

Electric Railway Journal

Consolidation of Street Railway Journal and Electric Railway Review

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This Week's Election and the Electric Railways

POLITICS is not the province of this paper. The result just recorded at the polls, however, touches intimately the affairs of every one of us. Whether the result pleases or displeases the individual, the decision just made marks the beginning rather than the end of a new order. The Republican party will be on trial. Not only that, but the whole system of two-party government will be on trial. Restlessness and discontent are abroad. The problems that will come before the new administration cannot be solved by the application of the comfortable formula of old-fashioned conservatism, however well intentioned. The return to "normalcy" must be to a "normalcy" that shall be tolerant, far sighted and not in the interest of any one class. The need is for wisdom, sympathy, vision, courage and progress, especially progress. And the way to progress is over the orderly road of evolution.

When Senator Harding was nominated in June, we commented on the breadth of vision which he possessed in regard to public utilities, as exemplified in his address at the midyear convention of the American Electric Railway Association last January. Under our system of government the electric railways must depend for relief far more on the state governments than on the national authorities. Nevertheless, the railways can well be pleased that the highest office in the land is to be filled by one well acquainted with their problems, and the increasing tendency for central control of various matters in which the railways are concerned is another reason why utilities need have no cause for worry over the political events of the present week.

The Meek No Longer Inherit the Earth

QUEER things are done in the name of arbitration. According to public accounts a body of this kind at Boston has reinstated with full pay back to last July a motorman who swore at his starter. Billingsgate is never elegant, but then we are told that strong men are prone to use strong language and that "motormen and conductors are not always selected for their linguistic purity." "Moreover," say the arbitrators, "the Eastern Massachusetts Street Railway is no religious organization." The new doctrine is further pronounced that "it is more important to the public that efficient and capable motormen be permitted to serve the public than that the sensitive ears of the officials should not be shocked by the rude language of angry employees." Thus, new ramifications, are apparent.

We do not like to appear too facetious, but, carried to its proper conclusion, may we not assume that the starter would have the right to swear at the division superintendent, the division superintendent to swear at the manager and the manager at the president?

Perhaps the president could swear at his directors and the directors in turn swear at the stockholders. But at whom would the poor stockholders swear? At the politicians? We give it up. We are not arbitrators and our minds are finite. In this particular case the punishment may not have fitted the crime, but it is quite another thing to condone the crime, for such it was in a way. Silence no longer appears to be golden. The meek no longer inherit the earth.

Management, by Commission

THE recent fare change in Philadelphia is another example of what the JOURNAL in the past has called management by commission as contrasted with supervision and regulation, the legitimate function of public utility commissions. The electric railway industry and, in fact, all public utilities are vitally interested in the continuation and proper functioning of public utility commissions. They form the one great and real practicable means for the proper adjustment of relations between the public and the utilities—the one defender of the rights and privileges of both. What we have to say here is with the purpose of adding our bit toward strengthening the position of the commissions in the performance of their legitimate work.

As to the facts in Philadelphia, the JOURNAL commented in the issue of Oct. 23, and all data obtained since go to strengthen the belief that the commission made its own decision as to the kind of a fare scheme and the amount of the unit fare. There is no question here raised against the purpose of the commission. There was evident desire to provide the necessary revenue for the company. Our brief is that the determination of a fare scheme and the amount to be charged are primarily managerial functions, and that while a commission should protect the public against rates of fare which are notably too high or markedly discriminatory, it should be most careful about enforcing its ideas as to the kind of fare to be charged and the methods of collecting it. This is particularly true in the case of a company which admittedly needs relief and whose future may depend upon the success or failure of the new fares adopted. It is the company which must operate under the scheme and must bear the burden of failure if the plan is unsuccessful. Finally, it is natural to expect that a company, like an individual, will work harder to make things come out right if it follows a scheme of its own devising and in which it thoroughly believes than one imposed upon it and whose efficacy and justice it doubts.

A discussion of the relative desirability of the two fare schemes proposed is purposely avoided here. It isn't the question of fare schemes we desire to analyze at this time. What we would point out is the danger to commission regulation of the too-ready attitude of commissions to perform managerial functions.

