This is the way it works out for others. Why not you?

Ride the Cars

City Light & Traction Co.

## STREET CAR TICKETS

IN HANDY BOOK FORM

60 RIDES AND 120 RIDES

You can help expedite the loading and unloading of passengers, which will help greatly in moving you on time, by buying your street car tickets in sufficient quantities so that you do not have to buy often, besides until May 16th you will save an additional 6 per cent.

These books for sale at the Company's Office.

Have your ticket or exact fare and Let's Go.

City Light & Traction Co.

(Traction is a Greek word meaning "Save yer shoe leather and time.")

**This Coupon Good For**

**15c** } in payment on \$2.50 (60 rides) book of Street Car Tickets if presented by May 15th, 1916.

**30c** } in payment on \$5.00 (120 rides) book of Street Car Tickets if presented by May 15th, 1916.

These are for your convenience. Many have requested books of tickets so that they would not be bothered by having to buy so often. They are transferrable. With your ordinary riding and the Park season opening soon, get one of these Books now. Easily carried in the pocket. Take up very little room. Lay out this amount pay-day and make this saving:

60 rides at 5c, \$3.00; Cost by using coupons, \$2.35; saving on investment 27 per cent.  
 120 rides at 5c, \$6.00; Cost by using coupons, \$4.70. saving on investment 27 per cent.  
 Tickets good any time. Bring this coupon to our office and \$2.35 for a 60 ride book. Bring this coupon to our office and \$4.70 for a 120 ride book.

Sign here: Name.....  
 Address.....

**City Light and Traction Co.**  
 404 South Ohio St. NOT GOOD AFTER MAY 15, 1916

SEDALIA CAMPAIGN—ADVERTISEMENT SHOWING SPECIAL TICKET OFFER AND SAVING THEREFROM

we do want to suggest right here that this is made possible not by the occasional rider but by the regular rider, the one who uses the cars morning, noon and night, in sunshine and snowstorm."

Still other advertisements played up these points:

"If you see a gang of men cutting up the pavement near the street car tracks or some new ties going in, and if you occasionally have to transfer around a piece of work, please observe with a smile on your face. We are doing this to improve our tracks and your streets. With your help and support we can give you about the 'niftiest' street car service you'll find anywhere. All we need is riders. Be one."

"Please remember that if the car is a little late some rainy night, it is because the number of starts and stops have increased, owing to the number taking advantage of the comforts of a ride under cover. Be a regular rider."

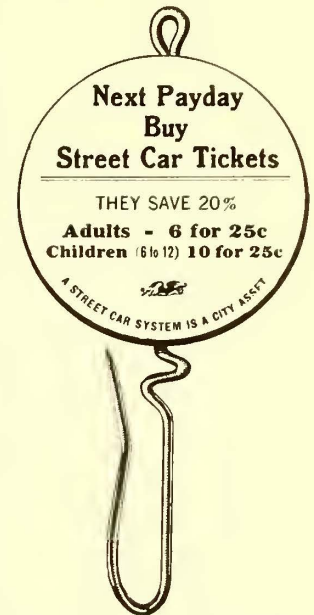
One of the accompanying illustrations describes the company's special offer of \$2.50 and \$5 books of street car tickets (good for sixty and 120 rides) at a discount of 6 per cent up to May 15. The company made a special endeavor to explain the advantage of using the tickets, both through the newspapers and through the house-to-house canvass, inasmuch as it was confident that if it could get tickets into the pockets of patrons there would be more frequent and more regular riding.

In order to further its newspaper work for increased business, the company also, between Jan. 20 and March 1, had a contest among the operators on the cars, offer-

ing prizes and commissions to the men selling the most tickets. This caused them to urge the purchase of tickets by many who did not ride on the cars regularly. During part of this period the weather was bad, and this gave the company a good chance to talk business to many spasmodic riders. Under the original plan for the contest, a prize of \$5 was offered to the man selling the most tickets, \$3 for the second and \$1 for the third, the standing being posted each week. At the end of the second week, however, three of the men were so far in advance that the company found the others had about given up hope and were taking no interest in the contest. The company, therefore, posted a supplementary notice offering 3 per cent of whatever the sales were up to a certain figure, and 5 per cent if this figure was exceeded. This had the desired effect, and every one of the car men worked aggressively during the remainder of the contest. About 11 per cent more tickets were sold than the amount necessary to entitle the men to the 5 per cent commission.

**HOUSE-TO-HOUSE CANVASS**

To back up all the preceding endeavors, the company arranged for a house-to-house canvass of the districts from which it ought to get riders. For this purpose it used one man of pleasing personality, an extra man off the street car at 20 cents per hour. On his first visit this canvasser left a blotter on which was printed a time-table for the cars on the various lines of the company. This was very well received and the company had an additional edition printed. On the second trip around the man left a little souvenir for the lady of the house to hang on her kitchen wall to facilitate the keeping of grocery bills, etc. This consisted of a hook having at its top a circular celluloid plate, as shown in the accompanying illustration, plainly emphasizing the importance of buying street car tickets on pay days and the saving therefrom.



SEDALIA CAMPAIGN — BILL HOOK DISTRIBUTED TO HOUSEWIVES BY CANVASSER

**Shoe Leather vs. Traction Service**

Some time ago we felt it would be interesting information to know just how many people living contiguous to street car lines walked instead of rode.

To secure this information we stationed men at Second, Third and Fourth and Grand Avenue; at Lamine, Ohio and Osage and Thirteenth Street and Katy Tracks and Third and Fifth Streets. We asked them to count the people walking from 6:30 to 8:30 a. m., from 11:30 a. m. to 1:30 p. m., and from 5:30 p. m. to 7:30 p. m., a total of 6 hours. We did this for three consecutive days. These figures show that every day between these hours there are nearly 3200 people walking instead of riding. Did you know that that is more than ride our cars, all of them, from 5:30 a. m. to 11:30 p. m.?

If 10% of those people rode the cars we would have shown progress last year instead of a loss in passengers carried of 109,938.

Be One Who Will  
 Buy Tickets - 6 for 25c

**City Light & Traction Co.**

**Street Car Tickets Save Over 20%**

**I**F the operator hasn't tickets to sell please report it at the office. We are making special efforts now that all may take advantage of this saving. We have arranged a competition among the men to see who can sell the most tickets. We want everyone to know and take advantage of this saving.

During the bad weather some few people are using the cars who do not regularly. Have you ever stopped to think who makes it possible to have cars running in bad weather, in good weather, or at all? It is the regular rider. He it is who makes it possible for you to have these conveniences when walking overhead or underfoot is bad. He it is who makes extensions possible, who helps procure new cars, who keeps up the track and paving.

Become a Regular Rider.  
 Buy Tickets 6 for 25c of the Operator or at the Company's Offices, 404 South Ohio St.

**City Light & Traction Co.**

**"There Are Lots of Chaps Who Are Willing to Grunt While You Lift"**

Be one who is willing to help.

We realize that our street car system is not all you would like. It's far from what we would like to have it. It takes car riders and regular car riders to produce what you and we both want.

**Now, today** get one of those time tables out of the cars. Find out when your car is due at your corner and see just how often it's there and when it should be. Every man in our employ is especially extending himself to be on time and give you service, and so are the employees of the Katy. They seldom ever block us and then only when absolutely necessary.

Wet tracks delay some but know this, 'we are trying'

Be One of the 300 Necessary Per Day  
 BUY TICKETS - 6 FOR 25c

**City Light & Traction Co.**

The main talking point of the canvasser was, "How does the railway service suit the public, and in what way can it be improved to fit their requirements more exactly?" He endeavored to find out any complaints that the street car patrons might have, and made a special point of emphasizing to them how with a single-track system and railroad crossings the cars would not always be on time. Along this line he explained the efforts of the company to give good service and keep the cars on time, and showed specifically the problems with which the company had to contend. This work was all done in the day time, inasmuch as the company believed that the lady of the house was really the one first to approach.

After straightening out any complaints found and making note of any suggestions offered, the canvasser explained the desirability of purchasing the street car tickets. If there were children in the home, he told of the half-fare tickets. He emphasized the percentage saving in the purchase of tickets, and made a special effort among the laboring classes to have them lay aside a certain amount each pay day so as to purchase enough tickets to last from one pay day to the next.

RESULTS OF CAMPAIGN

The canvasser has made many friends for the company, for he was a practical street railway man and could explain many things which the public should know and about which they had not thought at all. The company has received a great deal of favorable comment from the people called upon in regard to how the canvasser explained certain of the company's problems. Moreover, commendation has been heard on every side for the efforts of the company to find out the view of the people on how their requirements could be better met.

The efforts of the canvasser to get the public interested in the using of the cars and the advertisements to this same end have borne fruit in the matter of increased traffic. In January the company had the best traction earnings for this month in its history, and February lacked only \$3 of the same record. Each of the first four months of 1916 has shown an increase over the corresponding month in 1915. The traffic increase over last year in February was 12.2 per cent, while the increase in March was 7 per cent. Mr. Frueauff believes that the house-to-house canvass accomplished much toward the traffic increase as an aid to the newspaper advertisements, although the latter have attracted national attention.

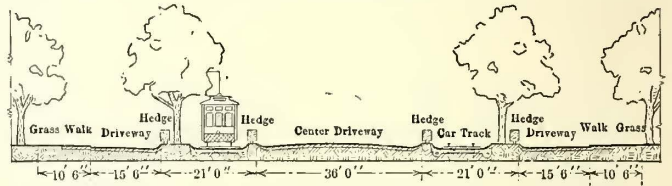
In general, the campaign has educated the public to a better understanding of the company's problems, some of which have before seemed insignificant to them but which in reality have much to do with service and especially with time-tables. The public also knows more about the cost to equip, maintain and operate a street railway system, and they are less inclined to take things for granted and realize that such a system requires support in order to fulfill its purpose. In Mr. Frueauff's opinion billboards could be used very effectively to supplement the efforts made in the Sedalia campaign, and in general publicity work of this character will grow. As it produces it should, in moderation at least, be made a permanent traffic expense.

One other feature that might be noted in regard to this publicity campaign is the fact that in Sedalia it is looked upon as being of service to the city as well as to the company. Local newspapers and quite a number of the citizens, who have found out that the story of this campaign has been spread far and wide as a mark of Sedalia progressiveness, have felt that the town has been benefited thereby. In other words, the town has

profited by the publicity of the achievement just as the company has been helped by the traffic increase and better public understanding of its problems.

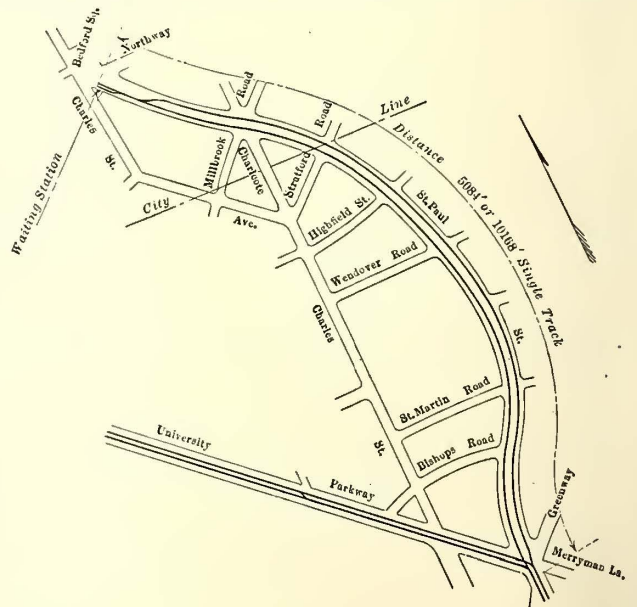
Guilford Extension in Baltimore

AN example of the way in which electric railways are assisting in the development of residential districts is furnished by the extension of service by the United Railways & Electric Company of Baltimore into the new section of that city known as Guilford. This is a high-class residential section which is being developed by a local company. Included in it is an extension of St. Paul Street, which is laid out as a handsome boulevard, as shown in the accompanying cross-section. The street is about 130 ft. wide with three driveways, a broad central roadway for through traffic and two narrow



CROSS-SECTION OF ST. PAUL STREET IN GUILFORD, BALTIMORE, MD.

row driveways for local travel. Provision has been made for the planting of trees and hedges, for underground conduits to carry all the heavy feed wires, and for slender iron poles with brackets to carry the light trolley wires. By these means the tracks and poles will be so placed and screened that they will cause no disfigurement. The railway company has extended its line on St. Paul Street for a distance of about 5100 ft., as shown in the accompanying map. The company's



MAP OF GUILFORD, BALTIMORE, MD., SHOWING EXTENSION OF UNITED RAILWAYS & ELECTRIC COMPANY'S ST. PAUL STREET LINE

standard track construction has been used in this extension.

The company has had two car lines operating over routes bordering this section for some years and felt that ample transportation facilities were being provided for this district. However, the people in Guilford and the development company were anxious to have a car line through the development, and an agreement was made with the railway for the extension and for service as follows: Part of the service on the St. Paul Street

line, one of the two above referred to, will branch off at Thirty-first Street and University Parkway and operate through Guilford, terminating at Bedford Square, St. Paul Street extended and Charles Street Avenue. The balance of the service on St. Paul Street will terminate at Thirty-first Street and York Road, Waverly, as at present. The new service will give through cars between Bedford Square and Baltimore Street on an eight-minute schedule in the rush hours, and Guilford will have not only complete electric car service, but will also be served by two motor bus lines. It is expected that the construction will be sufficiently advanced to commence operation over the extension about Aug. 1.

## Salt Lake & Utah Railroad Extension

Line to Payson Taps Fertile Region—Freight Revenues Expected to Be 60 Per Cent of Total

THE Salt Lake & Utah Railroad is a 1500-volt d.c. interurban line, operating passenger, express and freight service. The company first started running cars through from Salt Lake City to Provo two years ago. A description of this first section of the line was published in the ELECTRIC RAILWAY JOURNAL for Jan. 2, 1915, page 54. Since then the line has been steadily extended and on May 20, 1916, operation of cars to Payson, 20 miles farther south, was begun. This latest extension taps a very rich farming community and it is expected that the resulting freight business will in a short time approximate 60 per cent of the total revenue derived from the operation of the line.

A celebration of the completion of the reclamation project and the extension of the Salt Lake & Utah Railroad Company's line to Payson was held in Payson on May 26 and 27, 1916. The Governor of the State, high officials in the Government service and prominent men of Utah, Idaho and other neighboring States were in attendance.

As now extended the line is 67 miles long, and the twenty-four passenger trains per day give an almost hourly service to Salt Lake City. In addition to the regular service the road now runs two limited trains per day each way. Substantial stations arranged to handle the varied business of the company have been built in every town along the line. At Payson the

company has just laid the foundations for a new car shop, also.

### GENERAL CHARACTERISTICS OF THE REGION

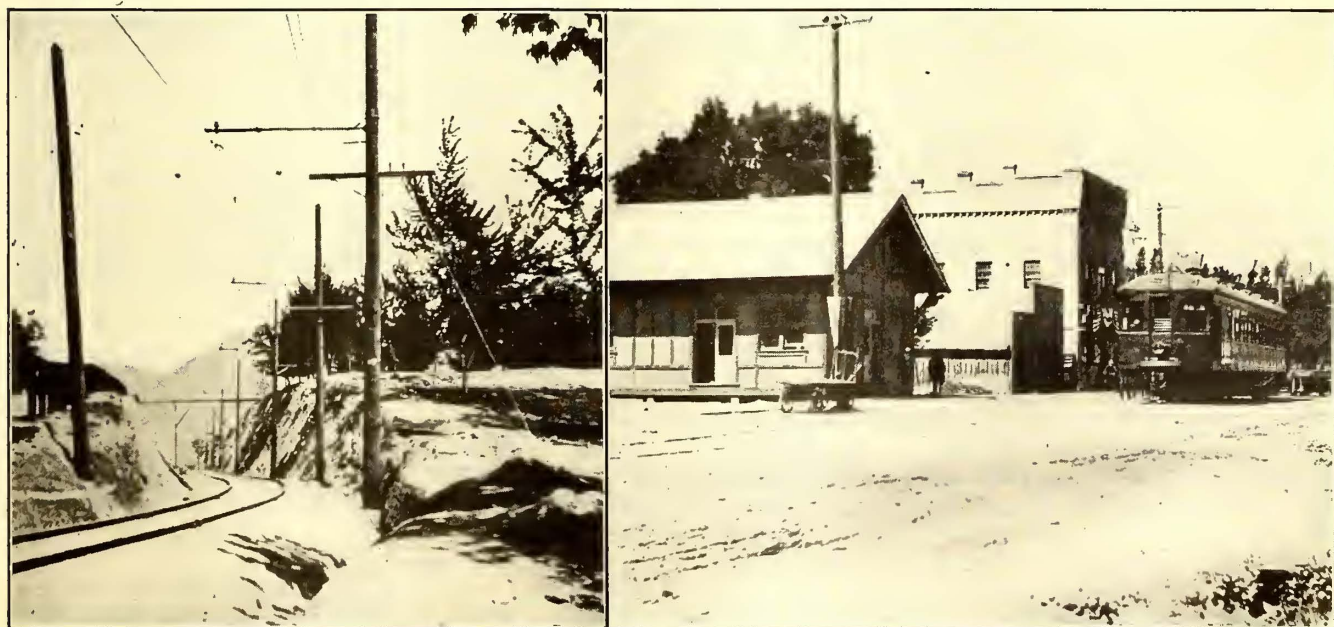
Payson, the present terminus of the line, is in the heart of the great government Strawberry Valley Reclamation Project, which consists of a storage works and a distribution system, separated from each other by more than 50 miles with a half mile of elevation. Some of the best agricultural land in the State is located in this district and the portion of it already irrigated has proved to be well adapted to the raising of fruit, alfalfa, sugar beets, grain and other products.

The interurban road is of special value, as it passes through the heart of the several towns served by its line, whereas the competing steam roads are in some cases 1½ miles from the center of town. Since its advent, the entire country to the south of Salt Lake has received a new impetus. Manufacturing establishments have been opened up and land values have increased. The Salt Lake & Utah Railroad, therefore, naturally expects excellent returns soon for its large outlay. The slogan of the company is "Freight rates with express service," and from present indications there can be no doubt but that in a very short time the freight revenue will exceed the passenger revenue.

### SUBSTATIONS AND ROLLING STOCK

To assure reliability of service substations have been supplied at Granger, Bringham, Lindon and Springville, each equipped with 250-kw., 60-cycle, three-phase, 750-volt rotary converters connected two in series. In each substation one spare unit was installed and the buildings at Granger and Springville were arranged to accommodate two extra units. Catenary line construction was used.

The rolling stock of the company now consists of nine all-steel, high-speed Niles passenger cars, two express cars, one work car and five trailers. All motor cars have quadruple motor equipments and HL control, arranged for 750/1500-volt service. For local work in Provo, four single-truck cars with double equipments and hand control are used. In order to take care of the rapidly growing freight business, the company now has on order a 50-ton locomotive arranged for full speed



SALT LAKE & UTAH RAILROAD—OVERHEAD CONSTRUCTION AT SUMMIT OF 2.8 PER CENT GRADE, PAYSON; PAYSON FREIGHT AND PASSENGER STATION, SHOWING MOTOR CAR AND FLAT CAR TRAILER

operation on 750 or 1500 volts. The car motors and controllers, the electrical equipment of the substations, and the catenary material were supplied by the Westinghouse Electric & Manufacturing Company.

## The Field of the One-Man Car\*

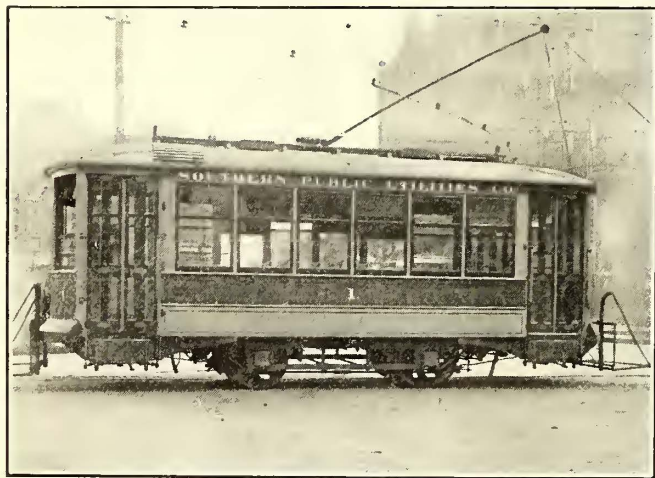
Conditions Under Which One-Man Car Operation Would Be Successful—Experience of Southern Illinois Public Utilities Company

BY J. B. ERVIN

General Engineer Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

IT has been stated that light-weight, one-man cars are now in use on 100 railways in this country alone. This is a comparatively recent development in the electric railway industry, and it is desirable to learn the various reasons for their adoption and to study the traffic conditions encountered and results accomplished so that the proper field for this type of car may be more definitely established.

Through the courtesy of the Southern Illinois Public Utilities Company the writer recently had the opportunity to become familiar with the railway conditions in Anderson, S. C. These are strikingly similar to the conditions in Corpus Christi, Tex., as described in a paper by D. R. Locker presented before the meeting of the Southwestern Electrical & Gas Association last May.†



ONE-MAN CAR, SOUTHERN PUBLIC UTILITIES COMPANY

Corpus Christi has a population of about 20,000 with 10 miles of track, while that of Anderson is less by perhaps 5000, but the track mileage is the same. Both railways had been recently subjected to very heavy track reconstruction expenses on account of the paving of the principal city streets, and the operating revenues of both have suffered by reason of the automobile traffic.

Both companies decided that the light-weight, one-man car offered the best prospect for increasing net earnings and, now that one-man operation has been tried out, are well satisfied with the change.

In Corpus Christi the headways, which were previously fifteen and twenty minutes, have been cut in half with an increase of only 6 per cent in operating expense, while the earnings have increased 30 per cent. In making the change the Corpus Christi Railway & Light Company purchased eight new cars weighing 12,000 lb., seating twenty-six passengers and equipped with air brakes and Westinghouse "Wee" motors.

In the case of Anderson the Southern Illinois Public Utilities Company was able to shift some of the larger cars to another of its properties and purchased five new light-weight cars for local one-man operation. On two of these new cars "Wee" motors were installed, and on the other three cars the electrical equipment was transferred from the old cars. These motors are of 19-hp. rating at 600 volts, and weigh 890 lb. each. They are of the smallest standard type yet placed on the market. Some of the old cars were retained for one of the Anderson lines having comparatively heavy traffic, and on this line it was found necessary to place a second man on the car during certain hours on Saturday and Sunday, but otherwise there has been no difficulty in collecting fares without interference with schedules. The cars previously used weighed about 24,000 lb. and seated thirty-two passengers, while the new cars weigh 17,000 lb. and seat twenty-four, with additional movable seats for six on the platform. As the traffic is very light and stops not numerous it was not considered necessary to equip the cars with air brakes.