Fares Cannot Recede Yet

BECAUSE of the present flurry in the prices of a few articles—chiefly luxuries or things whose purchase can be put off—there are suggestions in some quarters that the time has come for stopping increases in fare, limiting increases to periods as short as six months or even demanding a cut. Those familiar with the chief expense accounts of electric railways know how unjustified these suggestions are. So far from enjoying a reduction in operating expenses, all coal-using electric railways find that their second largest item of cost has taken to further skyrocketing—first in the permanent rise due to the new boost in freight rates; second, in the, let us pray, temporary rise due to worldwide bidding and consequent selling at the highest price to the neediest bidder. Coal, unhappily, is so ponderable that the freight increase alone is enough to offset any possible shadings in the prices of less bulky and longer-lived material.

If, then, King Coal is unassailable, can anything be done to King Platform? In all justice to the men, we think not. The papers may be full of price cuts here and price cuts there, but the motorman's wife hasn't noticed that the price of eggs, milk and bread—the everyday necessities—have hit the toboggan, although pongee silks and twin-six sedans are going a-begging. As for rent, what used to be one-sixth of a frugal family's budget is now one-third, while those who are their own landlords can fully appreciate their employers' coal difficulties.

These are the unadorned facts for those who are daydreaming about pre-war price standards in fares or other commodities. Even if the miracle of really lower prices did come to pass most of our electric railways would have to see many a month go by before they had wiped out war and post-war deficits. So don't let the amateurs jump to conclusions because there's a silk panic in Tokio and a sugar-cured moratorium in Havana. Just tell 'em to keep their eye on your coal bills and platform charges.

Mr. Graham's Address Should Be Read by the Automotive Industry

REGULARLY, and with consistently the same tenor of thought, publicity matter sent out over the name of one or another of several motor truck manufacturers comes to our attention proclaiming the doom of the electric railways and spreading broadcast propaganda which would have one believe that the electric railways are soon to be consigned to the scrap heap. This leads to the thought that it would be a fine thing if arrangements were made for distributing through the automotive field, particularly to the sales and publicity organizations, the recent address of George M. Graham, vice-president Pierce-Arrow Motor Car Company, before the convention of the American Electric Railway Association. Compare the character of the address mentioned to the broad glittering generalities and sweeping condemnation so frequently spoken and written and sent out for the consumption of newspapers and automotive salespeople by other representatives of that industry.

At one point in his address Mr. Graham says: "No motor vehicle manufacturer has ever said that electric trolleys could everywhere be supplanted by motor

vehicles. The statistics of passenger traffic on electric railways prove the essentiality of their service." We regret to say that some of the literature which comes to our hands does say repeatedly the very thing that Mr. Graham denies. In another place this gentleman said: "I have conceded that the number of passengers in our great cities is too enormous to be handled by motor buses. . . ." Mr. Graham has taken the trouble to inform himself on the matter, but much of the publicity matter which emanates from the automotive field is written with a profound ignorance of the subject. That is why we should like to see this address receive wide circulation among automotive people.

We fail to take very seriously the rash statements about the doom of the trolley and are more inclined to smile when we read them. Yet they should really be watched and counteracted with the truth, for it is possible that enough of such propaganda may eventually cause a doubt in the minds of the investing public which will react to injure the electric railway industry. This is fairly remote, perhaps, for the matter seems to us so overdrawn, but it is a possibility.

We cannot avoid repeating at this point our opinion that the problem of applying the motor bus to urban passenger transportation is really one for the electric railways to solve. Electric railway managements have the transportation experience necessary. Automotive men will do well to give sober thought to this idea and to consider the benefits of co-operation which will permit their product to be used intelligently in this transportation business.

Shall We Turn the Freight Business Over to Motor Trucks?

IS NO one going to challenge the assertion of Mr. Graham in the address referred to above that "they [referring to electric railways] should not figure too hopefully on freight revenues; in this field they are handicapped, and sound business would dictate the withdrawal of their facilities where they cannot successfully compete with steam railways and motor trucks"? And in another place, "In long-distance movement of heavy tonnage they are surpassed by the steam roads; in short-distance transit of less than carload lots, up to 100 miles, they cannot compete with the motor truck." The sum total of these two statements is that we should turn over the electric railway freight business to the motor truck people and politely withdraw from that line of activity.

If Mr. Graham is right, then practically all forward looking persons in the electric railway industry, including the editors of this journal, have been dead wrong in encouraging and urging the interurbans to get into the freight end of the business, expand facilities and go after this revenue, particularly l.c.l. high-class commodity transportation where high rates for fast service are practicable. Is all of the headway that has been made along this line to be for naught? Is there to be no further expansion of the interurban freight facilities?

This is contrary to the judgment of all the industry and directly opposite to the very rapid expansion in this phase of the interurban business which has been noted nearly everywhere during the last two years. And we would ask Mr. Graham one or two questions.