Lines of short headway and heavy traffic appear at present to be beyond the field of usefulness of the one-man car. With large crowded cars one-man operation would increase the time of stops to such an extent that schedules would be lengthened and street congestion made worse. It has not yet been shown just where the limit of size for one-man operation is. Granting that there must be some limit to the traffic handling capacity of one-man cars, beyond which conditions would be uneconomic or intolerable, the question of their field of application becomes involved with considerations of headway, street congestion, schedules, character of traffic, etc.

Although the one-man car is best fitted for light service, it is probable that the future will witness a gradual extension of its field. There are some periods of the day on all except the very heaviest trunk lines when the big cars are run half empty or when headways are increased to the point where considerable revenue is sacrificed. At such times the smaller one-man cars could be used to advantage if there was some way to take care of the rush-hour traffic without congestion or sacrifice of economy. It has already been found feasible to use a second man for the rush hours only, and probably under certain conditions it will be found practical to have the conductor ride the cars and collect fares in the downtown zone and transfer from outbound to inbound cars at certain points.

A possible future method of taking care of the rush hour may be to couple two smaller motor cars together to be controlled by one man while the second man collects fares. The entrance would be at the front of the first car and the exits would be at the rear of the first car and the front of the second car. The second man would collect the fares at the rear end of the first car as the passengers passed this point, whether they got off or went into the second car.

A similar scheme of fare collection is in successful use on large single-unit cars in Cleveland and other places, and "articulated" cars made of two small cars permanently coupled together have been used in many places, but it remains to be seen whether a platform construction can be developed that will be suitable for communication between cars that have to take sharp curves of city street car lines.

The Rock Island (Ill.) Southern Railway plans to extend its service to Moline, Ill., by auto buses. Tickets will be sold from one end of the road to the other, bus ride included, on the railway mileage basis.

\*Abstract of a paper presented at the meeting of the West Virginia Public Utilities Association held at Parkersburg, W. Va., July 12 to 14, 1916.

†See ELECTRIC RAILWAY JOURNAL, May 20, 1916, page 746.



## Utilities Reports Merged

"Public Utilities Reports, Annotated," to Be Official Series Covering All Utility Reports

ACCORDING to a special report of the committee on publication of decisions and orders of state commissions to the executive committee of the National Association of Railway Commissioners, negotiations have been concluded for the merger of "Official Public Service Reports," published by the Law Publishing Company, under the supervision of this committee, and "Public Utilities Reports, Annotated," published by Lawyers Co-operative Publishing Company. The new single series of official reports will cover every decision received from the commissions, either in full or abstracted, and every decision in full which fixes a principle of general interest. It will be issued by Lawyers Co-operative Publishing Company, Rochester, N. Y.

The subscription lists of the two publications have been merged and subscribers to "Official Public Service Reports" will hereafter receive the new reports for \$5 per volume, including bi-weekly advance sheets, and the annual digest for \$2.50. They will also receive the bound volumes of "Public Utilities Reports, Annotated," already issued for 1915 and 1916, at \$5 per volume, which includes payment for the advance sheets of "Official Public Service Reports" which they have received.

When the committee was first authorized, on Nov. 18, 1914, it received (1) an offer from the Lawyers Co-operative Publishing Company, which provided for the unsupervised publication of only such decisions in so-called utility cases as might be selected by its editors, not including carriers cases and many other classes of cases determined by the state commissions; and (2) an offer from the interests which later organized the Law Publishing Company to make a practically complete publication under the supervision of this committee. The arrangement with the Law Publishing Company to publish "Official Public Service Reports" followed, although the other service was being offered, and work on "Official Public Service Reports" was begun during October and November, 1915. The Lawyers Co-operative Publishing Company, however, announced in "Case and Comment," for December, 1915, the inclusion in "Public Utilities Reports, Annotated," of "every decision received from the commissions \* \* \* either in full or abstracted," and "in full, every decision which fixes a principle of general interest." This brought the service offered by the two competing series of reports practically into line.

Since these changes were made, the two publications have been doing practically the same thing, in slightly different ways, in a very limited field, and the continuance of both became an unnecessary burden. Under the new plan the committee has received satisfactory assurances that the editors of the merged publications will co-operate with it in carrying out the policy to be followed in the inclusion, exclusion and summarization of decisions, while undertaking to publish in full, with suitable headnotes and indexes, all that establish a principle of general interest to the commissions and to the professions, advisory supervision by this committee to be continued, and to be of the same general character as has been exercised in respect to "Official Public Service Reports." Thus by the merger all that could be desired has been accomplished, and the waste, expense and probable confusion resulting from duplicate publications has been avoided. The committee therefore recommends the

approval of the merger of the two publications by appropriate action of the executive committee of the National Association of Railway Commissioners.

## Hurricane and Floods in South Embarrass Utilities

Power Companies and Steam Railroads Hardest Hit by Recent Storms, but Electric Railways Do Not Escape

A DEVASTATING flood, equal in all its fierceness to any that has visited the Ohio or Mississippi valleys, swept through the Piedmont section of the Carolinas last Saturday, Sunday and Monday, July 15, 16 and 17. The flood was the result of a hurricane over the Southern Atlantic coast Thursday night, Friday and Saturday accompanied with cloudbursts. The area that has felt the effects extends from eastern Tennessee, through southeastern West Virginia, southeastern Virginia across North Carolina roughly to Wilmington and embraces virtually all of South Carolina. Through these sections flow the French Broad River, the Broad River, the Catawba River and the Yadkin River, on all of which are located hydroelectric plants supplying hundreds of cotton mills, industrial plants and towns with electric light and power. The flood on the Catawba River was the greatest on record, not a bridge, telephone, telegraph or power wire being left practically from its source to its mouth. The maximum rise opposite Charlotte, N. C., on Sunday was 50 ft. above normal.

From the information available at this time it appears that the damage to the steam railroads in the affected region was very severe, and the hydroelectric plants, which are numerous thereabout, also suffered through flooding. In Charleston, S. C., the wind velocity last Thursday and Friday exceeded 60 m.p.h., and the railway service of the Charleston Consolidated Railway & Lighting Company was suspended for a time. Shortly after noon Friday the suburban and some of the city cars were put in service again. Fire in a substation opposite the power plant increased the embarrassment. This hurricane preceded the floods which did particular damage in western North Carolina. It is reported that the Piedmont & Northern Railway bridge above Belmont went down, and that the flood otherwise interrupted service on this line between Spartanburg and Charlotte.

## New Light System for Kansas City Railways

C. E. Fritts, superintendent of power and electrical distribution, Kansas City (Mo.) Railways, is inaugurating a new system of installation of lights. The loss of lamps by theft in the tunnels, suburban stations and crossings, where lights must be maintained, is responsible for the proposed change. The lamps in question are 50-watt and are used in series of five, on a 600-volt circuit. The department draws about 1200 a month, a large proportion being to replace stolen lamps which can be used on the 110-volt house lighting circuits of the Kansas City Light & Power Company. To prevent the lamps from being stolen, the company is planning to install 75-watt lamps, three in series, on the 600-volt circuit, as these 200-volt lamps cannot be used to good advantage on the various house circuits from 105 to 120 volts. It is expected that few lamps will be stolen hereafter. Probably the single are lamps, of which there are a few, will be replaced by two groups on opposite corners of 75-watt lamps, three in series.

## AMERICAN ASSOCIATION NEWS

### Progress on Convention Program

The committee on subjects of the American Association has announced the names of speakers and their topics for the first two days of the convention to be held at Atlantic City, N. J., Oct. 9 to 13, 1916. These are as follows:

Tuesday, Oct. 10, Ivy L. Lee, the well-known publicity expert formerly with the Pennsylvania Railroad and now a member of the personal staff of John D. Rockefeller, will speak on "Publicity."

Philip J. Kealy, president Kansas City (Mo.) Railways, will present a paper on "Unit Costs and Overhead Charges."

Wednesday, Oct. 11, will be "Preparedness Day." Addresses will be made by Major-General Leonard Wood, U. S. A., commander of the Department of the East, and Brig.-General Erasmus M. Weaver, U. S. A., Chief of Coast Artillery.

### Convention Entertainment Committee

President Charles L. Henry has announced the completion of the personnel of the entertainment committee which now stands as follows: E. F. Wickwire, Ohio Brass Co., Mansfield, Ohio, chairman; J. N. Shannahan, president Newport News & Hampton Railway, Gas & Electric Company; F. R. Coates, president Toledo Railways & Light Company; E. P. Waller, General Electric Company; E. Besuden, general sales manager Jewett Car Company; F. A. Elmquist, railway representative Sherwin-Williams Company; W. G. Taylor, Westinghouse Traction Brake Company; W. V. Dee, secretary G. Drouvé Company; Ross F. Hayes, Eastern manager Curtain Supply Company, and B. F. Wood, vice-president and chief engineer United Gas & Electric Corporation.

### Committee on Fares and Transfers

With Chairman Cyrus S. Ching presiding, a meeting of the transfer committee of the Transportation & Traffic Association was held at the offices of the Boston (Mass.) Elevated Railway on July 13, 1916. Manufacturers of registers had been invited to submit their latest products for consideration, and an Ohmer transfer-issuing machine was demonstrated before the committee. Following this the final draft of this year's report was taken up and the remainder of the session was devoted to its consideration.

### T. & T. Association Committees

The special committee of the Transportation and Traffic Association on cost of rush-hour service met in New York on July 6. Data from various companies showing the cost of rush-hour service compared with that of the non-rush periods were discussed by the committee in preparation for the completion of its report by Aug. 1.

The report of the committee on schedules and timetables of this association has been put into shape by a sub-committee consisting of Edward Dana, chairman, Boston, Mass.; H. F. Fritch, Boston, Mass., and H. E. Hicks, Rochester, N. Y.

The Engineering Association committee on standards will meet at association headquarters in New York on July 27 and 28. At this meeting the proposition of the several committees in so far as they affect standards will be considered.

## "Owl Car" Fares

Experience of Several Companies Shows that Owl Car Operation at a 5-Cent Fare Is Unprofitable

THE discussion in Pittsburgh in regard to a charge of double rates on owl cars, that is to say, on cars operated after midnight and before the early morning schedule begins at about 5 o'clock, makes the subject of general interest. An investigation by this paper shows that several companies besides that in Pittsburgh charge double fares on owl cars. Three such companies are the Des Moines (Iowa) City Railway; the Little Rock Railway & Electric Company, Little Rock, Ark., and the Lincoln (Neb.) Traction Company. Even at these fares the companies at Des Moines and Little Rock say the service is rendered at a loss on account of the small patronage, and the same would also be true at Lincoln, except that the service given there was put on at the special request of the Chicago, Burlington & Quincy Railroad to run to its roundhouse, and this company guarantees a certain earning capacity for the car.

A plan somewhat similar to the latter arrangement is in existence in Chattanooga, where the company operates two owl cars. One of these is between the city proper and the terminal yards of the Nashville, Chattanooga & St. Louis Railroad, which also guarantees that in the event that the total revenue from such traffic does not amount to \$2 per car hour, the company will make up the difference. The other owl car makes one trip only, and was put on primarily for the purpose of taking the company's platform men from the carhouses at night and bringing them in to work in the morning. Regular passengers, however, are taken at a fare of 5 cents each.

The Waterloo, Cedar Falls & Northern Railway established an owl car service at Waterloo, Ia., a few years ago by public request. A 10-cent fare was charged, but the company did not expect the cars would be profitable so issued daily statements of their receipts. During no single night did they take in enough money to pay the wages of the operators, and after a few weeks' trial the cars were withdrawn. As the public had been kept in touch with the situation, there was no criticism of the abandonment of the service.

Double fares for owl cars are also charged in Canada. Thus the Ottawa (Ont.) Electric Railway is permitted in its contract with the city to charge a fare of 10 cents between 12 o'clock midnight and 2 a. m., when the cars stop running. The British Columbia Electric Railway, Vancouver, B. C., at one time charged 5 cents extra for the owl service, but during the last year the fare has been the same as throughout the day.

More than 2000 persons attended the second picnic of the Union Traction Company of Indiana employees and their families, held on July 18, at Broad Ripple Park, just north of Indianapolis, which is the property of the railway. Each year two picnics are held and one-half of the employees attend each day. The first picnic this year was held on July 11. Special cars brought the crowd to the park from Anderson, Marion, Muncie and Tipton. The employees receive tickets entitling them to transportation and the use of the large outdoor swimming pool, the dance hall and different amusement devices and features of the park. During the day a tug-of-war, pole climbing contests, sack races, potato races and short dashes were held, for which prizes were offered by the company.

## COMMUNICATIONS

### Moral Obligation of Witnesses

FITCHBURG & LEOMINSTER STREET RAILWAY COMPANY  
FITCHBURG, MASS., July 13, 1916.

To the Editors:

Kindly permit me the use of a little of your valuable space to thank you for your editorial in the issue of July 1 relative to "Everyday Law—and Duty—for Women." At the same time let me commend you for your forbearance and extreme leniency toward those responsible for the article in the June issue of *Good Housekeeping* which so grossly misrepresented the claim departments of the railways. It seemed to me that it was a deliberate attempt to disqualify in the minds of the public a profession which has become second to none and is composed of honest men who do their utmost to deal fairly and justly between the public and the companies that they serve. This article would serve the purpose in the eyes of many who might be misguided to lead the public into what might be termed accident criminology.

I say with all seriousness that I know that corporations are doing their level best to gain the confidence of the people that they serve; that they no longer (if ever) countenance deceit, for this is a régime that is not in keeping with the times, and that present-day conditions demand and officials desire the public's confidence. Claim adjusters are not the cold-blooded, heartless creatures depicted, and I say without fear of contradiction by anyone who really knows the inside workings of a claim department that when once deceit and dishonesty on the part of an adjuster are known, his connection with the company that he represents is ended. Intimately acquainted with electric railway claim men from one end of this country to the other for more than ten years and once president of their national association, I say that I know that railway companies are not employing men such as this article would have one believe. This is an age of progress, and corporations are more and more taking the public into their confidence. To righteous dealing of the claim departments is due largely the change of feeling that is spreading over the country.

It has been the persistent and dominant cry of claim men for many years that the confidence of the public must be had, and that honest, fair and just settlements when liability was admitted, formed the best road to such an end. I do not believe that there is an adjuster who would intentionally misrepresent conditions for the sake of obtaining a release. Such a release of itself might stand, but what of the next one attempted under the same conditions, perhaps in the same locality. The adjuster would find the first one staring him hard in the face, and his company would have to stand the brunt of it. It is to be expected that an adjuster will work for the interests of his company, but if he cannot look far and beyond the company viewpoint, put himself on the other side for the time being and then apply that most sound rule of business procedure, common sense, together with a knowledge of values, he has missed his calling.

It would be well, Mr. Editor, to have the author of the article in question spend a day in a busy railway's claim department, listen to the stories as they are told, go out with the adjuster and see him at his task, and then write another article depicting the other side of the question and let the public judge which is correct.

H. K. BENNETT, Claim Agent.

### A Puzzle in Psychology

HOT SPRINGS STREET RAILWAY COMPANY

HOT SPRINGS, ARK., July 18, 1916.

To the Editors:

Recently the writer stood on the corner of Main and Markham Streets in a Southern city.

A white woman, of respectable appearance, stood in a doorway at the corner protected from a heavy rain then falling. She was plainly waiting for a car. A five-passenger jitney came up with all curtains buttoned down to protect the passengers from the rain. The jitney was occupied to the limit by the driver and all men passengers. The curtain was unbuttoned to allow one man to stoop his way out at the corner. The woman left her place of shelter and started for the jitney. By drawing her clothes tightly about her, and squeezing herself through the small opening made by the partially unbuttoned curtain, she managed to fairly crawl her way into the jitney, there to be snugged up with damp clothes in a very limited space on the rear seat with strange men. Just a few minutes ahead of this jitney, and again just a few minutes behind it, a large, first-class, double-truck, air-brake street car went the same route the jitney took. The street car had plenty of comfortable, empty seats. The car was well ventilated. The fare was the same as the fare charged by the jitney driver. In case of personal injury the street car company, if liable, could be forced to pay a personal injury claim.

Can some one figure out why she did it?

S. E. DILLON, General Manager.

### Mobilization Forces Rapid Track Laying

On account of the heavy travel occasioned by the mobilization of troops at the rifle range, about 3 miles from Golden, Col., a rush order was placed by F. W. Hild, general manager Denver Tramway, to lay 817 ft. of track in the form of a "Y" near this point, so that cars could return without having to proceed to Golden. Mr. Hild and E. A. West, the company's chief engineer, met the contractor at the rifle range on Thursday afternoon, June 29, and inquired if 1600 cu. yd. of fill could be procured right away. The contractor replied that this could be done, and that evening forty-two mules, nine fresnos and two plows and a gang of men were on the job. The contractor started work early on Friday morning, and by noon of Saturday, July 1, the fill was completed. The entire job, including the installation of 600 bonds, went through without a hitch, and the cars were operating over the "Y" before 8 p. m. on that day. The "Y" was substantially built so as to handle locomotives and heavy equipment in loading troops and military stores for service on the Mexican border.

### Weight of English Freight Locomotive

Through an ambiguity in connection with the data furnished this journal regarding the electric locomotives for the North-Eastern Railway in England, the weight of these machines was given in a recent article as 148,800 lb. As a matter of fact, these locomotives weighed 166,656 lb., or approximately 83 tons of 2000 lb. each, a proportional increase applying to the published weights of the mechanical parts as well as to the weight of electrical equipment. The specified drawbar pull of 28,000 lb., however, as given in the original data, is not affected by this correction.

# EQUIPMENT AND ITS MAINTENANCE

Short Descriptions of Labor, Mechanical and Electrical Practices  
in Every Department of Electric Railroading

*Contributions from the Men in the Field Are Solicited and Will Be Paid for at Special Rates.*

## A Novel Pull-In Truck

BY E. WRIGHT

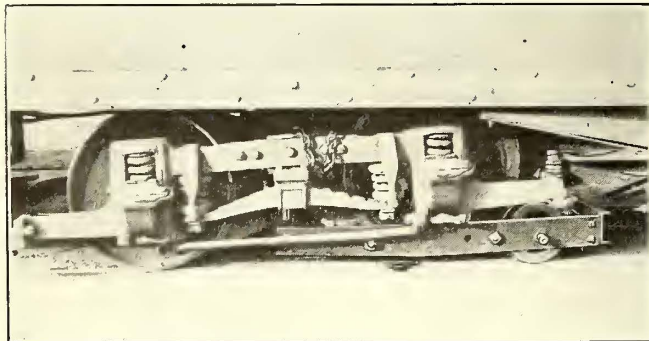
Master Mechanic Fort Smith Light & Traction Company,  
Fort Smith, Ark.

The illustrations herewith are of a pull-in truck which is used for bringing in cars with broken axles under their own power. This truck is made from four strips of iron, one channel, 10 ft. of chain, two small wheels and a few bolts. It can be knocked down into three pieces as shown, and is carried in one corner of the emergency car so as to be on the job at all times.

Upon arrival at the place at which it is to be used the pull-in truck is assembled on the track. The motor of the disabled car is chained up, the trucks are jacked up

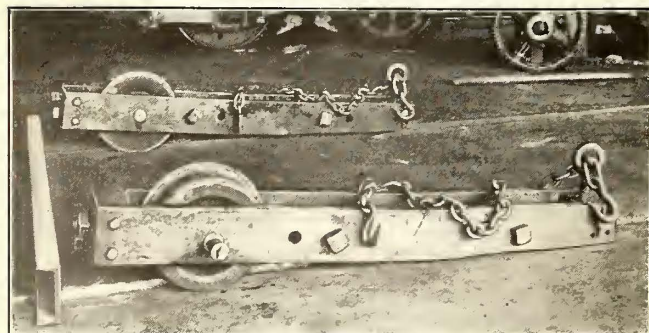
disabled car thus held back. The car is then ready to go to the barn using the motor that is not disabled.

As stated above, this pull-in truck can be carried about in three pieces and quickly assembled. When knocked down it takes up very little space. The truck wheels have bronze bushings and are also equipped with compression cups for lubrication. It has been the experience of this company that the device effects a considerable saving in wheels and prevents the blocking of traffic while disabled cars are being brought in.



CAR WITH BROKEN AXLE BEING TAKEN IN WITH EMERGENCY PULL-IN TRUCK

and the pull-in truck is run under far enough to allow the wheels of the broken truck to rest between two bolts which extend through the pull-in truck frame as shown in the accompanying illustration. The pull-in truck is fastened up to the side frame of the car truck by means of a chain through the ring which is attached to one end of each side bar of the former. The car truck is then let down and the motor cut out if mounted on the broken axle. Should this emergency truck be used in pulling in a car equipped with single type trucks, such as Brill 21-E, it is necessary to remove the brake beam so that the shoe heads clear the truck wheels. This puts the brakes out of commission, but if there are no grades to go down the car can be controlled by the reverse, and if there are grades another car can be coupled on and the



EMERGENCY PULL-IN TRUCK KNOCKED DOWN

## Standard Layout Designs of the Brooklyn Rapid Transit System

BY M. BERNARD

Assistant Engineer Way and Structure Department

In the May 6 issue of the ELECTRIC RAILWAY JOURNAL the standard layouts adopted by the Columbus Railway, Power & Light Company, Columbus, Ohio, were described. In this article the standard layouts in use on the Brooklyn Rapid Transit System will be treated.

After a careful study of widths of railroad streets, which in most instances have a 30 ft. to 40 ft. roadway, it was decided to design the standard layouts for these limiting widths. Accordingly, there resulted three standard layouts without car clearance, namely, for

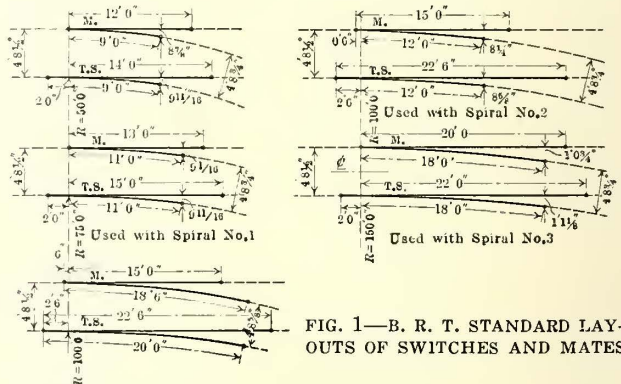


FIG. 1—B. R. T. STANDARD LAYOUTS OF SWITCHES AND MATES

two intersecting roadways each 30 ft. wide, two intersecting roadways, one 30 ft. and the other 40 ft. wide, and two intersecting roadways each 40 ft. wide. Due to the peculiar plan of Brooklyn, there are quite a few streets from which many car lines radiate. Along these streets it was deemed advisable to provide car clearance in the special work layouts. Two layouts were designed accordingly, one for intersecting roadways of 40 ft., the other for two intersecting roadways having widths of 30 ft. and 40 ft., respectively.

Because of the large number of acute angled layouts in Brooklyn it was found necessary also to adopt two additional standard designs, one with and the other without car clearance.

Thus seven designs were adopted as standard, with car clearance provided in three of them. Engineering data of these various layouts are shown in Figs. 2, 3 and 5.

In those cases where the intersecting angle is different from the standard, which is either 45 deg. or 90

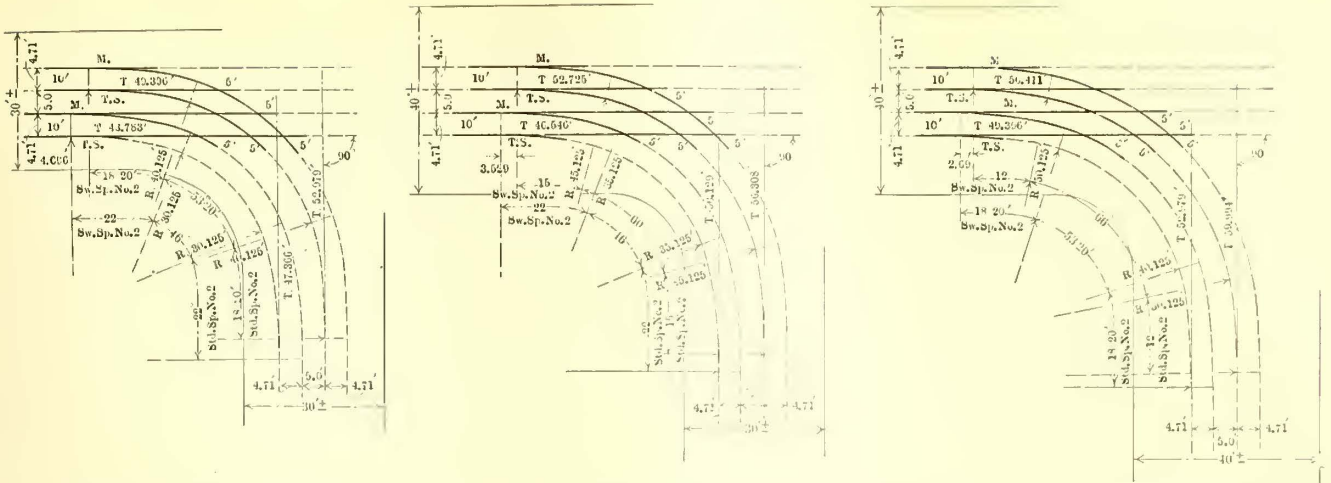


FIG. 2—B. R. T. STANDARD TRACK LAYOUTS SHOWING THREE DESIGNS WITHOUT CAR CLEARANCE FOR TWO INTERSECTING ROADWAYS EACH 30 FT. WIDE, ONE 30 FT. AND THE OTHER 40 FT. WIDE, AND FOR TWO EACH 40 FT. WIDE RESPECTIVELY

deg., the necessary changes in the alignment are made in the plain end outside of the limits of the tangent tracks, either by compounding the radii or by introducing a reverse curve. The latter contingency, however, is avoided if possible. It is expected that these layouts will fulfill all requirements on the system.

All switches are 100 ft. radius, except in those layouts providing for car clearance, in which case the switches

cost of pavement as well as minimum paving maintenance because of the reduction of the paving area as compared to a design with a bulge in the middle. All tongue switches and mates are of B. R. T. standard lengths as shown in Fig. 1. It will be noticed from

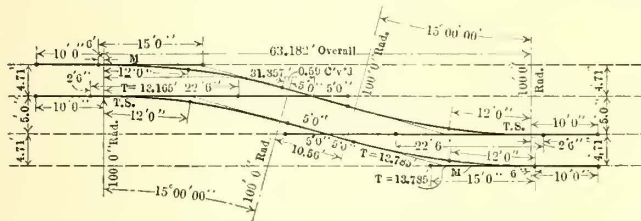


FIG. 4—B. R. T. STANDARD TRACK LAYOUT OF 9-IN. GIRDER RAIL CROSSOVER

of the inner curve are of 150 ft. radius. In layouts where no car clearance is provided the P. T. of the inner curve is as nearly as possible opposite that of the outer curve, whereby the distance between the tracks in the curve is kept down to a minimum. It is the writer's opinion that in such layouts the distance between the tracks should not be more than is necessary for proper installation. This results both in a low first

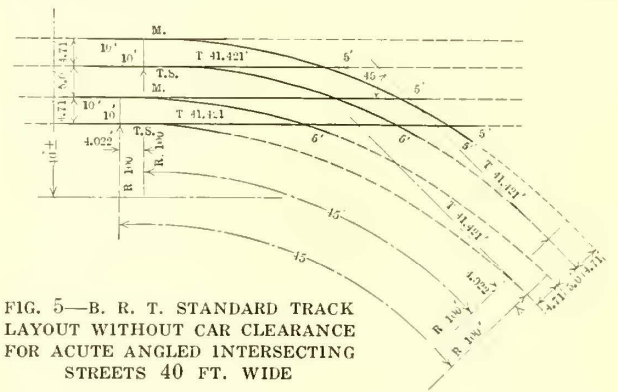


FIG. 5—B. R. T. STANDARD TRACK LAYOUT WITHOUT CAR CLEARANCE FOR ACUTE ANGLED INTERSECTING STREETS 40 FT. WIDE

Fig. 1 that because of the length of the straight arm of the tongue switches only one joint is required between the P. F. and the P. T. Better repairs can be made to this joint than when the arm is near the heel of the switch tongue.

All exterior arms of frogs are 5 ft. long.

All crossovers are of one standard design, the engineering data for which are shown in Fig. 4. Two

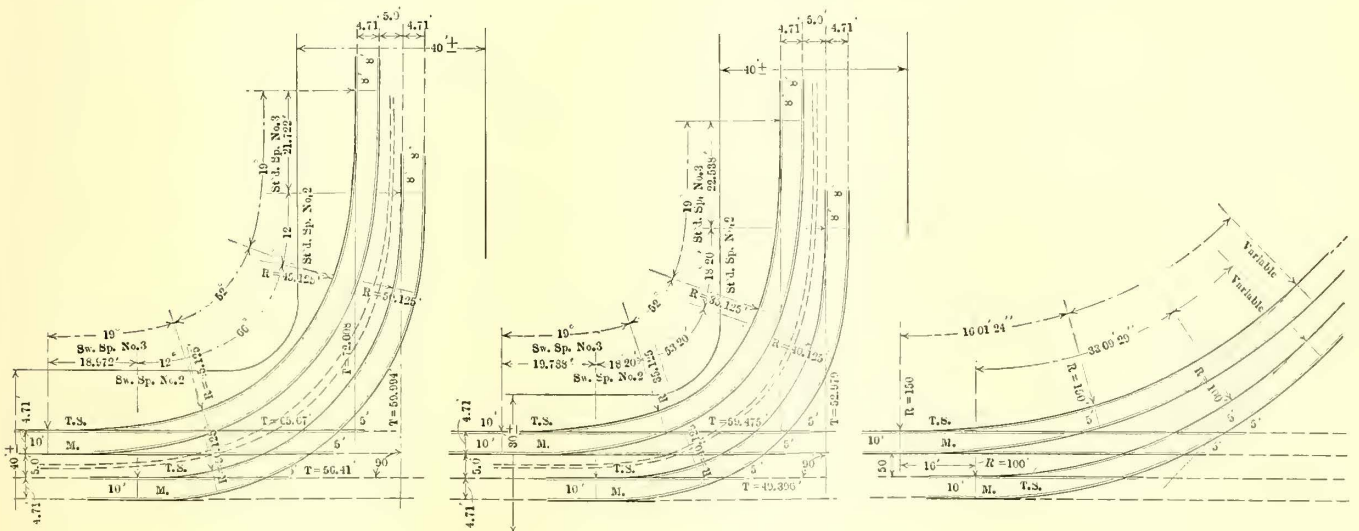


FIG. 3—B. R. T. STANDARD TRACK LAYOUTS SHOWING THREE DESIGNS WITH CAR CLEARANCE FOR TWO INTERSECTING ROADWAYS EACH 40 FT. WIDE, ONE 30 FT. AND THE OTHER 40 FT. WIDE, AND FOR ONE ACUTE ANGLED LAYOUT RESPECTIVELY

different types of frogs are used. For terminal cross-overs standard hard-center construction is used, whereas for emergency crossovers the frogs are either of bolted type or of cast-in (jump) type, with the through run on the straight. No hard center is used in the latter type.

By the adoption of standard designs the cost of plans of special work layouts is reduced to a minimum; comparison of the various designs with the survey of physical conditions at the location in question will enable a draftsman to determine the best design in a very short time; should changes be found necessary these are easily made in the plain ends of the layout. By making interchangeability of parts possible, a layout bought for one location may often be used in another location where the material has failed suddenly.

This occurred on our system recently. A double-track crossing and connecting curve had been used for a year and a half for rerouting cars, after which its usefulness would have practically ended but for the fact that it was found possible to install it at another place where the special work required renewal.

The use of standard layouts will eliminate one great loss to every street railway company, namely, the accumulation of extensive deposits of iron of scrap value, resulting mostly from the past practice of having a special design for every location. There must be at least \$1,000,000 worth of material of this description lying at the storeyards of the various electric railways of the country.

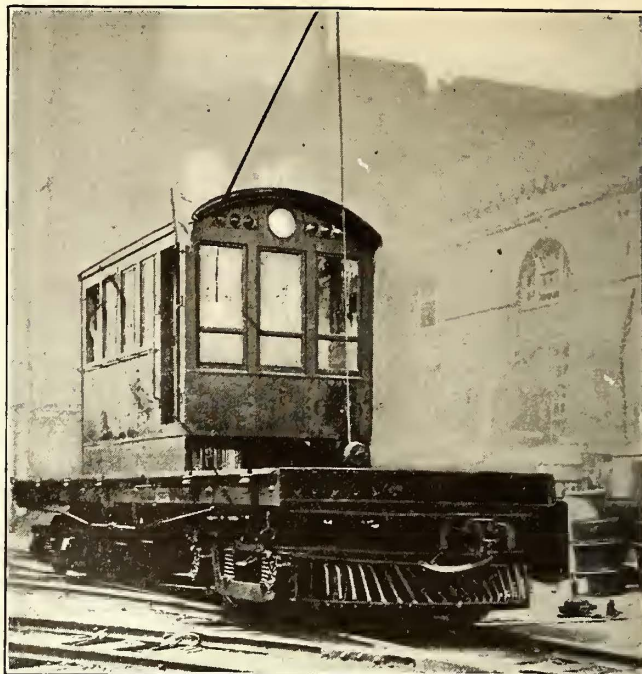
If there should be a change in plans after standard material is received, the latter can probably be used at another location in a short time.

As far as shipments are concerned, it is obvious that they will probably not be much better than if special designs only were used, unless the street railway buys from but one manufacturer or all street railways adopt the same construction.

In order to give an idea of the field for standardization of layouts, the approximate number of branch-offs and connecting curves on the B. R. T. system is given herewith: Single-track branch-offs, seventy-five; double-track branch-offs, 165; single-track connecting curves, twenty; double-track connecting curves, fifty-five.

### Roadway Utility Motor Car

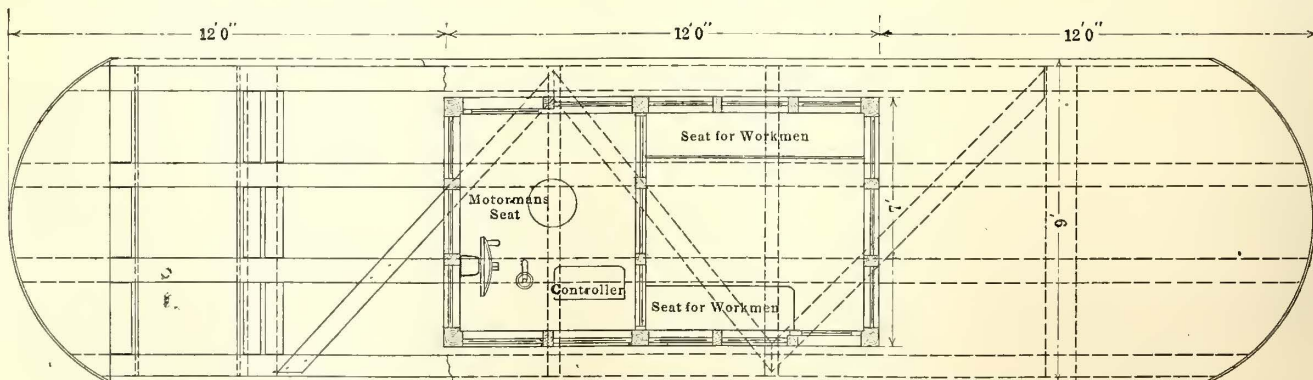
A large cab so arranged that it does not limit the material carrying capacity is the feature of the roadway motor car which has recently been built at the shops of the Union Traction Company of Indiana, Anderson, Ind. This car is 36 ft. over all in length and 9 ft. wide, and the two-compartment cab is elevated on two 15-in. channels at an equivalent distance above the platform of the car. The cab is 12 ft. long over all and 7 ft. wide, with a glass partition between the motorman's compart-



VIEW OF ROADWAY UTILITY MOTOR CAR

ment, which occupies 5½ ft. of the length of the cab, and the compartment designed for the workmen and their tools. As shown in the accompanying illustration, the four exterior walls of the cab are formed practically of glass sashes and the cab frame, so that the motorman's view is unobstructed in all directions. The glass partition between the motorman's compartment and that of the workmen was provided as a safety precaution.

While the size of the cab is practically one-third of the size of the car platform area, the hauling capacity of this utility car for poles, rails and other long material is unrestricted, because the cab, as mentioned before, is elevated 15 in. above the car-body platform. Stake pockets along the sides of the car are also used to carry poles fastened in slings swung from stakes. The red and green markers and the electric headlights were all recessed into the cab to conform to the standard method for installing this equipment on all the cars of the Union Traction Company. The cab is heated electrically and a series of five lamps furnish the artificial illumination. The car underframe as well as the cab frame are of wooden construction reinforced with steel tie rods, and the cab is covered with 14-gage sheet steel. The underframe is of sufficiently substantial construction to provide a carrying capacity of 60,000 lb., and the car is mounted on Baldwin trucks equipped with four 72-hp. Westinghouse No. 85 motors with L-4 control. Other car equipment includes automatic air brakes and

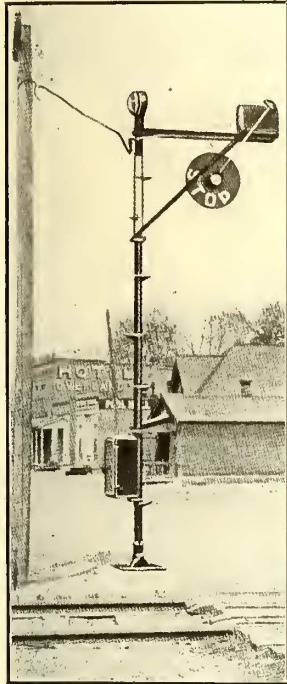


PLAN OF ROADWAY UTILITY MOTOR CAR OF THE UNION TRACTION COMPANY OF INDIANA

Tomlinson radial couplers. It will also be noted that this utility car is equipped with a home-made pilot, to which sections of old trolley poles are riveted to form the vertical members.

### New Highway Wigwag Signal Installed at Denver, Col.

An accompanying illustration shows the National worm-drive wigwag crossing signal recently put on the market by the Protective Signal Manufacturing Company, Denver, Col., and which is installed in a number of places on the Denver & Rio Grande Railway.



WIGWAG SIGNAL INSTALLED AT WEST MEXICO STREET, DENVER, COL.

This signal device consists of a bright red enameled disk 38 in. in diameter, swung to and fro at the rate of thirty times a minute by a motor-driven worm and gear; a loud-ringing 12-in. bell; oscillators, which are attached to the rails on either side of the highway crossing and which open or close a circuit by the vibration of their contact members; and a automatic thermo-time units which operate in connection with relays, as explained later.

The bearings contained in the worm and gear shown in another illustration are of the ball and roller type in which friction and lubrication are a minimum. The worm is direct connected to a 1/10-hp. 1150 r.p.m., a.c. motor sufficiently powerful to swing a disk several times

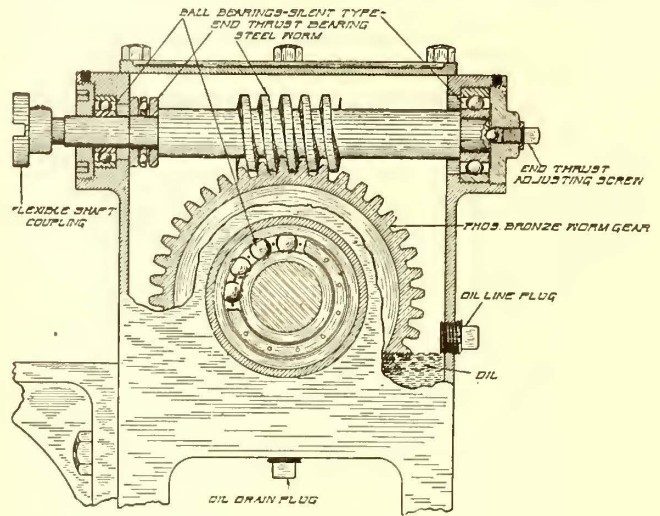
as heavy as this one. The worm and gear are immersed in oil, and their housing casing is provided with an outlet for drainage as well as an opening at the oil level, so that the proper amount of oil can be gaged. This housing is also provided with a cover held in place by six screws. It can easily be removed to permit inspection.

The oscillator has two moving parts, an upper contact spring and a lower contact vibrating bob. The movement of a train over the oscillator breaks the contact of the spring and bob, thus opening the line circuit.

The automatic thermo-time unit consists of a rod wound with high-resistance insulated wire through which current passes, heating the wire and causing the rod to expand, thus making contact with an adjustment screw and energizing a relay after the lapse of time from thirty seconds to five minutes as adjusted.

The entire system operates on a closed-circuit principle, the oscillators being placed at any desired distance from the crossing and connected to the signal proper by means of line wires as shown by the accompanying wiring diagram. As a train approaches the crossing it imparts a vibration to the oscillator, opening the line circuit to the relays, which in turn close the circuit to the bell and wigwag as well as to a line thermo-time unit. If the train should stop between the line oscillator and the crossing, the signal would operate in the time for which the thermo-time unit is set.

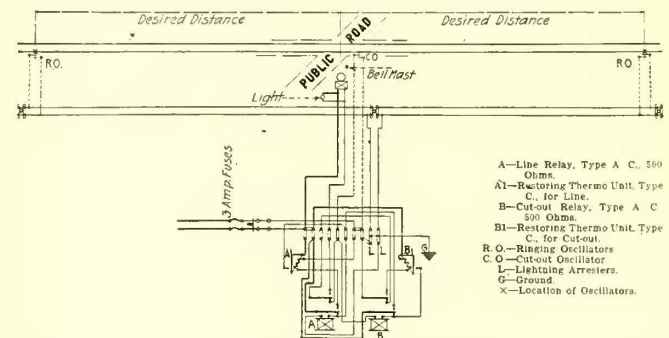
It is then automatically cut out. If the train does not stop between the line oscillator and the crossing it passes over an additional oscillator at the crossing, known as the cut-out oscillator, which drops a stick relay and picks up the line relays, cutting the signal out of operation, as well as opening the circuit to the line thermo-time units. When the cut-out oscillator is operated and drops the cut-out stick relay, it in turn closes the cir-



SECTION OF WORM AND GEAR OF WIGWAG SIGNAL DEVICE

cuit to a cut-out thermo-time unit which is set for a time sufficient to allow a train to pass out of the protected section and over the other ringing oscillator provided to care for movements in the opposite direction, without causing a back ring or false warning. As soon as the thermo cut-out is heated to contact it picks up the cut-out stick relay and automatically opens its own circuit through this relay and restores the apparatus to a normal condition. It is then ready for the next operation.

The oscillator operates entirely independently of any track circuit or any other electrical connection with the rail. It is simply secured to the rail and governs the operation of the signal through its line wire. Any de-



WIRING DIAGRAM OF SINGLE TRACK HIGHWAY CROSSING SIGNAL

sired protection can be given by these oscillators, in so far that they can be placed any desired distance from the crossing.

When in the clear position the disk, or aspect of the crossing signal, is drawn back against the signal mast. At night the lenses in the center of the disk, which are illuminated by Mazda lamps, are plainly visible at a distance of 2 miles. The swinging radius of the disk is 67 in., giving a 42-in. swing to the illuminated lenses. This is approximately the same as that given by a watchman or flagman swinging a red lantern from a platform above the roadway.



TEARING UP ABANDONED RAILWAY TRACK WITH DOUBLE-DRUM POWER WINCH AND BOOM; EMERGENCY LINE TRUCKS FULLY EQUIPPED

### Railways Rapidly Adopting Emergency Auto Trucks

The White Company, Cleveland, Ohio, has recently placed on the market several designs of motor trucks which are giving valuable service to electric railways in emergency and general maintenance work.

As a result of the various uses to which motor trucks have been applied operating companies have ordered specially designed pieces of motor apparatus to meet their individual requirements. An illustration herewith shows a truck equipped with a double-drum power winch and boom in the process of tearing up abandoned railway tracks and loading the rails on another truck. This mechanism is operated from the transmission of the motor truck by sprocket and chain as shown in another illustration. For this equipment one lever in addition to the regular number is necessary in order to throw in and out the gears which engage with the transmission. This type of truck is used in pulling aerial or underground cable, hauling and setting poles, hoisting transformers, pumping out manholes, righting derailed cars and clearing tracks of obstructions.

Another picture shows a line truck fully equipped for emergency repairs. Supply bins for carrying small material are mounted on the side, as are also special brackets for carrying ladders, pike poles, etc. In addition, ample room is available in the body of the wagon for carrying wire and other bulky material.