The motor truck haulage costs are high now. What are these costs going to be under constantly increasing gasoline and oil costs? What will the rates have to be

when the public makes its demand that the use of the highways, now furnished virtually free despite astounding destruction, shall be paid for; in other words, when the motor truck must pay a heavy maintenance-of-way expense? What about the net earnings when motor truck companies, established as common carriers, are required to give a regular freight service regardless of the amount of business ready to be hauled?

Just now the going is good for the truck companies, for they have the advantages indicated. There are, furthermore, many places where the motor truck can continue to give a more economic service than the inter-urban can supply, particularly on the very short hauls. But by and by we anticipate that the motor truck transportation companies will find going (at a profit) continually harder, largely because of the highway situation to which we referred at some length in our editorials on page 529 of the Sept. 18, 1920, issue.

Is the Time Ripe for the Employment of an Engineer of Research?

EVERY one who has followed the activities of the American Electric Railway Association has been impressed with the value and amount of statistical information which the secretary's office has compiled during the past two years. We believe that this is largely the result of the wise course pursued in attaching a special engineer to the office staff for the purpose of supervising that sort of work.

There is reason to believe that the addition to the staff of a special research engineer would also be a step in the right direction. Several of the reports of standing committees presented at the recent convention made reference to the need for first-hand investigation of problems which are national in scope and suggested that the industry as a whole should finance the studies.

Many of the problems which are presented to standing committees cannot be treated properly by these committees because the chief method of gathering information is confined to the dubious questionnaire. This is a cold proposition at best. It is almost impossible to prepare questions which clearly state the problem, and it is next to impossible to secure answers upon which to base a résumé of the information which may be obtained. Railway officials are busy, and unless a questionnaire has special appeal it is filed for answer later, and it seldom gets answered. On the other hand, personal visits to various properties in the course of the study of special subjects will always develop information which is worth while.

Most of the information which is contained in the reports of standing committees is the result of the personal efforts of some member or members of the committee who happen to be interested in the subjects at hand. It speaks well for their efforts that so much of their work is well received and is adopted by the associations.

The editors feel that the suggestion made by the chairman of the way committee on the convention floor that the executive committee of the Engineering Association consider the advisability of establishing the office of research engineer, and on a salary basis, is one which merits serious consideration. In this connection it should be remembered that the American Railway Engineering Association has an engineer of tests as a member of its staff, and the work of that association in its study of rail failures has been beneficially guided by the work of that engineer.

Another Step Forward in Standardization

THE last act of the Engineering Association at its Atlantic City meeting was to suggest to the incoming administration the appointment of a committee which would pass upon "anticipatory standards," especially in connection with the design of cars and car equipment. This, we hope, marks the beginning of a really intelligent and constructive effort to direct the design of all types of railway equipment in an engineering way along lines which will ultimately develop standards which will be adhered to and eliminate many small differences in construction.

When a railway official now decides to purchase new equipment or to draw up specifications for its purchase he does not first take down his Engineering Manual and decide on the standard parts to be used, but instead directs investigation along three principal lines. First he reviews the troubles that he has had with similar equipment in operation on his lines and makes certain that the new equipment to be purchased will have ample provision for the correction of these difficulties. Second, he endeavors to obtain information from other users of this type of equipment regarding any difficulties they have had which should be remedied in his design. Third, he aims to duplicate existing equipment on his lines that has proved satisfactory.

This committee would be of assistance to member companies in directing the above class of work and in collecting information from all parts of the country regarding troubles to cars and equipment that should be corrected to perfect design to such a state as would largely eliminate previous difficulties. With complete and accurate data on failures that should be corrected, the committee would be in a position to take up the necessary changes with manufacturers in an intelligent manner, and when the changes have been incorporated various railway officials would have positive assurance that, in adopting the proposed designs for their service, a multitude of unlooked for changes would not be necessary.

From the discussion of this subject that occurred at the meeting it appears that the term "anticipatory standardization" does not convey the broad scope of the work that is to be undertaken. In this work we understand that the committee will look forward in a broad way to the "anticipatory direction of design" so as to provide uniformity wherever possible without blocking advantageous development for the future. It was the sentiment of this meeting that the first efforts of the committee might properly be directed to car designs and particularly to safety car design.