Still another illustration shows a reel of wire being

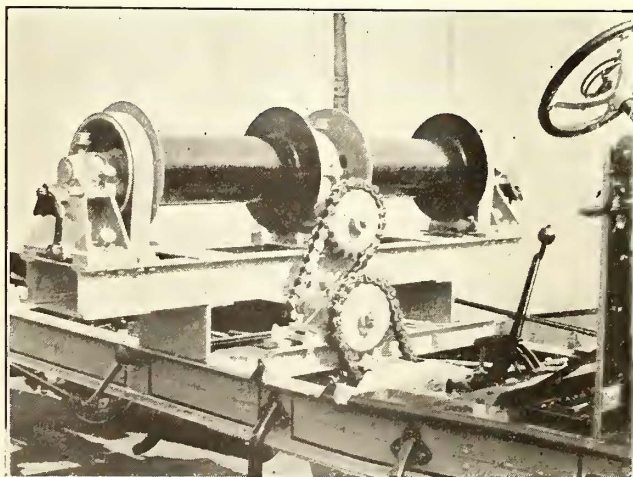
loaded by means of a single-drum power winch, driven from the transmission by sprocket and chain. Although a double-drum power winch is shown, the principle is the same as that applied in the single-drum type. With

one of these machines it is possible to pull two sections of cable with one set up. The driver operates the winch for pulling, loading and unloading cable without leaving his seat. With the four-speed transmission cable can be pulled at a speed of 50 ft. per minute, or light pulls can be made at from 50 to 150 ft. per minute with as great a degree of safety as by hand.

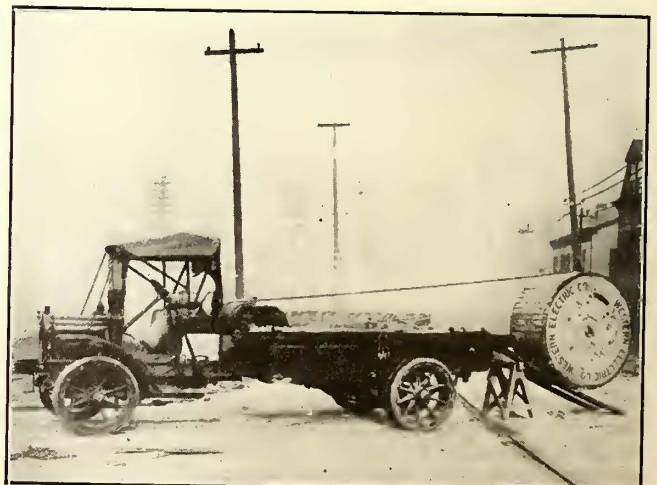


TRENTON THREE-SECTION TOWER TRUCK FOR GENERAL MAINTENANCE WORK

Another recent design shown is the tower truck owned by the Massachusetts Northeastern Street Railway. It is equipped with a Trenton three-section tower operated from the opposite side of the car from that shown by means of a cable which is



DOUBLE-DRUM POWER WINCH DRIVEN FROM TRANSMISSION BY SPROCKET AND CHAIN; LOADING A HEAVY REEL OF CABLE WITH SINGLE-DRUM POWER WINCH



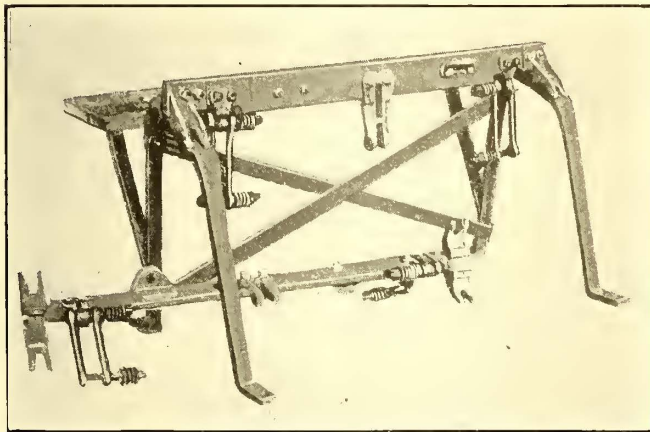


wound up on a single drum by one man. The reinforcing material on the tower consists of 2½ in. x 2½ in. x ¼ in. angle iron. The height from the ground to the platform with platform raised is 19 ft. 11 in. and with platform lowered 10 ft. 7 in. The speed of the truck is 15 m.p.h. when equipped with solid tires and 30 to 35 m.p.h. when equipped with pneumatic tires. Many trucks of this type are in use on general maintenance work, and owing to their lightness are especially valuable in cases of emergency where they are able to save considerable time in reaching the location of the trouble as compared with the heavier types.

### Convenient Brake-Beam Holder Used by Kansas City Railways

The work of repairing or dismantling a brake beam in the shops of the Kansas City (Mo.) Railways formerly required one or two men to hold the beam in position and another to do the work. One man has been enabled to handle this work by the use of a brake-beam form described in the current issue of the *Railwayman*, the company publication.

The accompanying illustration shows the general appearance of this device, the form of which is 30 in. high



KANSAS CITY RAILWAYS BRAKE-BEAM HOLDER

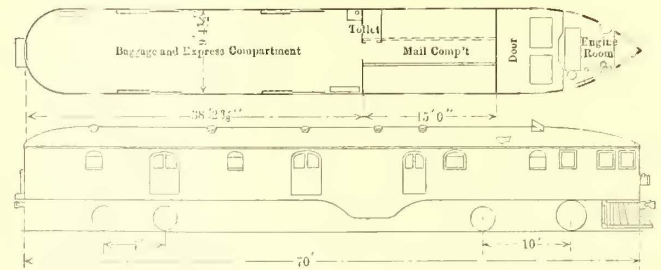
and of rugged construction. The brake beam is removed from the truck and set over the form with the brake heads down. The shoes are knocked off and the brake heads keyed to lugs at each end of the form in the same manner as the brake heads are keyed to the brake shoes. In this way the brake beam is held securely in position while the repairs are being made.

### Track Rehabilitation in Kansas City

The ways and structures department of the Kansas City (Mo.) Railways has a number of large jobs under construction. One of these is the rebuilding of a stretch of track between Twenty-seventh and Thirty-first Streets on Parallel Avenue in Kansas City, Kan., which is nearing completion. This track has been entirely rebuilt on a solid concrete base. The Summit Street tracks, between Thirty-first and Thirty-sixth Streets, are being rebuilt. The present rails, which are of the 9-in. center bearing type, will be utilized. The Indiana Avenue job between Thirty-first and Thirty-sixth Streets is complete. Main Street is open for reconstruction work, and the solid concrete type of base will be ordered from Twelfth to Nineteenth Street. Main Street will then have this type of construction from Third Street to the Union Station.

### 300-Hp. Gasoline Car for Union Pacific

The Union Pacific Railroad has just ordered another combination United States railway mail post-office-baggage 300-hp. motor car from the McKean Motor Car Company. This car, with passenger coach, will operate



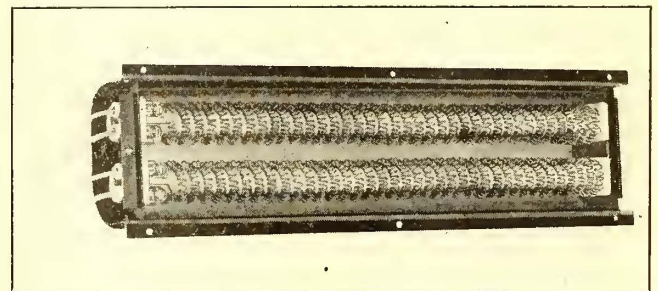
COMBINATION GASOLINE MOTOR CAR FOR UNION PACIFIC RAILROAD

on the Lincoln-Central City district, and will perform a service equivalent to that of a locomotive and three-car passenger train. The motor car is very similar to one purchased from the McKean Company last year, which, with a passenger coach, displaced a five-unit steam train on the Stapleton branch.

### Large Order of Heaters for New York Municipal Railway

The accompanying illustration shows the new two-coil panel electric car heater recently ordered from the Peter Smith Heater Company of Detroit, Mich., by the New York Municipal Railway Corporation for use on the latest 200 cars of the company.

The heating unit is of high-grade wire with a resistance coefficient of practically zero, that is, there is very little change in resistance when the wire is heated. The terminal porcelains are of rugged design, and are provided with baffles which separate the wire terminals,



ELECTRIC HEATER FOR THE LATEST 200 CARS OF THE NEW YORK MUNICIPAL CORPORATION

thus eliminating the possibility of short-circuits at this point. The terminal connections are of the Fahnstock type, which facilitate connecting and disconnecting. The heater coils can be removed from the housing for repairs by taking out a single screw.

The casing is made of two thicknesses of sheet iron, and is lined with asbestos. Its over-all dimensions are 26 in. x 8 in. x 3⅝ in. An order for 6000 of these heaters has been placed with the manufacturer.

The Fifth Avenue Coach Company, New York, has adopted large numerals to designate destinations on its buses, owing to its belief that this will be a more suitable method than that of using assorted colors or letters for signs as formerly used.

# NEWS OF ELECTRIC RAILWAYS

## PORTLAND STRIKE SETTLED

**Men Returned to Work on July 17 After Being Out for a Period of Five Full Days**

The strike of the employees of the Cumberland County Power & Light Company, Portland, Me., declared on July 10, was called off on July 17, an agreement having been reached between the company and the union officials. The strike was precipitated by the discharge on July 10 of several trainmen and linemen for unsatisfactory service.

On July 12 the company received a communication from the local union of the National Brotherhood of Electrical Workers and the local Amalgamated Association demanding that the employees who had been discharged be reinstated with full pay; that all men employed in the future be union men, or those who agreed to become so within a stated time, and that all matters relating to hours of labor, wages and other grievances be handled by a conference committee to be mutually agreed upon by both parties concerned. This communication was received at 10.30 a. m. and a reply was demanded in thirty minutes. The men began to return their cars to the carhouse at noon on the same day that the demands were presented. By 4 p. m. all cars were off the street. A few cars were operated on Saturday morning, July 13, but the men met with so much abuse from both fellow employees and their sympathizers that they asked to be relieved of duty at noon. The company was able to secure a few men from out of town to replace the striking motormen and conductors, and service was resumed on one line at 3 p. m. and operated until sundown. All cars were then taken off the streets. On July 14, 15 and 16 cars manned by strike breakers were operated during the day on three lines only. No cars were operated after dark.

Early on the morning of July 17 an agreement was reached between the company and the union officials and the carmen by a unanimous vote decided to commence operations at once.

The company, with due regard for the welfare of the public and the interests committed to its care, could not accede to the demands made upon it in the communication from the union, the principal one being for a closed shop. George L. Crosman, president of the Portland Chamber of Commerce, appointed a committee of five prominent business men in Portland to act as a board of arbitration, and negotiations were conducted through them. After a number of conferences between the parties concerned the differences were adjusted on the following terms:

There shall be no discrimination by the company or any of its employees on account of membership or non-membership in any labor organization, and the wages and schedule conditions now in force will remain as at present until May 1, 1917. The company will reinstate without prejudice employees discharged since July 9, 1916, as well as those who left the service on or before July 12, 1916. Disputes will be settled by mutual discussion, or, if agreement cannot be reached, by a board of arbitration appointed in the usual way. The agreement will be in force until April 30, 1917.

## NEW WATER-POWER LEGISLATION

The House of Representatives on July 14 passed a substitute measure for the Senate (Shields) bill for regulating the construction of dams across navigable waters. The measure is now in the hands of a conference committee composed of Congressmen and Senators. There was some disappointment on the part of the conservationists over the decision to send the bill to conference, but others are somewhat relieved because they apprehend that unsafe legislation might result if an attempt should be made to jam the measure through just before adjournment. The bill will probably not be reported out of the conference for several weeks. Like the Adamson bill, the present House bill provides that not more than 50 per cent of the output of any plant shall be sold to one customer except upon the written consent of the Secretary of War.

## NEW BOSTON WAGE AGREEMENT SIGNED

**Approximate 2-Cent Raise for Trainmen, With Additional 0.5-Cent Raise if Dividends Reach 6 Per Cent**

Following almost daily conferences since early in April between officials of the Boston (Mass.) Elevated Railway and representatives of the Amalgamated Association, an agreement was signed on July 15 covering wages and working conditions for three years from May 1, 1916. About 5000 blue-uniformed men and 4800 shop, maintenance of way, power station and miscellaneous employees are concerned in the agreement.

The new scale of wages will probably cost the company about \$2,000,000 more than its present labor charges in the three years. In brief, blue-uniformed men are to receive an advance of 2 cents an hour, and shop, maintenance of way, power station and miscellaneous employees 1 cent an hour for the first year of the agreement, making the maximum rate for surface car motormen and conductors that year 34 cents an hour. In each of the next two years a further advance of 0.75 cent an hour is to be given to blue-uniformed men and 1 cent an hour to miscellaneous employees, maintenance, shop and power station men, the maximum rates for surface car platform men being 34.75 cents an hour in the second year and 35.5 cents an hour in the third year of the agreement. In detail, the wage scale of platform men on both the surface and rapid transit lines is shown herewith:

### WAGES OF MOTORMEN OF RAPID TRANSIT LINES

Year of Service	Present Rate per Hour	May 1, 1916	May 1, 1917	May 1, 1918
		to May 1, 1917	to May 1, 1918	to May 1, 1919
First	30.25	32.25	33	33.75
Second	31	33	33.75	34.5
Third	31.75	33.75	34.5	35.25
Fourth	32.5	34.5	35.25	36
Fifth	33.25	35.25	36	36.75
Sixth and thereafter	34	36	36.75	37.5

### WAGES OF GUARDS OF RAPID TRANSIT LINES

Year of Service	Present Rate per Hour	May 1, 1916	May 1, 1917	May 1, 1918
		to May 1, 1917	to May 1, 1918	to May 1, 1919
First	25.5	27.5	28.25	29
Second	26.5	28.5	29.25	30
Third	27	29	29.75	30.5
Fourth	27.5	29.5	30.25	31
Fifth	28	30	30.75	31.5
Sixth and thereafter	28.5	30.5	31.25	32

### WAGES OF BRAKEMEN OF RAPID TRANSIT LINES

Year of Service	Present Rate per Hour	May 1, 1916	May 1, 1917	May 1, 1918
		to May 1, 1917	to May 1, 1918	to May 1, 1919
First	22	24	24.75	25.5
Second	22.5	24.5	25.25	26
Third	23.25	25.25	26	26.75
Fourth	23.75	25.75	26.5	27.25
Fifth	24.25	26.25	27	27.75
Sixth and thereafter	24.75	26.75	27.5	28.25

### WAGES OF MOTORMEN AND CONDUCTORS OF SURFACE LINES IN CENTS PER HOUR

Scale in Effect	1st Year		2d Year		3d Year	4th Year	5th Year	6th Year	Av. per Hr. for 10 Years
	1-6M	2-6M	1-6M	2-6M					
5/1/16...	28.75	29.0	30.25	30.25	31.0	31.5	32.5	34.0	31.354
5/1/17...	29.5	29.75	31.0	31.0	31.75	32.25	33.25	34.75	32.104
5/1/18...	30.25	30.5	31.75	31.75	32.5	33.0	34.0	35.5	32.854

A most important and novel provision of the agreement arranges for a further increase of 0.5 cent an hour on all the rates in the last year of its term, on condition that the company is able to pay a 6 per cent dividend in either of the fiscal years ending June 30, 1918, or June 30, 1919. In the 1915-16 fiscal year just closed the company was able to earn only 5 per cent in dividends. It has recently applied to the State authorities for an investigation of its increasing financial necessities, and by early fall, at the latest, it is expected that the special recess commission created by the Legislature in response to a special message of Governor McCall will begin to hold hearings. The foregoing feature of the agreement aligns both the company and its employees on the same side of the quest for a fair return upon the company's investment, which has now reached a total of about \$132,000,000.

Commenting editorially upon this feature the Boston *Herold* pointed out early in the week ended July 22 that with representatives of both labor and capital supporting the movement toward larger compensation for the service rendered, the outcome should be favorable to the company. The special commission includes in its membership the Massachusetts Public Service Commission, the Boston Transit Commission and representatives from the Massachusetts Senate and House, and is to report at the coming session in January.

The agreement is a document of some 108 closely typewritten pages. It defines working conditions in the transportation and other departments of the road in detail. In future 70 per cent of the runs will be scheduled inside of the nine hours' work in eleven which is named in the Massachusetts law as the legal limit (subject to extension on request of employee), whereas only 40 per cent of the runs on the Boston system have fallen within the nine hours in eleven range. The remaining 30 per cent will be arranged to be completed in fourteen hours instead of sixteen hours, and regular men will be paid overtime work at the end of eleven hours instead of twelve as heretofore. Extra men will receive overtime pay at the end of thirteen hours in place of fourteen. By the system of promotion which will be in use on the rapid transit lines, a brakeman when promoted to a guard or guard to a motorman's post will receive a guarantee of nine hours' daily pay in the grade from which he has been advanced, if he does not receive a full day's work in the new grade. Men called for snow work will be paid from the time of calling rather than of reporting. Snow work will be assigned to train service men according to their seniority rating, and two hours' pay will be guaranteed.

The agreement was signed by W. D. Mahon for the union and Matthew C. Brush, vice-president, for the company. Mr. Brush has been in immediate charge of the negotiations from the standpoint of the road since their inception.

#### BIDS RECEIVED ON LAST UNDER-RIVER TUNNEL

The Public Service Commission for the First District of New York has received bids for the construction of the last piece of under-river tunnel construction remaining to be placed under contract, namely, the new two-track tube under the East River from Second Avenue and Sixtieth Street, Manhattan, to a connection with the new elevated lines in Queens at Queensboro Bridge Plaza station. The tunnel will connect the Queens lines with the route under Fifty-ninth Street and Central Park West, which is to connect the Broadway-Seventh Avenue line in Manhattan, to be operated by the New York Municipal Railway Corporation. The latter corporation is to have trackage rights over the Queens lines terminating respectively at Corona and Astoria. The low bidder on the tunnel work was Patrick McGovern & Company, New York City, whose bid was \$4,194,797, which is considered a reasonable bid for under-river tunnel work. The Degnon Contracting Company, New York City, last year made an offer to build the tunnel for \$4,500,000, in the event that certain changes were made in the contract held by Degnon for the sections immediately to the west of the tunnel in Manhattan, reducing the amount of work to be done there. In the bid on the tunnel, however, the Degnon Company went below its proffer by \$253,000, but was more than \$50,000 over the McGovern bid. The tunnel work is a part of Route No. 61 adopted by the commission on July 28, 1915, following the decision of the commission made at the request of the Board of Estimate & Apportionment to abandon the route over the Queensboro Bridge as a part of the line to connect with the Queens lines. The Degnon proposition contained the suggestion that the route be changed from bridge to tunnel. City officials had estimated that \$2,000,000 or more would be necessary to alter the Queensboro Bridge sufficiently to carry the heavy weight of the all-steel subway trains. If the cost of these alterations to the bridge is added to \$500,000 which the Degnon Company agreed to cut from this contract on the Fifty-ninth Street and Sixtieth Street line in return for a change in route and deducting from the McGovern bid for the tunnel, the remainder represents approximately the net additional cost to the city through the construction of a tunnel instead of utilizing the bridge route.

#### HARRISBURG EMPLOYEES DECLARE STRIKE

##### Refusal of Company to Recognize Union Precipitates Strike in Pennsylvania Capital

About 176 employees of the Harrisburg (Pa.) Railways went on strike on Sunday, July 16, shortly after midnight. Since that time more men have joined the union, known as Division 709 of the Amalgamated Association, and the number on strike on Wednesday evening, July 19, was close to 200. The strike vote was taken after midnight when the men had completed their Saturday evening runs. The strike is the result of the refusal of Frank B. Musser, president of the Harrisburg Railways, to treat with the union. The members of the union asked full recognition of the union in connection with their other demands, which were as follows: An increase of from 4 to 8 cents an hour for motormen and conductors; extra pay for overtime; permission to sign seven days in advance of the day an employee wants to be away from his work; permission to post notices of union business in the carhouses; recognition of the union; that a man suspended be paid for the time he lost if after a hearing it has been found that he was suspended unjustly; that suburban motormen and conductors who are compelled to handle freight be furnished at least one uniform a year by the company; that the company install stools in every car on the system for the men; that the shopmen be compelled to clean the cars and equip them; that the company pay the men for one-half hour's work in making out accident reports; that the company maintain an adequate list of extra men, so that the regular employees need not overwork unless they desire.

The scale of wages for motormen and conductors asked for in the demands follows: First six months, 26 cents an hour; second six months, 28 cents an hour; second year, 30 cents an hour; third, 32 cents an hour; fourth year and thereafter, 34 cents an hour. The scale for other employees as arranged in the demands is: Car cleaners and switchmen, 23 cents an hour; greasers, 23 cents an hour; night watchmen, 23 cents an hour; repairmen, 28 cents an hour; trackmen, 23 cents an hour; firemen, 25 cents an hour.

In a statement to the public President Musser declared that the company would not treat with committees of the men when they represented a branch of the Amalgamated. His statement issued the day before the strike began follows in part:

"This company has never refused to treat with its men individually or collectively, so long as the interests of the men as a body could be considered from a purely local standpoint. It does refuse, however, to treat with committees when they represent an organization of employees which in turn owes allegiance to a national body whose aims seem to be confined solely to the imposition of certain working conditions in all localities, without regard to the adaptability thereof to the general conditions which prevail in each respective locality.

"No better evidence of the company's attitude toward its men can be given than that it has voluntarily from time to time, as business conditions warranted, increased the wage scale from 12½ cents to 26 cents an hour—comparing favorably with the wage scales of neighboring Pennsylvania cities in the same class, the last increase being May 1 last.

"As to the comforts of its men, in the operation of cars, rules and regulations have from time to time been modified upon the suggestion of employees, looking to increased comforts, keeping in mind, of course, that the safety and convenience of the public must always be conserved, as well as the interests of the employees.

"Some of the men have complained about the necessity of being upon their feet during working hours. Notwithstanding that in this they do not differ from the carpenter, steelworker, mechanic and many other branches of labor, stools have for a long time been permitted on suburban lines, and have been ordered for city lines for the use of motormen, except in congested parts of the city where the safety and convenience of the public demand absolute freedom of body and constant watchfulness on all sides.

"The company realizes that in the performance of its duties to the public the highest degree of efficiency is essential on the part of employees, and quite naturally is on the alert to improve working conditions at all times as business conditions make them possible."

Organizer Thorpe issued a statement on July 15, in which he said:

"After the company refused to meet the committee to discuss the demands, the committee then offered to submit the entire matter to a board of arbitration. This was refused by Mr. Musser. Therefore the employees feel that there is but one alternative left, which is to suspend work. This will be done unless there is a change of attitude on the part of the company toward the employees before Sunday morning, July 16, at midnight."

Only sixteen of the usual fifty cars were operating Sunday. On July 17 scarcely anyone rode in the seventeen cars which were operated. On July 18 the company again attempted to resume operation, but brick hurlers among crowds of sympathizers early caused the company to suspend all operation for the day. On July 19 twenty cars were run, but there was considerable disorder.

The first step toward a possible settlement of the strike was made on Thursday morning, July 20, when President Musser met a committee of the strikers as individuals at the company's offices. Another meeting was arranged for Friday, July 21, at 2 o'clock. On July 20 fifteen cars were operated throughout the day. At 4 o'clock, however, mobs again stoned the cars and they were then returned to the carhouses. Mr. Musser issued a statement in which he intimated that he might ask for State police if matters were not remedied. The strikers were paid on July 20 and in the envelopes were notices to the effect that each man was to appear at the carhouse in uniform not later than noon or to turn in what company property he had in his possession and to consider himself no longer an employee of the company. None of the strikers reported for duty.

Efforts were made late on July 19 to get the employees of the Valley Railways operating into Harrisburg from the Cumberland County towns to go on strike, but the men refused to join the union. These men settle all grievances with the company officials through a local grievance committee, a plan desired by Mr. Musser of the Harrisburg Railways.

On Thursday night, July 20, a demonstration of all unions and strike sympathizers was held when the strikers and their friends, several thousand strong, paraded over the city streets. All the cars were off the streets, and there was no disorder.

#### STRIKE DECLARED IN LOGANSPORT

In an effort to compel the Fort Wayne & Northern Indiana Traction Company to operate its cars on the Logansport city division with both motormen and conductors, some of the employees of the company in Logansport, Ind., went on strike on July 18. For several months past the company has been operating one-man cars in Logansport. The striking employees, who have recently organized, demand a 5 per cent increase in pay and recognition of their union.

Mobs of sympathizers with the striking street car men of Logansport rioted in the streets all night on July 18. The operation of street cars had to be stopped. A policeman and a civilian were shot during an attack on a line car sent to repair the high tension wires torn down by the crowds. No attempt was made to suppress the rioting until July 19. The business district that day was practically in the hands of the mob element and no cars were operated. So serious was the outlook that Mayor Guthrie asked Governor Ralston for assistance to maintain order. The police state that rioting started all over the city at a given signal caused through efforts of outside labor agitators. The company shut off power on the city lines to prevent the wrecking of cars in the hands of rioters, but the linemen who are on strike diverted current from the lines of the Union Traction Company and the rioters ran cars up and down the streets, derauling and wrecking them during the night of July 19. Policemen and citizens recruited quickly as special police guarded the power house of the Fort Wayne & Northern Indiana Traction Company and prevented further depredations. On Thursday morning, July 20, it was reported that the mob element was under control and that cars were again being operated.

#### TRENTON COMPANY SUSTAINED IN ARBITRATION Finding of Arbitration Board Justifies Discharges Made— New Working Agreement Arranged

The case against the seven conductors who were dismissed by the Trenton & Mercer County Traction Corporation, Trenton, N. J., on the charge of fare "sniping," has been decided against them following the long arbitration between C. Howard Severs, representing the union; Peter E. Hurley, representing the company, and Clifton Reeves, a United States Commissioner of Conciliation.

Each accused conductor had the privilege of appearing at the different hearings when testimony was being taken. The testimony of the private inspectors was taken in the Philadelphia office of the Pinkerton Detective Agency, which allowed its men to be examined and cross-examined.

The case of the company was to show violation of Section 17 of the agreement between itself and the labor organization and Rule 113 in the Book of Rules referred to in the contract, in which it is required that fares must be collected as soon as possible after passengers get on cars, and must be immediately registered in the presence of the passengers. The evidence produced by the association was for the purpose of showing that the men had been unreasonably and unjustly discharged, and that they should be reinstated to former positions and paid for all time lost.

The written reports made to the detective agency included the following information: Number of report, day of week, date, badge number of conductor, car number, street on and time of day, street off and time of day, collections from street on to street off, passengers previously on, passengers paying, total and fares not registered. They also gave what the register showed, the number of passengers boarding the car, and, in most cases, the fact that the conductor collected from each passenger, and at what point along the line conductors failed to register fares taken. These reports were then forwarded to the company.

The evidence showed that the detective agency had a yearly contract with the railway and that upon request of the company the agency sent its inspectors to Trenton. These inspectors were unknown to the manager and officials of the company.

The company gives the benefit of the doubt to the conductors where persons board cars with children and pay the fares of some of the youngsters and where the number of fares paid cannot be clearly determined, as in the case of free riders, such as uniformed men and others entitled to ride free, and about which there might be some doubt. The company instructs its inspectors to call the attention of the conductor where any mistake is discovered. It was shown at the arbitration that the company did not single out any employees for being too active in labor circles.

The report is signed by Clifton Reeves, the third arbitrator, and by Peter E. Hurley, the arbitrator for the company. Mr. Severs refused to sign the majority report. He said he would issue a statement later.

In commenting editorially on the finding, the Trenton *Advertiser* said: "The report of Clifton Reeves, the third arbitrator, leaves no room to doubt that the testimony and circumstances were studied without prejudice to either side. The extreme patience of the arbitrators in sifting the cases is manifested by the fact that the evidence taken down stenographically covers 231 standard pages, containing more than 55,000 words. Not a line was produced to indicate that the discharges were in a spirit of persecution, as originally charged, but, on the contrary, there was testimony to show that General Manager Hurley had dismissed certain inspectors in previous cases when he regarded their work against the men as unreliable. No discharges of conductors are made except for repeated offenses."

The new working agreement between the Amalgamated Association and the Trenton & Mercer County Traction Corporation has been accepted by each and has been signed. By the wage clause in the agreement the men will receive 29 cents an hour for the coming three years. They have been getting 27 cents. They requested 34 cents. All of the employees, including platform men and track gangs and those working in the power house and carhouses, will receive increases in proportion. There is now no dispute

relative to the three-year contract between the company and its men, matters other than the wage scale all having been settled previously. The company made two propositions to the men on the wage clause in the working agreement. One was to pay 28 cents an hour for the first year, 29 for the second year and 30 for the third. The second was to pay a flat rate of 29 cents a year for the three years. The increase dates from July 1.

#### PROVISION MADE FOR RAILROAD INQUIRY

##### Senate and House Approve Resolution for an Inquiry by a Committee of Congress

Approval of a Senate resolution by the House on July 15 made certain an inquiry into the railway transportation problem of the country by a committee of Congress. The House amendments to the Senate resolution are not fundamental, and the commission probably will be organized before Congress adjourns. In his annual message last December the President suggested a commission to investigate "the exceedingly serious and pressing transportation problem."

An inquiry of the broadest scope is to be undertaken under the resolution, which was fathered by Senator Newlands of Nevada. Five senators from the committee on interstate commerce and five representatives from the committee on interstate and foreign commerce, to be elected by the full committees, are to constitute a joint sub-committee to conduct the investigation. The resolution as adopted by the House requires a report to Congress by the second Monday in January, 1917, whereas the Senate resolution provides for an "expeditious report." The scope of the inquiry is forecast by the language of the resolution, which directs a report on:

"The subject of the government control and regulation of interstate and foreign transportation, the efficiency of the existing system in protecting the rights of shippers and carriers and in promoting the public interest, the incorporation or control of the incorporation of carriers, and all proposed changes in the organization of the Interstate Commerce Commission and the act to regulate commerce; also the subject of government ownership of all public utilities, such as telegraph, wireless, telephone, express companies, and railroads engaged in interstate and foreign commerce; the wisdom or feasibility of government ownership of such utilities, and as to the comparative worth and efficiency of government regulation and control as compared with government ownership and operation."

The joint sub-committee has power to summon witnesses, administer oaths, and call upon any department of the government to furnish information desired.

As to the importance and need of the inquiry, Mr. Adamson, who will be chairman or vice-chairman of the joint investigating sub-committee, was quoted in part recently as follows:

"When normal conditions are restored following the present war the tremendous increase of industries and business of our country will more and more burden railroads inadequately equipped and demand increased facilities. As the roads must expend a vast outlay of money to handle business before they can expect to derive revenue therefrom, the question of financing these necessary and vast improvements becomes a momentous one, and that is one of the questions that the railroads desire to present for consideration and solution to this joint sub-committee.

"Since the approval of the act to regulate commerce in 1887 the system has had a gradual and irregular growth by various and sporadic amendments, some of them making decided if not radical changes in the original plans and policies and some of them adding new and important activities. So the entire law to regulate commerce as now in force is not a uniform, compact, symmetrical structure easily understood, but in some parts hardly reconcilable and sometimes inconsistent. To say the least of it, the diversities and incongruities should be carefully considered, and wherever possible unified and improved to the end that Federal regulation of carriers may be successfully carried on with the best possible service to the public."

Pending the inquiry Congress is not expected to attempt any legislation materially affecting the railways.

#### TOLEDO COMMUNITY PLAN DISCUSSED

At a conference between Mayor Milroy's street railway commission and Henry L. Doherty at Toledo, Ohio, on July 14, a disagreement occurred over the valuation of the property. The clause relating to this provides that when the city shall have raised by accumulation from fares or otherwise a fund equal to 20 per cent of the agreed valuation, plus betterments and extensions less depreciation, the city may take over the property by paying that amount to the Toledo Railways & Light Company, and the remaining 80 per cent in 6 per cent mortgage bonds. Mr. Doherty objected to reducing the amount to be paid by depreciation after the date of valuation and asked that this clause be stricken out.

A tentative agreement was reached to formulate the franchise so that the city may have the power to set aside a portion of the money received from fares for the purchase of the property. This money would be held by trustees and invested by them. Mr. Doherty argued that stockholders should be allowed to vote their own stock, as that will make them feel that they have a voice in the management and will give the public greater interest in the company. Chairman Johnson Thurston feared that outside interests might get control of the stock if it was left in the hands of the purchasers. It was agreed that dividends on stock shall be at the rate of 6 per cent per annum and that the maximum fare shall be 5 cents.

Under agreements already reached the street railroad property is to be separated from the power house and other property. A new corporation, probably to be known as the Toledo Community Traction Company, is to be incorporated. The street railway property is to be valued by agreement between the commission and the company or, in the event of disagreement, by arbitration, and stock to the amount of the valuation obtained is to be issued in shares of \$10 par value each. This stock is to be passed to the Toledo Railways & Light Company in payment for the property, but is to be deposited with five trustees to be selected, under a trust agreement, and is to be voted by them for a period of five years. Trust certificates are to be issued to the company. There will be no bonds. The stock is to be sold to citizens of Toledo, if they will purchase it all, but if not the matter is in the hands of the trustees. The city will have five years in which to raise the money with which to purchase the property of the company.

President Johnson Thurston raised the question on July 13 as to just what part of the property is to be purchased by the new company and mentioned the fact that the abandonment of some of the lines had been considered, if the old company had continued to operate the road. Mr. Doherty insisted that his company must sell all or none of the property, even if very little is paid for the portions that are not needed.

**Texas Midland Not to Be Electrified.**—Col. E. H. R. Green, president of the Texas Midland Railroad, denied in New York on July 20 to a representative of the *ELECTRIC RAILWAY JOURNAL* the report from Texas a few days previously that it was proposed to equip the railroad at this time for electric operation.

**Offer Made for Edmonton Municipal Line.**—American bankers are said to have made a proposition to the city of Edmonton, Alta., to purchase the Edmonton Radial Railway, which has been operated by the city. The system comprises 53 miles of line, and in 1915 the deficit was \$125,758, with a total deficit from operation to date of \$581,605.

**Removal of Receiver on Account of Strike Unlikely.**—Decision has been reserved by Supreme Court Justice Marcus of Erie County on the application of certain stockholders of the Buffalo (N. Y.) Southern Railway to have Nathan Bundy removed as receiver and general manager of the line. The action was taken by stockholders as a means of ending a strike of platform men which has been in effect for almost three months. In reserving decision the court intimated that the application would be denied, as stockholders should not make use of a court to settle labor troubles.

**Block Signals Being Installed Between Terre Haute and Brazil.**—The Terre Haute, Indianapolis & Eastern Traction Company, Terre Haute, Ind., is installing electric block signals on the section of its Indianapolis-Terre Haute line between Terre Haute and Brazil, at a cost of \$25,000. These signals are the same as those installed on other parts of the system, being the General Railway Signal Company's A. P. type, light indication signals. With the exception of one block between Bridgeport and Plainfield, which is under contract but will not be installed until next year, this completes all electric block protection planned for the line between Indianapolis and Terre Haute.

**Fewer Jitneys in Rhode Island.**—The operation of jitneys is on the wane in Providence, R. I., and suburbs. Prior to July 2, 1915, about 600 were running in the territory served by the Rhode Island Company's traction system. On that date a city ordinance went into effect in Providence which requires a fee of \$5 per passenger seat and a bond of \$500 per seat. This had a strong deterrent effect, and at the expiration of the year many original license holders failed to renew. It is estimated that there are now only 100 such vehicles in the whole territory. Many automobiles which formerly ran through the principal streets at 5-cent fares are now operating as cabs, with fares ranging from 25 cents upward per passenger. This obviates the necessity of taking out the license.

**Authority to Make Street Repairs Defined.**—Walter F. Meier, assistant corporation counsel, in a communication to the Board of Public Works of Seattle, Wash., has advised the board that it is the only body having authority to find that an emergency exists that would authorize the city to make repairs on streets adjacent to car tracks, and to charge the cost of such repairs to the company and reimburse itself from a franchise fund provided by the company. The opinion is the result of an inquiry by Charles R. Case, superintendent of streets, who recently reported to the Board that certain streets occupied by tracks of the Puget Sound Traction, Light & Power Company needed repairs. Mr. Case asked for and received authority to divert money in the franchise fund established by the company.

**New Nickel Plate Officers.**—J. J. Bernet, until recently vice-president of the New York Central Railroad, was elected president of the New York, Chicago & St. Louis Railroad on July 15 to succeed W. H. Caniff, who resigned after the change of ownership by which Cleveland interests took over the property. The other officers are as follows: Chairman of the board, O. P. Van Sweringen; first vice-president, Warren S. Hayden, Hayden, Miller & Company, Cleveland; second vice-president, Joseph R. Nutt, Citizens' Savings & Trust Company, Cleveland; third vice-president, M. J. Van Sweringen; secretary, W. D. Turner; treasurer, Otto Miller; general counsel, M. B. and H. H. Johnson. The names of the directors were given in the account of the purchase which was published in the ELECTRIC RAILWAY JOURNAL of July 15, page 113. They are O. P. and M. J. Van Sweringen, W. S. Hayden, J. R. Nutt, F. E. Myers, C. L. Bradley, M. B. Johnson, G. W. Davison, E. R. Tinker, G. M.-P. Murphy, H. S. Vanderbilt, J. J. Bernet and E. W. Moore.

**Cleveland Railway Settles for Taxes.**—On July 13 the Cleveland (Ohio) Railway paid into the Cuyahoga County treasury \$999,237 in settlement of its taxes for 1913, 1914 and 1915. This amount represented the assessments made on the basis of the valuations named by the State Tax Commission, but did not include penalties and interest which were waived by the county treasurer on the advice of the legal department. The company had instituted injunction suits each year to prevent the collection of the amount assessed on the ground that the valuation was too high. This was done after tendering payment on a valuation which the company claimed was fair. In the trial of these cases the decisions of both the Common Pleas Court and the Court of Appeals were in favor of the county. Preferring not to carry the matter to the Supreme Court, the company offered to make the payment, less interest and penalties, and the officials accepted. The company wanted the State Tax Commission to explain its methods of finding the value of the property, but that body insists upon keeping its methods from the public.

## Financial and Corporate

### ANNUAL REPORTS

#### Denver Tramway System

The comparative consolidated statement of income of the Denver (Col.) Tramway System for the years ended March 31, 1915, and 1916, follows:

	1916		1915	
	Amount	Per cent	Amount	Per cent
Gross earnings.....	\$3,174,665	100.00	\$3,263,954	100.00
Operating expenses, including partial depreciation in 1916:				
Maintenance .....	\$370,166	11.66	\$371,116	11.37
Operation .....	1,009,564	31.80	1,037,376	31.78
General .....	246,463	7.76	275,468	8.44
Total .....	\$1,626,193	51.22	\$1,683,960	51.59
Net earnings.....	\$1,548,472	48.78	\$1,579,994	48.41
Taxes and franchise payments .....	280,768	8.85	279,220	8.55
Operating income.....	\$1,267,704	39.93	\$1,300,774	39.86
Other income.....	20,607	0.65	32,295	0.98
Gross income.....	\$1,288,311	40.58	\$1,333,069	40.84
Deductions from income:				
Interest on funded debt .....	\$989,641	31.17	\$988,415	30.28
Interest on notes and accounts payable..	913	0.03	22,350	0.68
Total .....	\$990,554	31.20	\$1,010,765	30.96
Net income.....	\$297,757	9.38	\$322,304	9.88

The gross earnings of the system showed a decrease of \$89,288, or 2.7 per cent, during the last fiscal year, all of which decrease occurred during the months of March to November, 1915, inclusive. Beginning with December, 1915, and continuing for each month since, the revenues have shown healthy increases. The operating expenses during the fiscal year just passed decreased \$57,766, or 3.4 per cent, most of this saving coming in expenses of operation and in general expenses. Owing to a slight increase in taxes and franchise payments and to a loss in other income, the gross income decreased \$44,758, or 3.3 per cent. This was somewhat reduced by a decline in interest on notes and accounts payable, so that the net income fell off only \$24,547, or 7.6 per cent.

A substantial saving, amounting to \$21,049, was shown in the claim and legal departments in the handling and settlements of injuries and damages. The expenditure for this account amounted to 1.8 per cent of the total operating revenue.

During the last fiscal year, the bonded indebtedness of the company was reduced \$210,395; through sinking fund payments account of the Denver Tramway Power Company's bonds, \$48,000 par value of which were thus retired and account of the Denver City Tramway 5 per cent first and refunding sinking-fund mortgage bonds, \$181,000 par value of which were similarly retired. By exchanging first and refunding bonds of the Denver City Tramway for first and collateral mortgage 5 per cent bonds of the Denver & Northwestern Railway, the latter issue has been reduced \$359,920, so that the amount now outstanding in the hands of the public is \$525,100.

The policy of the board of directors to hold capital expenditures to a minimum without detriment to the property, as indicated in the preceding annual report, was pursued during the last fiscal year. There was expended for betterments and improvements to the property, \$91,965. There was expended on the system for maintenance \$370,165, which was approximately the amount expended in the previous fiscal year. The questions at issue between the company and the tax assessing bodies of Denver and the State of Colorado were settled during the year. All back taxes were paid and the 1915 taxes will be paid on the basis of the present assessment. It is believed, however, that the assessment for taxation placed upon the company is ex-

cessive and burdensome, and should be appreciably reduced.

The following table presents some miscellaneous statistics for the entire system:

	1916-15	1915-14
Passengers carried:		
City lines.....	72,983,006	75,572,785
Interurban lines.....	923,708	956,034
Total.....	73,906,714	76,528,819
Passenger earnings per car-mile:		
City lines, cents.....	25.47	26.53
Interurban lines, cents.....	27.17	28.98
Passenger earnings per car-hour:		
City lines.....	\$2.46	\$2.56
Interurban lines.....	\$4.48	\$4.69
Miles of track operated:		
City lines.....	212.46	213.74
Interurban lines.....	39.30	39.17
Total.....	251.76	252.91
Car-miles operated, passenger:		
City lines.....	11,283,856	11,174,515
Interurban lines.....	369,809	366,290
Total.....	11,653,665	11,540,805
Car-hours operated, passenger:		
City lines.....	1,167,357.6	1,159,205.4
Interurban lines.....	22,429.8	22,622.4
Total.....	1,189,787.4	1,181,827.8

**Pittsburgh Railways**

The income statement of the Pittsburgh (Pa.) Railways for the year ended March 31, 1916, follows:

Gross earnings from street railway operations.....	\$12,123,275
Operating expenses:	
Maintenance of way and structures.....	\$1,026,671
Maintenance of equipment.....	619,886
Traffic.....	27,920
Power.....	1,159,630
Transportation.....	3,065,388
General and miscellaneous.....	1,343,890
Total.....	\$7,243,387
Taxes.....	447,515
Total operating expenses and taxes.....	\$7,690,903
Net earnings from street railway operations.....	\$4,432,372
Auxiliary operations:	
Gross earnings.....	\$145,478
Operating expenses and taxes.....	97,461
Net earnings.....	\$48,016
Total net earnings.....	\$4,480,388
Other income.....	107,435
Total income.....	\$4,587,823
Deductions from income (rentals, and interest on current liabilities).....	2,974,531
Income before deducting fixed charges.....	\$1,613,292
Fixed charges, interest on funded debt.....	389,106
Income after deducting fixed charges.....	\$1,224,186
Other deductions:	
Interest on income debentures.....	\$600,000
Depreciation of materials and supplies.....	3,314
Deferred account, portion written off.....	91,277
Extraordinary expenditure for improvements, replacements and realignments during the year..	417,986
Total.....	\$1,112,578
Net income.....	\$111,608

In the early part of the year conditions in the territory served were much depressed, but during the latter part of the year, owing to the material improvement in business conditions, the gross railway earnings of the company improved and the total for the year showed an increase of \$453,184, or 3.8 per cent. Operating expenses decreased \$371,733, or 4.9 per cent, and taxes increased \$9,433, or 2.1 per cent, so that the net earnings from railway operation showed a gain of \$815,483, or 22.5 per cent. The net income for the year was \$111,608, as compared to \$100,000 in the preceding year, but the former figure was obtained after raising the interest payments on income debentures from \$330,739 to \$600,000, and after allowing \$3,314 for depreciation on materials and supplies, \$91,277 for writing off a portion of the deferred account and \$417,986 for an extraordinary expenditure for improvements, replacements and realignments during the last year.

There was expended during the year \$742,202 for improvements, betterments and extensions on the properties operated by the company, of which \$324,215 was charged to capital accounts of this and subsidiary companies. The aforementioned sum of \$417,986 was charged against the income account for the year on account of extraordinary expenditures for improvements, replacements and realign-

ments, and there was also charged to this account \$91,277 as amortization for the same class of work.

During the year contracts were entered into with the St. Louis Car Company for the construction of fifty double-end, double-truck, low-floor type of motor cars, and seventy-five double-end, double-truck trail cars; with the Cincinnati Car Company for 100 double-truck, single-end, low-floor type of motor cars, and with The J. G. Brill Company for cars. These 240 cars will be delivered some time during the coming year and will replace at least an equal number of fifteen double-truck, double-end, low-floor type interurban single-truck cars and admit of a better distribution of the cars at present in use. The new cars will afford better service and also effect further economies.