Certainly the electric railway industry will benefit from the economy which is certain to result from more uniformity in design if it can feel certain that every endeavor has been made to eliminate weaknesses so that when a standard is ultimately decided upon satisfactory service can be assured. The association on this its first committee of this sort should have the co-operation of both railway officials and manufacturing engineers in its attempt to make progress along this line. If it is found feasible and practicable to obtain the active co-operation of manufacturers with representatives of the electric railways in the direction of design, this committee's work would have a place of equal standing with the standards committee. Certainly it is true that if more work can be done along this line the work of the standards committee will be considerably lightened.

The Next President and the Electric Railways

LAST JANUARY Senator Harding addressed the midyear convention of the American Electric Railway Association at Cleveland and offered certain suggestions for improvement in the electric railway situation. An extended report of this address was published in this paper at the time. Some excerpts are given below to recall the broad views expressed and the constructive attitude taken by the President-elect on this subject.



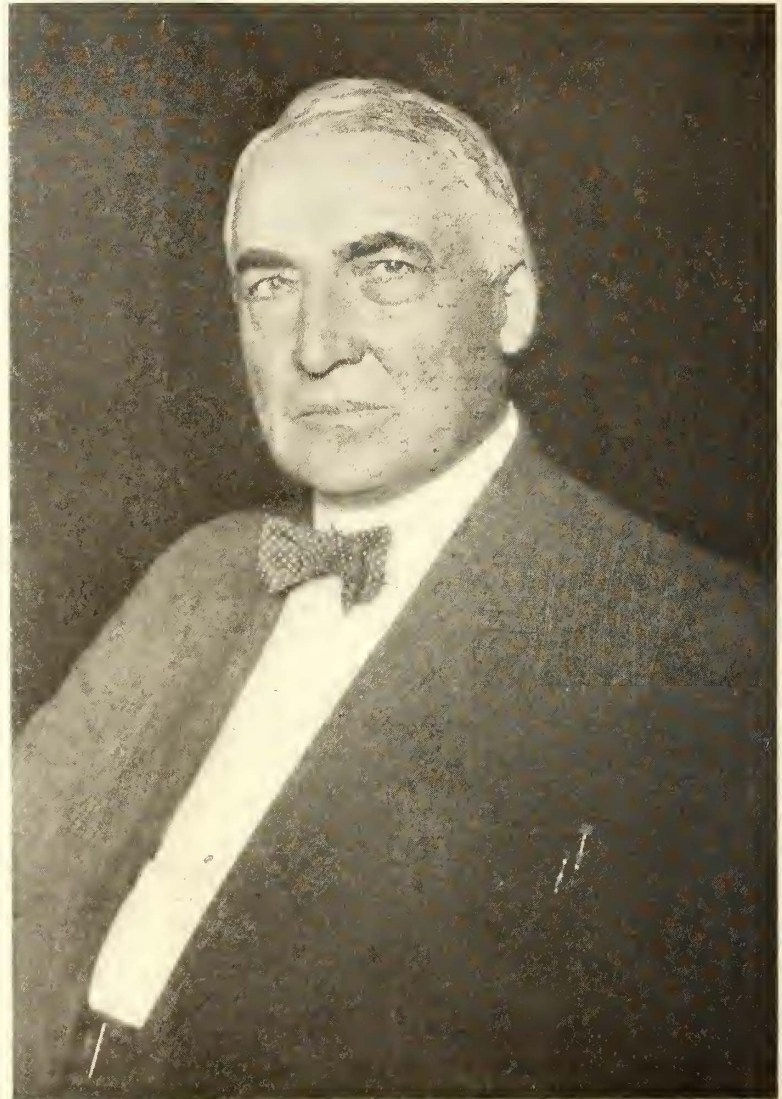
There were some very severe and wholly undeserved penalties on patriotic service during the war period, and which are still applied in its feverish aftermath. But I know of none worse penalized than the electric railway lines of the country. We know they served with splendid zeal and sacrificing devotion. They were as necessary to the stupendous tasks of preparation for war as powder is to the loaded shell.

Let it be recorded that the electric railways responded with every ounce of energy and played the big part of a big factor in doing big things for the nation. The natural inference was that they shared in the award for service. They sustained the heavy burden, and not only have they had no reward, as was given so generously in many instances to big and little business, but were penalized worse than aliens suspected of aiding the enemy.

It is a curious phase of human nature that the people in the populous centers hail transportation lines as the supreme blessing, encourage their construction and celebrate their completion, and then growl about them ever after. Rarely does anybody utter appreciation, though genius and efficiency are nowhere more marked in good service, and no one seems to think of their essential character until traffic is suspended.