**ANOTHER PLEA MADE FOR THE INVESTOR**

Evidence is fast accumulating in regard to the need for a broader attitude in the far West toward capital seeking investment. As noted in the ELECTRIC RAILWAY JOURNAL of July 15, Commissioner Campbell of the Public Service Commission of Oregon in the Portland *Oregonian* recently issued warning in regard to the effect of corporation baiting. Now comes George K. Weeks, president of the San Francisco-Oakland Terminal Railways, with a similar warning. Mr. Weeks recently returned to San Francisco from a tour of the East, and has given his impressions in an interview in the San Francisco *Examiner*. He referred to certain public utility financing in the East and cited the case of the Kansas City (Mo.) Railways as a criterion of the willingness of investors to furnish funds quickly where a tolerant attitude was assumed toward the investor. In contrast to this, however, he cited the case of California. He is quoted in part as follows:

"I regretted to find a rather general feeling in the East that the people of California were not disposed adequately to protect capital invested in the development of their State. This feeling undoubtedly grew primarily out of the many losses which Easterners have made in California investments of a development character during the last few years, but the fact that only on the Pacific Coast had the jitney been allowed to run wild for nearly two years and inflict radical damage on the electric railways without any corresponding benefit to the traveling public is widely commented upon. If California expects to attract capital in the face of a world-wide competition it will be necessary to afford reasonable protection to the capital already invested here."

**SUSPENSION OF CLAYTON ACT ASKED**

Frank Trumbull, president Chesapeake & Ohio Railroad; Robert S. Lovett, chairman of board of directors Union Pacific Railroad and Alfred P. Thom, general counsel Southern Railway, representing 84 per cent of the railroads of the country, on July 19 urged upon President Wilson the suspension of that section of the Clayton act compelling competitive bidding for railroad supplies. They requested that the President have the subject investigated by a committee of Congress or the Interstate Commerce Commission.

The act goes into effect on Oct. 15 and the commission has already drafted tentative regulations seeking to put it into effect, as provided by the law. The particular provision relating to the railroads is known as Section 10. Only purchases in excess of \$50,000 per year come under the provisions, which stipulate that all purchases of supplies in excess of that amount must be by a system of competitive bidding under regulations promulgated by the commission.

It is asserted by railroad officials that the provisions are unjust and conflicting. Most of the large railroads, moreover, buy supplies for themselves and their subsidiaries in bulk and in many cases without competitive bidding. These supplies are parceled out to the subsidiaries as they need them through the clearing house of the parent organization. The subsidiaries frequently issue stock for the supplies, and the stock is held by the parent concern until such time as it appears advantageous to dispose of it. This practice would be hindered under the act simply because of interlocking directors. Furthermore all of the large companies have purchasing departments which buy equipment by wholesale, and it is contended that the supplies can be purchased cheaper than by competitive bidding. The small railroads, it is

held, cannot buy to advantage on small competitive bids.

As a result of the mission to Washington it is believed that there may be a suspension of the offensive provisions for two years. Within this time the government is expected to have at work a commission to study the features of railroad regulation and management which now create artificial barriers to development and to efficient operation.

WASHINGTON RAILWAYS SHOW LOSSES

The fifth annual report of the Public Service Commission of Washington, covering the period from Dec. 1, 1914, to Nov. 30, 1915, contains the accompanying table of mileage and earnings figures for electric railways in the State for the year ended June 30, 1915. A comparison of the totals with the preceding year's results shows that the total mileage operated increased 8.05 miles, to a total of 1049.25 miles. Owing to the general depression in the Northwest and to jitney and automobile competition, however, the total operating revenues decreased \$1,303,768 or 13.6 per cent. The loss came mostly in passenger traffic, which fell off 25,120,822 or 13.3 per cent. In spite of retrenchments, the saving in operating expenses was only \$291,453 or 4.7 per cent, so that the net operating revenue decreased \$1,012,315 or 29.7 per cent. The total of taxes paid, however, decreased \$5,923 or 0.4 per cent.

the railway for the operation of its lines. The segregation of the railway and lighting properties at McAlester and their operation as just noted are in accordance with the plans agreed upon by the bondholders following the recent sale of the property of the Choctaw Railway & Lighting Company under foreclosure, as noted in the ELECTRIC RAILWAY JOURNAL of April 8.

Cities Service Company, New York, N. Y.—Following the action of the stockholders of Cities Service Company at a special meeting held on June 29, authorizing an increase in the capital stock to \$100,000,000, the company has offered to buy the stock of the Lincoln Gas & Electric Light Company, Lincoln, Neb., issuing its own securities in exchange therefor. Contingent upon the assent of the holders of 75 per cent of the stock of the Lincoln Gas & Electric Light Company, Cities Service Company will accept Lincoln stock until Aug. 1, 1916, giving in payment as of that day 35/100 shares of its 6 per cent cumulative preferred stock and 7/100 shares of common stock for each share of Lincoln stock deposited with Henry L. Doherty & Company, depository. The Lincoln Gas & Electric Light Company has only one class of stock outstanding, the authorized amount being \$1,500,000, of which all is outstanding. The company was incorporated in December, 1901, as the successor to the Lincoln Gas & Electric Company and has been under

STATEMENT OF MILEAGE, OPERATING REVENUES AND EXPENSES OF ELECTRIC RAILWAYS IN WASHINGTON FOR YEAR ENDED JUNE 30, 1915

Name of Company	Total Mileage Operated	Total Operating Revenue	Total Operating Expense	Net Operating Revenue	Total Taxes Paid	Total Number of Passengers Carried	Average Fare Per Passenger
Gray's Harbor Railway & Light Company	11.94	\$94,756	\$63,160	\$31,596	\$8,748	1,801,158	\$0.04738
Loyal Railway	2.00	.....	.....	.....	.....	.....	.....
Olympia Light & Power Company	5.99	31,649	29,479	5,169	5,796	730,980	.04960
Pacific Northwest Traction Company	78.52	400,186	224,855	175,330	39,426	1,141,762	.27334
Pacific Traction Company	25.51	82,260	73,138	9,122	4,747	1,744,547	.04918
Puget Sound Electric Company	65.59	386,250	345,891	40,358	65,895	1,436,499	.18738
*Puget Sound International Railway & Power Company	22.96	161,113	130,335	30,778	38,790	3,214,792	.05828
Puget Sound Traction, Light & Power Company	228.60	3,460,958	1,915,396	1,545,561	602,415	90,518,361	.04658
Seattle, Renton & Southern Railway	24.75	290,429	205,400	85,029	26,258	6,323,222	.04158
Spokane & Inland Empire Railroad	251.12	1,243,325	1,067,284	176,040	150,000	12,634,959	.07940
Tacoma Railway & Power Company	105.77	922,965	725,018	197,946	87,085	22,696,270	.04867
Walla Walla Valley Railway	20.61	92,236	65,426	26,810	7,771	1,167,142	.06324
†Washington Electric Railway	9.20	701	211	490	.....	.....	.....
Washington-Oregon Corporation (Chehalis)	6.02	32,030	20,930	11,100	20,384	1,141,611	.06809
Washington-Oregon Corporation (Vancouver)	14.16	55,176	45,246	9,929	.....	.....	.....
Washington Water Power Company (city lines)	88.59	701,842	688,901	12,941	57,289	16,367,657	.04920
Washington Water Power Company (interurban lines)	23.89	98,203	88,282	9,921	11,958	239,620	.30171
Western Washington Power Company	5.55	27,115	24,196	2,918	954	513,712	.04919
Willapa Electric Railway	5.44	27,864	15,237	12,626	1,743	.....	.....
Yakima Valley Transportation Company	39.14	148,782	134,710	14,071	10,097	2,310,640	.04631
Total	1,049.25	\$8,260,849	\$5,863,105	\$2,397,744	\$1,139,363	163,982,932	.....

\*Includes Everett Railway, Light & Power Company, under lease.  
 †Incomplete account; line partially under construction.

Anglo-Argentine Tramways, Ltd., Buenos Ayres, Argentina.—The gross receipts of the Anglo-Argentine Tramways, Ltd., for the calendar year 1915 totaled £2,709,615, a decrease of £141,380 for the year. The working expenses, including £120,000 carried to the depreciation renewals reserve in addition to £265,692 expended on ordinary maintenance, amounted to £1,786,740. This figure, representing a reduction of £94,256 from the preceding year's amount, probably represented the minimum compatible with efficiency, and the outlook was made worse by the continuous rise in the cost of fuel. On account of these facts the directors were unable to recommend the payment of a dividend on the ordinary shares. In 1915 the total number of passengers carried was 316,982,449, as compared to 332,015,254 in 1914, a decrease of 4.5 per cent. Most of this decrease arose in connection with surface traffic, which fell off from 303,500,792 in 1914 to 286,434,755 in 1915, or 5.6 per cent. The subway traffic increased from 28,514,462 in 1914 to 30,547,694 in 1915, or 7.1 per cent. The car kilometers run showed a falling off from 81,628,071 in the preceding year to 81,551,157 in 1915, or 0.09 per cent.

Choctaw Railway & Lighting Company, McAlester, Okla.—The Pittsburgh County Railway, a new corporation, has taken over the railway franchise and the railway property of the Choctaw Railway & Lighting Company, including the railway line in McAlester and the interurban line from McAlester to Hartshorne, a distance of 16 miles. The lighting property formerly operated by the Choctaw Railway & Lighting Company has been taken over by the Choctaw Power & Light Company. This company will sell power to

the management of Henry L. Doherty & Company for the last ten years. Cities Service Company has also offered to exchange share for share Cities Service Company preferred stock for the \$1,500,000 of 6 per cent preferred stock of Electric Bond Deposit Company, contingent upon the depositing of 75 per cent of this stock by Aug. 1. The first dividend on securities issued in exchange will be the regular monthly dividend of one-half of 1 per cent, payable on Sept. 1, 1916. In the case of Cities Service common this will include also 2 per cent in common stock as declared by the board of directors on May 17 and 19. In accordance with the call issued on May 12 for the \$7,000,000 of Cities Service Company 7 per cent convertible notes, interest ceased to accrue after July 12. The Cities Service Company has now outstanding, aside from its preferred and common stocks, only convertible debentures, the amount of which July 10 was \$139,175. Of the debenture warrants issued to the common stockholders on July 1 for dividends from Jan. 1, more than half have been to date received for conversion, and of these 95 per cent were exchanged for preferred and common stock and only 5 per cent for debentures.

Glendale & Montrose Railway, Glendale, Cal.—Ownership of the Glendale & Montrose Railway has been acquired by the Great Western Improvement Company of San Francisco from J. Frank Walters of Los Angeles at a reported consideration of \$750,000. The road is operated from Eagle Rock City to Glendale, a distance of 3.5 miles, and from Glendale through Montrose to La Crescenta, a distance of 5 miles. The new officers of the Glendale & Montrose Railway are William G. Henshaw, president; John Treanor, vice-



president, and W. J. Bohon, secretary-treasurer and general manager.

Lake Erie, Bowling Green & Napoleon Railway, Bowling Green, Ohio.—James W. Wilson, special master, is advertising for sale under foreclosure the property of the Lake Erie, Bowling Green & Napoleon Railway. The sale is to be held at Bowling Green on Aug. 5. C. G. Taylor is receiver of the company.

Sacramento (Cal.) Street Railway.—According to the annual report of the Pacific Gas & Electric Company for the calendar year 1915, the gross earnings of its subsidiary, the Sacramento Street Railway, at \$425,338 showed a decrease of \$131,570, or 23.62 per cent, as compared to the preceding year. This loss was brought about by the continued competition of jitney buses. In only one year since 1906, *i. e.*, in 1908, were the gross earnings less. As only 2 per cent of the gross revenue of the Pacific Gas & Electric Company, however, is derived from the street railway department, the general effect of the jitney competition was negligible. Some miscellaneous statistics of the street railway line for the last two years follow: Total passengers carried—1915, 9,485,490; 1914, 12,256,142; car-miles—1915, 2,684,508; 1914, 2,481,968; and car-hours—1915, 294,739; 1914, 303,263.

St. Louis & East Side Terminal Railway, East St. Louis, Ill.—The lease made by the Southern Traction Company, East St. Louis, Ill., now in the hands of the receiver, to the St. Louis & East Side Terminal Railway, also of East St. Louis, has been confirmed by the United States Federal Court at Danville, Ill. Through this lease a connection will be made with the St. Louis free bridge as soon as the Belt Railway approach is completed. The work of putting the Southern Traction Company's roadway in condition for immediate operation as a coal line only is now under way. J. T. Taylor, Belleville, Ill., has been appointed general superintendent and traffic manager to act for the lessees.

Seattle (Wash.) Municipal Street Railway.—Superintendent of Public Utilities A. L. Valentine, in a report to the Council for June, states the Lake Burien line of the Seattle Municipal Street Railway showed a surplus of \$614 above expenses. Division "A," however, lost \$265 for the month, without including the item of bonded interest. With the item of bonded interest included, the loss was \$1,859. Mr. Valentine estimates that the revenues of the two lines for next year will be \$40,000 and the cost of operation \$63,786, the result being a loss of \$23,786. The estimate for 1917 filed with the City Comptroller calls for an allowance of \$99,149 for the public utility department, including street railways and weights and measures divisions, as compared to an allowance of \$88,736 for 1916. Last year Mr. Valentine estimated the loss on municipal railway operation at \$36,000, but the Council made no provision for a levy for this item, allowing it to be included in the levy for general fund purposes. Mr. Valentine has asked for an increase in salaries for next year from \$33,791 to \$37,770. General expenses are estimated at \$6,891 for 1917, as compared to \$5,060 for 1916. Interest on the bonded debt is the same for both years, \$19,125. The salary estimate for other than railway employees in the department is \$30,520, as compared to the 1916 allowance of \$28,660. For office supplies and equipment the 1917 estimate is \$2,498, while the 1916 allowance was \$2,100. There will be an additional item of \$238 for State industrial insurance, which was not required in the 1916 budget.

Sheboygan Railway & Electric Company, Sheboygan, Wis.—The Milwaukee & Fox River Valley Railway, a 7-mile line which has been operated under lease by the Sheboygan Railway & Electric Company, has been purchased by the Peter Reiss interests of Sheboygan, Wis., which control the Sheboygan Railway & Electric Company.

United Light & Railways Company, Grand Rapids, Mich.—Samuel Insull, president of the Commonwealth Edison Company, Chicago, Ill., and other large utility corporations, has resigned from the board and from the executive committee of the United Light & Railways Company. At the same time Edward P. Russell, who is identified with the Insull enterprises, also resigned from the board and the executive committee. This company has 265.15 miles of single track among its railway subsidiaries.

DIVIDENDS DECLARED

Bangor Railway & Electric Company, Bangor, Me., quarterly, one-half of 1 per cent, common.  
Columbus Railway, Power & Light Company, Columbus, Ohio, quarterly, 1½ per cent preferred, series D; 1½ per cent common.  
Jacksonville (Fla.) Traction Company, quarter, 75 cents, preferred.  
Milwaukee Electric Railway & Light Company, Milwaukee, Wis., quarterly, 1½ per cent, preferred.  
Montreal (Que.) Tramways, quarterly, 2 per cent.  
New Hampshire Electric Railways, Haverhill, Mass., 2 per cent.  
Warren & Jamestown Street Railway, Jamestown, N. Y., 3 per cent.

ELECTRIC RAILWAY MONTHLY EARNINGS

BANGOR RAILWAY & ELECTRIC COMPANY, BANGOR, ME.						
Period		Operating Revenues	Operating Expenses	Operating Income	Fixed Charges	Net Income
1m.,	May, '16	\$63,989	*\$38,441	\$25,548	\$17,608	\$7,940
1 "	" '15	60,920	*32,008	28,912	17,500	11,412
12 "	" '16	797,490	*426,605	370,885	212,983	157,000
12 "	" '15	791,131	*382,303	408,828	209,928	198,900
CHATTANOOGA RAILWAY & LIGHT COMPANY, CHATTANOOGA, TENN.						
1m.,	May, '16	\$103,765	*\$65,055	\$38,710	\$30,065	\$8,645
1 "	" '15	90,909	*59,018	31,891	30,079	1,812
12 "	" '16	1,167,518	*745,509	422,009	357,721	64,288
12 "	" '15	1,045,731	*704,923	340,806	347,431	†6,225
COLUMBUS (GA.) ELECTRIC COMPANY						
1m.,	May, '16	\$66,694	*\$28,710	\$37,984	\$28,647	\$9,337
1 "	" '15	56,471	*27,395	29,076	28,578	498
12 "	" '16	771,087	*331,591	439,496	344,173	95,323
12 "	" '15	694,332	*311,859	382,473	343,840	38,633
COMMONWEALTH POWER, RAILWAY & LIGHT COMPANY, GRAND RAPIDS, MICH.						
1m.,	May, '16	\$1,328,071	*\$707,149	\$620,922	\$420,861	\$200,061
1 "	" '15	1,108,008	*585,862	522,146	359,853	162,293
12 "	" '16	15,630,910	*8,322,835	7,308,705	4,787,941	2,520,134
12 "	" '15	14,017,929	*7,520,595	6,497,334	4,294,048	2,203,286
DALLAS (TEX.) ELECTRIC COMPANY						
1m.,	May, '16	\$151,437	*\$100,925	\$50,512	\$36,695	†\$15,817
1 "	" '15	134,611	*86,273	48,338	33,394	14,944
12 "	" '16	1,887,791	*1,166,867	720,924	420,957	†312,167
12 "	" '15	2,012,646	*1,163,448	849,198	402,896	446,302
EAST ST. LOUIS & SUBURBAN COMPANY, EAST ST. LOUIS, ILL.						
1m.,	May, '16	\$239,328	*\$151,749	\$87,579	\$62,259	\$25,320
1 "	" '15	194,301	*117,593	76,708	63,889	12,819
12 "	" '16	2,651,975	*1,588,088	1,063,887	753,794	310,093
12 "	" '15	2,498,810	*1,483,543	1,015,267	747,005	268,262
GALVESTON-HOUSTON ELECTRIC COMPANY, GALVESTON, TEX.						
1m.,	May, '16	\$154,839	*\$94,952	\$59,886	\$36,607	\$23,279
1 "	" '15	169,249	*101,054	68,194	36,059	32,135
12 "	" '16	1,910,481	*1,218,539	691,942	435,936	256,006
12 "	" '15	2,242,177	*1,245,329	996,848	435,353	461,495
GRAND RAPIDS (MICH.) RAILWAY						
1m.,	May, '16	\$111,126	*\$72,184	\$38,942	\$14,165	\$24,777
1 "	" '15	92,056	*70,070	21,986	13,739	8,247
12 "	" '16	1,239,177	*\$31,849	407,328	167,592	239,736
12 "	" '15	1,243,271	*\$34,955	408,316	162,557	245,759
JACKSONVILLE (FLA.) TRACTION COMPANY						
1m.,	May, '16	\$53,732	*\$34,850	\$18,882	\$15,442	\$3,440
1 "	" '15	53,336	*36,881	16,455	16,359	96
12 "	" '16	615,616	*422,232	193,384	178,444	14,938
12 "	" '15	654,297	*452,217	202,080	163,942	38,138
LEWISTON, AUGUSTA & WATERVILLE STREET RAILWAY, LEWISTON, ME.						
1m.,	May, '16	\$65,703	*\$41,084	\$24,619	\$16,119	\$8,500
1 "	" '15	61,014	*37,677	23,337	15,611	7,726
12 "	" '16	759,165	*499,696	259,469	192,171	67,298
12 "	" '15	698,453	*459,753	238,700	187,112	51,588
NASHVILLE RAILWAY & LIGHT COMPANY, NASHVILLE, TENN.						
1m.,	May, '16	\$194,938	*\$121,292	\$73,646	\$42,570	\$31,076
1 "	" '15	175,513	*107,102	68,411	42,248	26,163
12 "	" '16	2,226,927	*1,373,113	853,814	514,826	338,988
12 "	" '15	2,199,969	*1,289,261	910,708	492,029	418,679
NORTHERN TEXAS ELECTRIC COMPANY, FT. WORTH, TEX.						
1m.,	May, '16	\$150,755	*\$96,489	\$54,266	\$28,692	\$25,574
1 "	" '15	134,789	*86,142	48,647	27,253	21,394
12 "	" '16	1,816,978	*1,109,697	707,281	338,578	368,703
12 "	" '15	1,866,673	*1,065,485	801,188	322,880	478,308
PUGET SOUND TRACTION, LIGHT & POWER COMPANY, SEATTLE, WASH.						
1m.,	May, '16	\$644,795	*\$415,239	\$229,556	\$184,455	\$45,101
1 "	" '15	618,363	*382,464	235,899	181,305	54,594
12 "	" '16	7,670,305	*4,911,848	2,758,457	2,196,065	562,392
12 "	" '15	7,983,915	*4,856,970	3,126,945	2,147,088	979,857
SAVANNAH (GA.) ELECTRIC COMPANY						
1m.,	May, '16	\$64,343	*\$44,401	\$19,942	\$23,688	†\$3,746
1 "	" '15	64,412	*41,188	23,224	23,119	105
12 "	" '16	735,175	*526,525	208,650	279,246	†20,596
12 "	" '15	822,239	*533,831	288,508	277,020	11,488

\*Includes taxes. †Deficit. ‡Includes non-operating income.

## Traffic and Transportation

### SKIP-STOP OPERATION BEGUN IN DETROIT

#### Experiment on Woodward Avenue to Be Continued for Thirty Days—Stopping Places Indicated on Poles

Skip-stop operation was placed in effect by the Detroit (Mich.) United Railway on Sunday, July 16, on Woodward and Jefferson Avenues, two of its heaviest lines. The experiment is to be conducted for a period of thirty days under authority received by Police Commissioner Gillespie from the Detroit Common Council. Several months ago the company started skip-stop operation on Woodward Avenue, but the Council discontinued it after three days, upon the request of one Alderman and without investigation as to the merits of the system.

On Woodward Avenue, after leaving the central business district, cars are now stopping at practically every other block, and on the return trip the cars stop at the streets missed in going the other direction. In this manner riders are obliged to walk only one additional block under the new plan. On Jefferson Avenue, where there are many long blocks, trolley stations have been discontinued, thirty-four stops being eliminated on the eastbound trip and thirty stops cut on the westbound trip.

The company has figured a saving of eight minutes on the half-trip on Woodward Avenue, bringing the average speed of the line from something under 9 m. p. h. up to 11.6 m. p. h. A saving of three minutes on the half-trip has been accomplished on Jefferson Avenue, boosting the speed from approximately 10 m. p. h. to better than 11 m. p. h.

In order to inform the public as to the stopping places, trolley poles at the points where the cars stop bear a 6-ft. band of white paint and a sign, "Cars stop here." Reports from inspectors and conductors show that on the first day of operation a very small number of riders forgot about the change in stops.

Police Commissioner Gillespie has been an active supporter of the company's proposal to experiment with the skip-stop, and it was through his efforts that the Council granted permission for the trial. He has announced the expectation of having some complaints from a few merchants who object to cars not stopping at their corners because they think they lose business, but his reply had been that if the majority of car riders are benefited the City Council should not pay any attention to the merchants. In a recent interview he pointed out that the merchant on the street corner had no more right to a car stop in front of his place than the merchant in the center of the block.

The company believes that most of the car riders will favor the continuance of the skip-stop. With the very rapid growth of the city the running time of cars on Woodward and Jefferson Avenues has lengthened out more than 25 per cent within the last few years. In its publicity campaign in favor of the skip-stop the company has pointed out not only the time-saving feature to the rider, but also the relief of congestion through the more rapid operation of the cars and the additional car mileage which they are enabled to run.

The police commissioner has announced the intention of the department to enforce on Woodward Avenue, the city's main traffic artery, an ordinance requiring automobiles to stop 6 ft. behind a standing street car. The ordinance was adopted several months ago, but enforcement was abandoned until the skip-stop plan for street cars could be put into effect. The commissioner desires, through the ordinance, to divert all but local automobile traffic to other streets on which there are no car lines.

In an announcement to the public the company said: "This test of the skip stop is purely experimental. Whether it will be made permanent or extended to other lines depends wholly upon the car riders—you."

### RECENT ATLANTA ADS

The Georgia Railway & Power Company, Atlanta, Ga., has recently run a number of striking advertisements in the daily press. One of the ads, "Our Good Name," follows:

"Now and then you read that somebody is suing us for damages on an allegation that through our negligence someone has been hurt.

"Later, if the courtesy has been granted to us by the newspaper, you read our denial.

"Perhaps you've wondered why we should be sensitive to such charges. Doubtless you've thought their whys and wherefores are trivial; that civil action on debts alleged to be due are matters for the courts and juries to decide, and that the general public isn't interested. In that you're right.

"We're sensitive because invariably when we've been to blame we make full amend without waiting to be sued. But if we believe we do not owe a bill, of course we contest any effort to make us pay it—contest it in court, where the suit has been filed.

"But there's another court you may have overlooked—the court of PUBLIC OPINION. We're very careful in our work; trained to vigilance against risk of danger; watchful always that, however careless others may be, no injury shall result through fault of ours. We're jealous of our record in this good purpose.

"When in the court of public opinion we're accused of having been careless, the big consideration involved there is our most cherished possession—our good name.

"To defend this—that's why, wherever it be assailed, we seek to answer."

Another ad, "Between the Two," follows:

"Inasmuch as the laws of economy have decreed in your interest that public utilities shall not be duplicated, some folks may think we've got everything our own way.

"The community supplies a demand and a license and a franchise. Quite so. But free? No indeed! We pay for every bit of it, in full measure. City and county and State authorities assess the charges and hand us the bill.

"That's one set of costs. Here's another:

"The cost of copper wire, steel rails, and about everything else we manufacture into your street car ride or your kilowatt-hour of electricity, has piled up one increase on another in recent months. Mortal man could not restrain 'em.

"Yet the price of your street car ride still is that same little nickel; your kilowatt-hour is billed at the same reduced figure of yesteryear.

"On the one hand, the State directs our services in detail and tells us the maximum we may charge for them.

"On the other, our cost of doing business keeps nobody awake o' nights but us; and when it comes to raw materials, we're a consumer in a market where the sky's the limit.

"Everything our own way?

"Far from it! We've got to hustle for a living!"

**New York Turn-Back Order to Stand.**—The car-ahead order issued several weeks ago by the Public Service Commission for the First District of New York requiring surface railways to make daily reports on the turning back of cars before they reach their destination, has gone into effect. After a hearing on July 11, which was attended by representatives of the street railways, the commission decided not to revoke the order. The companies are required to make daily reports to the commission showing the number of cars turned back on the previous day and the reasons.

**Trail Cars Ordered for East Boston Tunnel.**—An order has been issued by the Public Service Commission of Massachusetts requiring the Boston Elevated Railway to install trail cars in the East Boston tunnel, to reroute the cars on two tunnel lines and to construct a new double-track line from Day Square, East Boston, to Orient Heights. It is requested that the work be done as soon as possible. Furthermore, the company is ordered to submit to the commission for its approval plans for the construction of multiple-unit center-entrance steel cars of the same general design as the trail cars now in use.

**"Isles of Safety" Condemned.**—Commissioner of Public Works of Manhattan Ralph Folks in a letter in the current issue of *Greater New York*, the bulletin of the Merchants' Association, says it is the unanimous opinion of the police department, the Safety First Society, and others that "isles of safety" increase traffic dangers to pedestrians, because they induce those afoot to attempt to cross streets while traffic is moving. He adds that the "isles" prevent the maintaining of an adequate number of traffic lines in one direction during the period when movement in that direction is greater than that in the opposite. He says that a traffic policeman is the best "isle of safety."

**Detroit Has a Record Day.**—Saturday, July 1, was the biggest day on record for the Detroit United Lines when, excluding the Sandwich, Windsor & Amherstburg Railway, 1,491,635 passengers of all kinds, revenue, transfer and employees, were carried. The figures include passengers on all city and interurban lines operated by the company with the exception mentioned. On July 4 approximately 207,000 passengers were transported on the company's interurban lines. This required the operation of 956 trains with a total of 1480 cars. The dispatchers gave 1360 written orders and 212 verbal orders. The only interurban accident for the day occurred when a car on the Wyandotte division overran a derail.

**Excess Service in Seattle.**—According to checks made and reported to A. L. Valentine, Superintendent of Public Utilities of Seattle, Wash., during the morning rush hour on July 12, the Capital Hill and Broadway cars of the Puget Sound Traction, Light & Power Company carried 727 passengers, as compared with 804 passengers carried by jitneys on these two runs. It is stated that on the Broadway line there were twice as many seats as passengers during the rush-hour period. On June 26 a new schedule involving material reductions in service was put into effect by the company on the Capitol Hill line. Officials of the company state that from the recent check made, it is clearly evident there is still an excess of service on both the lines mentioned.

**Women's Page in Company Publication.**—The United Railways, St. Louis, Mo., instituted in the *United Railways Bulletin* for July a page for women and children, which will be devoted each month to matters of special interest to them. Items of feminine interest, recipes, labor-saving devices, health and household hints will be among its features. On that page also there is a notice of the inauguration of the sewing department, which has been started for the purpose of giving the women the same advantages in their sewing that they would find in the best equipped tailoring college, and entirely without cost to them. The company hopes to make the woman's page in the *Bulletin* the clearing house for information regarding these activities.

**New Plan to Facilitate Loading in Detroit.**—To facilitate loading of street cars at certain congested points on Woodward Avenue, Detroit, the police department has painted arrows on the pavement in the safety zones at locations directly opposite the entrance doors of motor and trailer cars when brought to a stop at certain intersections. The purpose of the arrows is to direct passengers to the proper place in the zones where they may quickly board cars when the latter stop, thereby saving time to the public and in the operation of cars. Heretofore, with no definite indication of the proper place to stand, intending passengers have occupied all parts of the safety zone and when the cars stopped many were compelled to run up and down in the zone to reach the boarding place.

**Safety Campaign in Kansas City Schools.**—The Kansas City (Mo.) Railways has received permission from the school board of Kansas City to distribute blotters and calendars in the public schools this fall and winter and to conduct prize essay contests on safety first. The publicity department of the company, under E. B. Atehley, will handle the matter. Small safety first blotters, the series published by the Knapp Company, will be distributed in each of the sixty-five schools, and each room will receive a calendar on which will be shown safety first pictures indicating infractions of safety rules with reference to

street cars. It is likely that essay contests will be arranged in six or eight schools each month during the school year. Money or other gifts will be offered as prizes, as the school board designates.

**To Improve San Francisco Suburban Traffic.**—A meeting of the Mayors of several San Mateo County cities with Mayor Rolph of San Francisco, Cal., was held recently to discuss the proposed consolidation of the two counties. One of the important features involved is the transportation problem, and a report on this subject by the various city engineers has been called for in the near future, with a view to determining means of cutting down the time between San Francisco and the San Mateo County cities. This could be done by means of tunnels through the hills and a surface road in San Mateo County without grade crossings. The combined length of the present Southern Pacific tunnels on the Bay Shore cut-off is 9950 ft. and on the basis of the cost of Twin Peaks tunnel, similar tunnels are estimated to cost about \$2,900,000.

**Newspaper Men Entertained by Traffic Officials.**—Much desirable newspaper publicity was obtained in cities throughout western New York by the Niagara Gorge Railroad, operating the Great Gorge route and the line to Fort Niagara Beach, by inviting representatives of the daily newspapers to make the trip to the resort on the day before the official opening. About twenty-five were in the party. The private car Ondiara was used and the members went as guests of John Edbauer, general passenger agent, assisted by George H. Stagg, traffic passenger agent, and Edward H. Buddenhagen, manager of the beach company. At the beach an athletic program had been arranged for the newspapermen and later there was a banquet at the beach hotel. On the way back to Buffalo the party passed through the Niagara Gorge at night and viewed the American and Canadian Falls under navy searchlights of 8000 cp.

**Railway Protests Against Wilkes-Barre Jitneys.**—During the hearing at the State capitol on July 7 of the Wilkes-Barre jitney complaints filed before the Public Service Commission by the Wilkes-Barre (Pa.) Railway against 250 jitney operators, counsel for the drivers declared that the jitneys did not come under the regulation of the Public Service Commission, but were subject only to municipal control. The railway complained because the jitney men are operating without a certificate of convenience from the State. Counsel for the jitney men held that there was a public demand for jitneys in Wilkes-Barre, especially in the summer. F. W. Wheaton, Evan C. Jones and Paul Bedford represented the company. The jitney interests were represented by Roger Dever and S. S. Herring. Mr. Wheaton, arguing for State regulation, declared that at times small cars carried as many as seventeen passengers.

**Cars Ordered to Be Fumigated.**—In an opinion handed down on June 30 by Commissioner Michael J. Ryan of the Pennsylvania Public Service Commission, the Valley Railways Company, operating in Cumberland and Perry Counties, is ordered to fumigate its cars "at frequent intervals" and to see that they are cleaned every night after arrival at the earhouse. The commission also ordered that the company's schedule between Harrisburg and Marysville be so changed that a car will run every half hour between the hours of 4 p. m. and 6.30 p. m., instead of every hour. The complaint against the company was made by John F. Shannon. In his opinion regarding the Harrisburg-Marysville schedules, Commissioner Ryan says: "While trolley companies cannot be expected to furnish a seat to every passenger, chronic overcrowding during rush hours on lines connecting cities and suburbs present conditions that can and must be remedied."

**Seattle Corporation Defines City's Right on Jitneys.**—Hugh M. Caldwell, corporation counsel of Seattle, Wash., in an opinion written for the Council at the request of Councilman Thomson, chairman of the city utilities committee in regard to the powers of the Council to regulate jitneys, states that the Council has the authority to designate by ordinance routes for jitneys and to restrain the drivers from collecting fares or receiving and discharging passengers on streets where street railways are operated. He further states that the jitneys may be prohibited entirely from the use of streets where there are car lines. He

said: "The Council should bear in mind the fact that while the right to make the regulations concerning which you make inquiry is primarily with the City Council, its action may be reviewed by the courts to determine whether such legislation is for the public good, and whether it is reasonable, unjust or oppressive."

**Vancouver Publication Christened.**—The four-page paper of the British Columbia Electric Railway, Vancouver, B. C., has been christened *The Buzzer*. No. 7, the issue for July 14, is the first to be properly authenticated. In announcing the selection made the editor says: "The name which forms the headpiece of this number has been chosen by W. G. Murrin, general superintendent, as the most suitable from among 5041 names submitted. As you, our patrons, cooperate with us by using the buzzer to communicate with the motorman, we hope to communicate to you each week through the medium of *The Buzzer* and to extend our service to you thereby. Eleven persons submitted this name for our bulletin and as we left the competition open until June 30 the fairest way of awarding the prizes seemed to us to be dividing the money and, by increasing it, to hand each of the eleven \$2. Nine persons sent in the name selected as the second best and they will receive \$1.50 each."

**Buffalo Paraders Handled Expeditiously.**—All lines operating through Main Street and the downtown business district of Buffalo, N. Y., were rerouted by the International Railway so as not to interfere with the military preparedness parade in which more than 56,000 men and women marched. During the progress of the parade, however, cars were routed through side streets in order to handle the crowd of almost 250,000 persons who witnessed the spectacle, the greatest patriotic demonstration the city has ever seen. N. H. Brown, general superintendent of transportation; Thomas Connette, superintendent of the Buffalo city lines, and the assistant superintendents personally directed the movement of traffic. Cars were held on side streets during the progress of the parade, and one-minute schedules were maintained on almost all lines radiating from the downtown district within a few minutes after the last marcher had walked past the reviewing stand. The manner in which crowds were handled brought favorable comment from officials in charge of the demonstration. Public utility companies, including the International Railway, Buffalo General Electric Company, Iroquois Natural Gas Company, and the Buffalo & Lake Erie Traction Company, were represented in the parade by almost 500 marchers. The representatives of these companies were headed by Charles R. Huntly, president of the Buffalo General Electric Company. Each participant carried a small American flag. A number of prominent steam engineers and trainmen marched in the transportation division.

**Complaint Against Corning Company Closed.**—Upon assurances that the four new cars required to bring the rolling stock of the Corning & Painted Post Street Railway, Corning, N. Y., up to passable condition will be in operation by Sept. 1, the Public Service Commission for the Second District has closed the complaint of residents of Corning, the town of Corning and the village of Painted Post against the company. The complaint also asked for changes in the transfer system of the company, but the commission found that the transfer rules were just and reasonable, and the attorney for the complainants has been satisfied not to press this part of the complaint. In the course of the hearings on this case it developed that all of the rolling stock of the company, with the exception of the open cars for summer use, was in an unsatisfactory condition. The rails were relaid recently and were in fair condition. The company signified its intention of improving the cars and in correspondence with the commission it has stated that it has rented some equipment from the Elmira Water, Light & Railroad Company until new cars can be secured. Four of these new cars have been ordered and are now in process of being assembled. The company has been required to add these cars to its equipment on the recommendation of Charles R. Barnes, the electric railway inspector of the commission, who reported to the commission recently that satisfactory progress was being made in securing the cars and that in his opinion they will be ready for service on Sept. 1, or before the severe weather makes them necessary.

## Personal Mention

Richard Jones, Louisville, Ky., has been appointed district superintendent of the Ohio Service Company, Cambridge, Ohio, operating the railway, electric light and power systems there. Mr. Jones formerly was connected with the Louisville Railway.

C. Nesbitt Duffy, vice-president of the Manila Electric Railway & Light Company, Manila, P. I., presided at a large dinner given in Manila on June 1 under the auspices of the Merchants' Association in honor of David I. Wash, ex-governor of Massachusetts.

W. J. McGraw, assistant auditor of the Chicago, South Bend & Northern Indiana Railway, South Bend, Ind., has resigned. A successor will not be appointed, but the work done by Mr. McGraw will be taken over by the auditing department under W. H. Dautel, the auditor of the company.

Edward Garrett, district superintendent of the Park & River division of the International Railway, Buffalo, N. Y., has resigned. Mr. Garrett has been with the International Railway for more than twenty years and has supervision of the Canadian lines and traffic over the upper steel arch and Lewiston bridges.

John T. Taylor, Belleville, Ill., has been named general superintendent of the Southern Traction Company, East St. Louis, Ill., and is now engaged in the rehabilitation of the roadbed of the company preparatory to its opening as a coal line. This road has remained idle since the failure of the Southern Traction Company of Illinois, and has been in charge of William E. Trautman as receiver.

S. S. Hawks, electrical superintendent in charge of the lighting of substations, electrical vehicles, etc., under Thomas F. Mullaney, chief engineer of the Third Avenue Railway, New York, N. Y., has been appointed superintendent of the Great Falls (Mont.) Street Railway. Mr. Hawks was formerly associated on electrical construction work with Mr. Mullaney before Mr. Mullaney went with the Third Avenue Railway.

Bernard Whalen, who for the last ten years has been assistant to Superintendent E. H. Henning of the Niagara Falls division of the International Railway, Buffalo, N. Y., has been promoted to district superintendent of the Park & River division to succeed Edward Garrett, resigned. Mr. Whalen will have supervision over 22 miles of the International Railway's lines, including the Canadian lines on the Park & River division from the upper steel arch bridge to Queenstown and traffic over the upper and Lewiston bridges.

### OBITUARY

Edwin V. Smith, president of Eccles & Smith, San Francisco, Cal., tool and railroad supply manufacturers, died recently at the Fairmont Hospital in that city. Mr. Smith was forty-eight years old and a native of Santa Clara.

Norman Wait Harris, founder of the Harris Trust & Savings Bank, Chicago, Ill., and a member of the banking firms which bear his name in New York and Boston, died on July 15 at his summer home on the shore of Lake Geneva, Wis. Mr. Harris was born in Becket, Mass., on Aug. 15, 1846. He came to Chicago in 1882 and organized the banking house of N. W. Harris & Company, with offices in New York and Boston. Mr. Harris through his firm was interested in a number of public utility properties, among them the Des Moines (Iowa) City Railway.

Richard F. Rankine, Niagara Falls, N. Y., for several years treasurer of the International Traction Company, now known as the International Railway, Buffalo, N. Y., is dead. He was fifty-four years old. Mr. Rankine was graduated from Hobart College in 1882 and from 1892-1894 he was secretary and treasurer of the Niagara State Reservation at Niagara Falls, N. Y. In 1899 he assumed the trusteeship of the International Traction Company. He resigned that position to become associated with W. Caryl Ely, Buffalo, formerly president of the International Traction Company.

## Construction News

Construction News Notes are classified under each heading alphabetically by States.

An asterisk (\*) indicates a project not previously reported.

### RECENT INCORPORATIONS

**St. Petersburg-Tampa Railway, St. Petersburg, Fla.**—Incorporated to construct an electric railway from Tampa to St. Petersburg, across Old Tampa Bay. Capital stock, \$50,000. Officers: George S. Gandy, Sr., president; H. Walter Fuller, manager of the St. Petersburg Investment Company, vice-president, and Alfred Gandy, secretary, all of St. Petersburg. [July 1, '16.]

**Atlanta & Anderson Electric Railway, Atlanta, Ga.**—For the purpose of preparing the legal way for the construction of the proposed electric railway from Atlanta to Anderson, S. C., a bill has been introduced in the Senate to amend the act for carrying into effect the section of the constitution of the State which provides for the incorporation of railroads, so as to include interurban railroads. It is understood that as soon as this amendment is made the Atlanta & Anderson Railway will make application for a charter. J. L. Murphy, Atlanta, is interested. [July 15, '16.]

\***Electric Standard Railways, Williamsport, Pa.**—Incorporated in Delaware to construct and operate railways. Capital stock, \$1,000,000. Incorporators: George L. Campbell, Harry R. Noll and Harry W. Lukens, all of Williamsport, Pa.

### FRANCHISES

\***Indian Spring, Fla.**—Harry C. Case, Clearwater, has received a franchise from the Council to construct an electric railway on the county road from the Jungle to Seminole Bridge, about 1½ miles. The cost of construction is estimated at \$15,000.

**Wichita, Kan.**—The Arkansas Valley Interurban Railway has received a franchise from the Council to construct a line over several streets in Wichita.

**Detroit, Mich.**—The Detroit United Railway has received a thirty-year franchise from the Council for a line on Hamilton Boulevard in Highland Park, a village immediately north of Detroit, from the Detroit city limits to the Six Mile Road.

**Roanoke, Va.**—The Roanoke Railway & Electric Company has asked the Council for a franchise to construct a line on Ninth Street from Jamison Avenue to Virginian right-of-way opposite the plant of the Fisco Company.

### TRACK AND ROADWAY

**Glendale & Montrose Railway, Glendale, Cal.**—The Great Western Improvement Company, San Francisco, which has recently acquired the Glendale & Montrose Railway, plans to reconstruct the line and place it in first-class operating condition. It is reported that the company may extend the line to Sunland, Littlelands and possibly to La Canada.

**Martinez & Concord Interurban Railway, Martinez, Cal.**—A contract will be let by this company within sixty days for grading on its proposed line from Martinez to Government Ranch, 6½ miles. About 15,000 cu. yd. of material per mile will be handled. The maximum curvature is about 4 deg. and the maximum grade about 2 per cent. About 900 lineal ft. of open deck pile trestle will be constructed. Clifford McClellan, San Francisco, is interested. [July 1, '16.]

**Municipal Railways of San Francisco, San Francisco, Cal.**—A contract has been awarded to the United States Steel Products Company, San Francisco, for furnishing and delivering track special work, contract No. 82.

**San Francisco-Oakland Terminal Railways, San Francisco, Cal.**—This company has filed an application with the Railroad Commission of California requesting authority to suspend operation for five years on its single-track line on San Pablo Avenue from the city of Richmond to Potrero

Avenue, Contra Costa County. The company states that its line is unremunerative and at the present time is only operating a car twice a day over the tracks. The Board of Supervisors of Contra Costa County recently granted the company permission to suspend operation.

**Connecticut Company, New Haven, Conn.**—A contract has been let by this company to Fred D. Ley Company, Springfield, for the double-tracking of Jubilee Street and Dwight Street, New Britain.

**St. Petersburg-Tampa Railway, St. Petersburg, Fla.**—Plans have been prepared and work will be begun this summer on this company's proposed line from St. Petersburg to Tampa. George S. Gandy, Sr., St. Petersburg, president. [July 1, '16.]

\***West Coast Electric Railway, Sarasota, Fla.**—It is reported that this company has been organized to construct a line south from Tampa to Bradentown, Venice, Sarasota and other points. A. Evans Townsend, Sarasota, is interested.

**Atlanta & Carolina Railway, Atlanta, Ga.**—Announcement has been made that the property of the Atlanta & Carolina Railway will be sold at receivers' sale in Atlanta on Aug. 1. The property includes franchises and right-of-way from Atlanta to Augusta, about 15 miles of which have been graded; also about 3 miles of track beginning on Confederate Avenue, near the entrance to White City, Atlanta, extending along Confederate Avenue beyond the Soldiers' Home into Moreland Avenue and to the DeKalb County line. The company proposed to construct a line from Atlanta to Augusta, thence into South Carolina. R. E. Church, 318 Peters Building, Atlanta, receiver. [Sept. 11, '15.]

**Freeport Railway & Light Company, Freeport, Ill.**—This company will soon begin laying 3500 ft. of new track along North Galena Avenue.

**La Salle County Electric Railroad, Ottawa, Ill.**—Plans are being made to revive the project to construct a line from Ottawa to Mendota. At a recent meeting held in Ottawa a committee was appointed to interview farmers along the proposed line to secure co-operation in the construction of the road. It is stated that it would cost about \$825,000 to pay the indebtedness already contracted by the road and to complete the construction of the line. No changes would be made in the old organization except that the road would be extended as far as Earlville. The old plans call for a line from Ottawa to Mendota. W. C. Vittum, Ottawa, is interested. [July 31, '15.]

\***Chicago, Springfield & Cairo Railway, Springfield, Ill.**—Plans are being considered by this company for the construction of an electric railway from Springfield to Hillsboro.

**Madison Light & Railway Company, Madison, Ind.**—A rearrangement of the lines of the Madison Light & Railway Company has been proposed by the City Council and the Board of Public Works has been instructed to confer with the company on the subject. It is proposed to remove the Main Street tracks to Second Street, and to abandon the Walnut Street portion of the line.

**Arkansas Valley Interurban Railway, Wichita, Kan.**—This company will ballast 60 miles of track this summer, and on Sept. 1 will place four new fast cars in service between Wichita and Hutchinson which will make the trip in one hour and fifty minutes, instead of two hours and twenty minutes now required.

**Lewiston, Augusta & Waterville Street Railway, Lewiston, Me.**—Surveys have been made by this company for a new bridge across the New Meadows River between West Bath and Brunswick. The bridge will take the place of the present one built sixteen years ago.

**Springfield (Mass.) Street Railway.**—This company will construct new tracks on Center Street, from the top of Rockrimmon Hill to Exchange Street.

**Worcester (Mass.) Consolidated Street Railway.**—This company is reconstructing its track on Merriam Avenue.

**Detroit (Mich.) United Railway.**—Surveys are being made by this company for the construction of a 2-mile extension from the center to the southeastern part of the city, to be completed within a year.

**United Light & Railways Company, Grand Rapids, Mich.**—It is reported that this company will spend about \$250,000 improving its property in Mason City, Iowa, including the laying of new steel ties and heavy rails.

**Great Falls, Mont.**—The construction of an electric railway north of Great Falls, Mont., for a distance of about 60 miles, is proposed in order to serve a rich farming section that at present has no railway. The Great Falls Commercial Club has taken the matter up and on July 26 and 27 will make an automobile trip through the country into which the line is to be built. The situation is a peculiar one in that while this section has no road it is bounded on all sides by steam roads and farmers are hauling their grain from 35 to 45 miles to railroad tracks. The plan of the Great Falls Commercial Club is to interest local capital in building the road, if when the trip is taken, it is found that the tonnage would be sufficient to support an electric line.

**Public Service Railway, Newark, N. J.**—This company recently made an inspection of the line of the Burlington County Transit Company for the purpose of determining the condition of the roadbed as a part of the negotiations now in progress between the two corporations for a traffic agreement that will provide for the operation of Public Service Railway cars from Camden to Mount Holly.

**\*Penn's Grove, N. J.**—Plans are being made by the Penn's Grove Improvement Company, Penn's Grove, to construct a line from Penn's Grove to Woodstown and thence to Newfield, about 40 miles.

**Trenton & Mercer County Traction Corporation, Trenton, N. J.**—This company is reconstructing its tracks and paving West State Street between Prospect and Overbrook Avenues.

**International Railway, Buffalo, N. Y.**—Negotiations have been closed by this company for the purchase of a 30-ft. strip of land extending from the Tonawanda Creek in the town of Tonawanda, north to Wheatfield Street. The purchase of this property became necessary in order to permit the company to make its four-track fill through North Tonawanda for the new fast line from Buffalo to Niagara Falls. The price paid for the land was about \$25,000.

**Interborough Rapid Transit Company, New York, N. Y.**—The Public Service Commission for the First District of New York has awarded a contract for the supply of special work, including frogs, crossovers, switches, etc., for use on the new Seventh Avenue subway in Manhattan to the Pennsylvania Steel Company, New York City, at \$65,316. The commission has also received bids for the construction of station finish for the Grand Central station of the Queensboro subway, including the lengthening of the island platform of the present station of that subway in Forty-second Street between Lexington and Third Avenues, which is to be extended westerly for about 500 ft. and from that point will connect by underground passageway and elevators with the present Grand Central station of the first subway. The lowest bidder on this work was the Thomas J. Waters Company, New York City, at \$22,649.

**Akron Belt Line Railroad, Akron, Ohio.**—It is reported that the Akron Belt Line Railroad, recently incorporated, plans to construct a line on a strip of canal land 7000 ft. long and 25 ft. wide extending from Market Street to Bartges Street, leased by the company from the State, and on private right-of-way to connect with the Northern Ohio Railway at North Street. The project involves the purchase of the Northern Ohio Railway and the probable merger of the two. It is stated that the Northern Ohio Railway is to be partially electrified, probably as far as New London, about 58 miles. Later the entire road may be electrified. Glenn Brown, Akron, is interested. [July 8, '16.]

**Mahoning & Shenango Railway & Light Company, Youngstown, Ohio.**—This company is extending its Elm Street line to connect with the Leavittsburg branch on Market Street at an estimated cost of \$50,000.

**Pittsburg County Railway, McAlester, Okla.**—The Pittsburg County Railroad, the incorporation of which was recently noted in the *ELECTRIC RAILWAY JOURNAL*, has acquired the property of the old Choctaw Railway & Light Company, including a line from McAlester to Hartshorne, and will operate and possibly extend them. [July 8, '16.]

**Oklahoma (Okla.) Railway.**—Operation has been begun on this company's extension from Edmond to Guthrie, 16 miles.

**\*Ardenwald, Ore.**—Rights-of-way are being secured for a line from Ardenwald, near Sellwood, into the Pleasant Valley district, about 9 miles. J. D. Lee, Portland, is interested.

**Southern Oregon Traction Company, Medford, Ore.**—As a result of an election held recently at Medford, S. S. Bullis, president of the Southern Oregon Traction Company, has been awarded a contract for the construction of the proposed 30-mile municipal railroad, for which bonds in the sum of \$300,000 were voted some time ago.

**\*Roseburg & Eastern Railroad, Roseburg, Ore.**—The City Council has adopted plans and specifications prepared by the city engineer for the construction of the proposed Roseburg & Eastern Railroad, to be built by the municipality, and it is reported bids for construction will be asked at an early date. The proposed line will be about thirty miles in length, and will touch one of the richest timber belts in Oregon, and is estimated to cost, including equipment, about \$400,000. The Council plans to have actual construction begin not later than Aug. 15.

**Huntingdon, Lewistown & Juniata Valley Traction Company, Huntingdon, Pa.**—Plans are being considered by this company for the construction of an extension to Cold Springs.

**Johnstown-Somerset Traction Company, Johnstown, Pa.**—Officials of the Johnstown-Somerset Traction Company are rushing along the work of building the line between Johnstown and Holsopple, so that the cars can be put into service before fall. It was originally intended that the line be operated by July 4. However, delays in the arrival of the materials and other obstacles prevented the early completion of the line. [May 6, '16.]

**Valley Railways, Lemoyne, Pa.**—This company is constructing double track between Wormleysburg and West Fairview bridge, near Harrisburg, Pa., about 1 mile.

**\*Quakertown & Delaware River Railroad, Quakertown, Pa.**—This company, operating from Quakertown to Riegelsville, 15 miles, was sold at auction to John M. Buckland of Allentown. It is understood that the railroad will be equipped for electrical operation.

**Texas Electric Railway, Dallas, Tex.**—The Board of City Commissioners has ordered this company to reconstruct its tracks on Hudson Street from Greenville to Hubert Streets, on Lindell Street from Greenville to Beacon Streets and on Brooklyn Street from Beckley to Adams Street.

**Ogden, Logan & Idaho Railway, Ogden, Utah.**—Plans are being considered by this company for the construction of an extension to its Washington Avenue line up Twenty-ninth Street to Jefferson Avenue. It is stated that the company plans to abandon its line between Five Points and Harrisville.

**Bingham & Garfield Railway, Salt Lake City, Utah.**—It is reported that plans are being considered for the electrification of the Bingham & Garfield Railway. D. C. Jackling, Salt Lake City, general manager.

**Princeton (W. Va.) Power Company.**—It is reported that this company's line between Bluefield and Princeton is about completed and plans are being made to establish an amusement park midway between the two cities.

## SHOPS AND BUILDINGS

**Illinois Traction System, Peoria, Ill.**—This company is remodeling its station at Urbana, Ill., a new front being placed in the building and a more commodious entrance being provided.

**Tri-City Railway, Rock Island, Ill.**—It is reported that this company will receive bids soon for the construction of a brick and reinforced concrete shop building, to be built at Rock Island. The building will be 160 ft. x 300 ft., part one story and part two stories high. The cost is estimated at about \$80,000.

**Arkansas Valley Interurban Railway, Wichita, Kan.**—This company will reconstruct its Wichita terminal this summer.

Kansas City, Mo.—Karl D. Klemm, president of the Kansas City, Kaw Valley & Western Railway has attained title to property at Fourth and Wyandotte Streets, from the Depot Carriage & Baggage Company, which is to be used for an interurban freight station for all the Kansas City interurban railways. The site cost \$33,000.

Sand Springs Railway, Tulsa, Okla.—It is reported that this company will erect a four-story building, the lower floor to contain a waiting room and the upper floors to contain offices.

Altoona & Logan Valley Electric Railway, Altoona, Pa.—Messrs. Ebert & Hastings have received a permit for the construction of a building at 1202 Eleventh Street, Altoona, to be used by the Altoona & Logan Valley Electric Railway. The structure will be three stories, of brick construction. The first floor will contain a waiting room and the general and transportation office departments will be located on the upper floors. It is estimated that the cost will be about \$18,000.

Pittsburgh (Pa.) Railways.—A contract has been let by this company to D. T. Riffe, Pittsburgh, for the construction of a new carhouse at Ingram.

Dallas, Tex.—The Dallas Interurban Terminal Association has announced that it will build a two-story model brick building to be used as a clubhouse for employees of the various interurban lines entering Dallas, all of which will enter the terminal station. The building will be erected on the southwest corner of the interurban yards and will cost \$5,000. The building will be equipped as a model club with shower baths, lockers, reading rooms and amusement rooms.

Monongahela Valley Traction Company, Fairmont, W. Va.—A contract has been awarded by this company to Holbert & Speden, Fairmont, for the construction of a new terminal building and station for the railway at Weston, to be completed by Dec. 16.

#### POWER HOUSES AND SUBSTATIONS

United Railways & Electric Company, Baltimore, Md.—A contract has been awarded by this company to the West Construction Company, Baltimore, for the construction of a transformer station on Belvedere Avenue. The building will be of reinforced-concrete construction and similar to the Harford Road station of the company. The cost is estimated at \$40,000.

Ironwood & Bessemer Railway & Light Company, Ironwood, Mich.—This company is installing a 6250-kva. steam turbine at its Bay Front station in Ashland and is also installing a 3000-kw. generating unit at the Superior Falls plant on the Montreal River.

United Railways, St. Louis, Mo.—Work is being rushed on this company's new substation at Kirkwood, which was begun in May. The building will be absolutely fireproof, and the electrical equipment of the substation will consist of one 600-kw. rotary converter, with air blast transformers and other accompanying equipment to be taken from the Brentwood substation. The ultimate capacity of the station is two 1000-kw. converters, the building being designed for the installation of either 600-kw. units. The switchboard will accommodate one alternating-current line, two rotary converters, portable converter and three direct-current feeder sections, or more, as made necessary. The substation will be fed from the Brentwood substation by means of the recently completed 13,200-volt line. The equipment will be secured from the General Electric Company, Schenectady.

Muskogee (Okla.) Traction Company.—It is reported that this company is contemplating the construction of a power plant to operate its system. The proposed plant will develop from 500 to 700 hp. and cost about \$100,000. The company now purchases energy from the Muskogee Gas & Electric Company. The railway operates 31 miles of road between Bacone, Muskogee and Fort Gibson.

Houston, Richmond & Western Traction Company, Houston, Tex.—It is reported that a contract for the construction of a powerhouse will soon be let by this company, which proposes to construct a line between Houston and San Antonio.

## Manufactures and Supplies

### SMALL AMOUNT OF SECOND-HAND EQUIPMENT AVAILABLE

Conditions in the Second-Hand Business Have Been Excellent Since the First of the Year

In an endeavor to find out how dealers in second-hand railway equipment have been affected by the war, several of the dealers located in New York City were interviewed. We find that, in the majority of cases, business was fairly quiet from the beginning of the war in August, 1914, until the end of 1915. This was due to the fact that during this period manufacturers were able to handle all the business there was to be had.

Beginning with the first of January, this year, business increased tremendously and the dealers have been unable to secure enough equipment to supply the demand. Prices have been on a 20 per cent higher scale than in normal times. Due to the demand for apparatus created by the inability of manufacturers to supply necessary new equipment in a reasonable length of time, a considerable quantity of second-hand material has been sold at a price equal to that of new equipment.

One of the leading dealers reports that during this period of activity more than 95 per cent of his sales were made on a cash basis, while previously at least half of his business was done on a time basis.

Although business has slackened considerably during the last thirty days, it is still more active than in normal times. This is looked upon as the usual summer dullness, and renewed activity in this line is looked for early in the fall.

### ROLLING STOCK

Great Falls (Mont.) Street Railway, is reported to have ordered seven all-steel cars for delivery about Sept. 15.

Fort Scott Gas & Electric Company, Fort Scott, Kan., lost two cars in a fire at the Fort Scott carhouse on July 1.

Boston (Mass.) Elevated Railway has ordered from the Laconia Car Company the fifty articulated center-sections referred to in the ELECTRIC RAILWAY JOURNAL of July 15.

Detroit United Railway, Detroit, Mich., has purchased twelve 20-yd. all-steel differential dump cars from the Differential Car Company, Nashville, Tenn., for its track department construction forces.

Freeport Railway & Light Company, Freeport, Ill., has received a new car from the McGuire-Cummings Manufacturing Company. This company is reported to have several other new cars on order for delivery in December.

Interborough Rapid Transit Company, New York, N. Y., has awarded a contract to the Pullman Company for 311 steel passenger car bodies. Of these bodies, 234 will be used as motor cars and seventy-seven as trailers on the new subway lines. The cars, with motors complete, will cost \$14,000 and the trailers \$10,000 each.

### TRADE NOTES

Protective Signal Manufacturing Company, Denver, Col., has received a contract from the Denver & Rio Grande Railroad to instal eleven complete signal systems at crossings between Denver and Pueblo.

Columbia Machine Works & Malleable Iron Company, Brooklyn, N. Y., has appointed Holden & White, Chicago, Ill., as sales representatives for its products in the states of Illinois, Iowa, Indiana, Wisconsin and Michigan.

Curtain Supply Company, Chicago, Ill., has received an order to equip with curtains, ring fixtures and Rex rollers the ten cars recently ordered from the Laconia Car Company by the United Traction Company, Albany, N. Y.

Westinghouse Air Brake Company & Westinghouse Traction Brake Company, Pittsburgh, Pa., announce the removal of their St. Louis offices from the Security Building to Suite 1407-1415 Boatmen's Bank Building, St. Louis, Mo. C. P. Cass is southwestern manager.

**Union Switch & Signal Company, Swissvale, Pa.**, announces the appointment of Aaron Dean, as special representative with headquarters in New York. Mr. Dean was formerly resident manager of the New York office. W. T. Allen has been appointed resident manager.

**Holden & White, Chicago, Ill.**, through their Eastern agents, the U. S. Metal & Manufacturing Company, have received an order to equip with Garland ventilators the seventy storage-battery cars recently ordered from the Southern Car Company by the New York (N. Y.) Railways.

**McQuay-Norris Manufacturing Company, St. Louis, Mo.**, has just completed an addition to its factory which increases it by one-third. This plant is a white tile and terra cotta front building of the most modern construction and is devoted exclusively to the manufacture of "Leak-Proof" piston rings and "Lynite" pistons for Fords.

**Smith-Ward Brake Company, New York, N. Y.**, reports the recent receipt of orders for brake adjusters from the following companies: Bay State Street Railway, Chicago & Milwaukee Electric Railroad, Conestoga Traction Company, Connecticut Company, Dayton & Troy Electric Railway, Holyoke Street Railway, Scioto Valley Traction Company and Washington, Baltimore & Annapolis Electric Railroad.

**J. G. White Engineering Corporation, New York, N. Y.**, has been awarded a contract by the Board of Electrical Commissioners of Norwalk, Conn., for the designing, engineering and construction work in connection with extensions and improvements to the present electric light and power station at South Norwalk, and the installation of an ornamental street lighting system in the Second Taxing District of the city of Norwalk.

**St. Louis Car Company, St. Louis, Mo.**, at its annual meeting and election of officers on July 12, re-elected John I. Beggs president and J. M. Taylor secretary and treasurer. Edwin B. Meissner, formerly assistant to the president, was elected vice-president. Mr. Meissner was chief clerk to Mr. Beggs when he was president of the Milwaukee Electric Railway & Light Company and came to the St. Louis Car Company with Mr. Beggs. The board of directors was re-elected with the exception of George J. Kobusch. F. E. Bartelme and Sears Leamann were elected to the board.

#### ADVERTISING LITERATURE

**Fletcher Manufacturing Company, Dayton, Ohio**, has issued supplement No. 2 to catalog No. 567.

**S. K. F. Ball Bearing Company, Hartford, Conn.**, has issued a catalog on S. K. F. ball bearings for cotton-seed oil machinery.

**Nordberg Manufacturing Company, Milwaukee, Wis.**, has issued bulletin No. 28 describing and illustrating its "Pop-pet" valve engines.

**Brown Portable Elevator Company, Chicago, Ill.**, is distributing a pamphlet showing the adaptability of its product to unloading boats and cars.

**Walter A. Zelnicker Supply Company, St. Louis, Mo.**, has issued Bulletin No. 200 which contains a list of the second-hand equipment the company has on hand.

**International Machine Tool Company, Indianapolis, Ind.**, has issued an illustrated booklet on the "Libby" heavy duty turret lathe in railroad shops.

**Bayway Chemical Company, Elizabeth, N. J.**, has issued a pamphlet on Zulite, a preservative and protective paint for iron, steel, woodwork and roofs.

**Woods Fare Box Company, Decatur, Ill.**, has issued a circular on its fare box entitled "Fare Paid Direct to the Company and Not to the Conductor."

**Roller-Smith Company, New York, N. Y.**, has issued bulletin No. 300, describing and illustrating its portable direct-reading slide wire ohmmeters.

**Protective Signal Manufacturing Company, Denver, Col.**, has issued bulletin No. 6 which describes and illustrates the National worm-drive wig-wag signal.

**Drew Electric & Manufacturing Company, Indianapolis, Ind.**, has issued a price-list sheet describing and illustrating the "triple-beam" trolley wire section insulator.

**Russell M. Seeds Company, Indianapolis, Ind.**, has issued a booklet entitled Three Thirty University Square, which describes and illustrates the new home recently acquired by this company.

**Carnegie Steel Company, Pittsburgh, Pa.**, has issued an illustrated catalog, third edition, on its gear blanks and miscellaneous circular sections. The wheels, gear blanks and other specialties mentioned therein are made of rolled steel on the Slick wheel mill of this company, and covers sizes in general use for structural and interurban railway equipment, machine shops, high-power lathes, etc.

**General Electric Company, Schenectady, N. Y.**, has issued bulletin No. 45603 on its graded shunt resistance multigap lightning arresters for alternating-current constant potential circuits. This pamphlet is illustrated with descriptive diagrams and halftones. The action of the arrester is described in detail and the various designs are pictured. The bulletin also describes and illustrates choke coils for use with these arresters.

#### NEW PUBLICATIONS

**Telephone Rates in Detroit.** By Edward P. Burch, Detroit, Mich. 207 pages. Cloth.

This is a report submitted to the city of Detroit in regard to an investigation by Mr. Burch as consulting engineer into the proposed advance in rates of the Michigan State Telephone Company in the Detroit exchange district. The basis of the valuation work is that used by Mr. Burch as engineer in charge of the Detroit United Railway valuation in 1914. The book contains various sections in regard to the basis for depreciation, a rational use of life tables, the determination of a reasonable rate of return, a study of the cost of service, etc., that would undoubtedly be of general interest to those connected with valuation work.

**Examples in Magnetism.** By F. E. Austin, professor of electrical engineering, Thayer School of Civil Engineering, Dartmouth College. F. E. Austin, Hanover, N. H. 85 pages, illustrated. Flexible leather, \$1.10.

The book has been prepared for beginners in electrical engineering and by means of illustrated examples shows the application of the familiar principles of mechanics to the solution of problems in magnetics. It should be of interest to electrical workers who are familiar with the fundamentals of physics.

**Principles of Direct Electrical Machines.** By Alexander S. Langsdorf, professor of electrical engineering and dean of the Schools of Engineering and Architecture, Washington University. McGraw-Hill Book Company, New York. 404 pages, illustrated. Cloth, \$3 net.

This book is the first of a series of electrical engineering text-books outlined by a special committee for the McGraw-Hill Book Company. It deals with the fundamental laws of electric and magnetic circuits, the theory of operation and the operating characteristics of direct-current machinery. The author's treatment of armature winding, armature reaction and its compensation, and commutation are unusually complete. Numerous diagrams illustrate the text. The book has been prepared for use as a college text-book and the methods of the calculus have been freely used.

**Alternating-Current Electricity and Its Application to Industry. Second Course.** By W. H. Timbie, head of Department of Applied Science at Wentworth Institute, and H. H. Higbie, professor of electrical engineering at the University of Michigan. John Wiley & Sons, Inc., New York, 729 pages, illustrated. Cloth, \$3 net.

In this the "Second Course" of a two-volume text-book on the above subject, the authors have discussed in considerable detail the theory and operating characteristics of electrical machines and transmission lines. Care has been taken to point out the practical applications of the theory discussed. The subject matter is presented in a clear style and mathematical expressions have been omitted wherever it has been possible to express clearly in words the idea involved. Abundant use of illustrative diagrams and problems has been made. The book could be studied with profit by electrical workers who are familiar with the fundamentals of physics, algebra and trigonometry. A review of the first volume of this text appeared in the *ELECTRIC RAILWAY JOURNAL*, Aug. 28, 1915, page 384.