Let us not direct our criticism at the awards of the War Labor Board. That body yielded to the flood-tide of war demands which was irresistible. The shocking thing was that the federal government, with limitless assumption of power, should command doubled expense accounts and remain deaf to all appeals for the means of meeting them absolutely.

Let us not go back to the crimes of exploitation and frenzied finance. All that has been established and properly criticised and fully condemned. Here was a five-billion dollar public service enterprise, accommodating fifteen billions of passengers a year. Its continued operation was a necessity in peace or war but vitally necessary to



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war production. The government exercised the power to increase burdens, but had no power, or having had it, no inclination to help in meeting these burdens.

In effecting the restoration, we must wipe out the contributing causes and make sure from this time on that honest investment in honest public service shall receive an honest return for that public service. The capital which seeks to render a necessary public service merits a square deal and it must have it.

I believe in strictest regulation without conflicting authority, because all public utilities must yield to the voice of public interest. But the same power that protects the public must protect

the public servant, whether that servant is capital or the workman who operates the utility.

Destroyed credits must be restored, and flexible scales of charges must be provided, so that a public may pay justly for that which it demands. The exploitation of ten or twenty years ago justifies no failure in good faith today. The public which is served has an obligation no less than that of those who serve it.

The men deserve to be well paid. I think it is fair to say that most of the increased awards the public has approved. But the public ought to pay precisely as it approves, because justice is not a favor to one, it is the right of all involved.

Rerouting Plan to Save \$620,000

Sections VII and VIII of Beeler Report on Kansas City Railways Recommend Complete Rerouting of the System to Produce Substantial Economies and Improved Service — Kansas City, Kan., System Made Independent of Missouri System, with Trunk Line Interconnection

FIFTY less cars in the daily schedule requirements, 750 less car-hours per day, or \$480,000 less expense annually in trainmen's wages, power costs and car maintenance items alone, are the savings which are expected to result from the installation of the rerouting recommendations for the Kansas City Railways in Kansas City, Mo., as worked out by John A. Beeler, electric railway consultant, after extended study. A similar rerouting of the lines in Kansas City, Kan., is expected to result in a saving of \$140,000 a year, making a total for the whole system of \$620,000. These rerouting plans form Section VII and VIII of Mr. Beeler's Kansas City report, these having been recently submitted to the Board of Control. The most interesting part of these proposed changes is that while so large an operating economy will be achieved, yet the service to the public will be improved. A substantial reduction in street congestion is also expected to accrue.

THE REROUTING PLAN

The report for Kansas City, Mo., states that this rerouting has been undertaken to improve service, to minimize downtown congestion and to reduce operating expenses, but that many incidental benefits will accrue. The rerouting plan recommended will very largely reduce the turning movement of cars in the congested business district and will eliminate more than 1,000 car movements through the downtown intersections in the evening rush hour, or 20 per cent of the total. All street traffic will be accelerated, so that the general public will be benefited as well as the patrons of the company. The report also points out that while there is a reduction in the number of cars per hour which will pass through the business streets, it will be entirely in those which now run lightly loaded, as many of the cars will be able to discharge one load and pick up another. In fact the number of cars available to bring in and take out passengers will be greater than before.

Another advantage which is expected to accrue is that the rerouting plan will enable the maintenance of better regularity of service. The report points out that in some cases through-routing necessitates a greater length of route, but since lines terminating downtown have no chance to adjust their leaving time, the regularity of cars under the new plan will undoubtedly be better than before.

Referring to the problem of making the recommended change, in his letter of transmittal to President Philip J. Kealy, Mr. Beeler observes that "the achievements of your operating force in the past six months have been very noticeable, and I believe little difficulty will be encountered in making the changes."

CHARACTER OF STUDY MADE

The report goes on to say that at the outset of this investigation it was realized that there has been a profound change in the business district of the city.

A discussion follows of the growth of the business district to the south, due to the river barrier on the north, and also of the development to the south which followed the construction of the new union station. The latter improvement was followed by the opening of such streets as Broadway, Southwest Boulevard and Main Street, with resulting construction of new business sections.

This movement of the center of the business district has naturally been accompanied by a corresponding change in the course and destination of large numbers of people, the older section of the business district having become devoted almost entirely to wholesale and manufacturing enterprises, so that the contiguous riding has become confined largely to the rush hours. It is pointed out in this connection that street car traffic has fallen off to a point where the service now given is no longer justified.

Another movement which has had a bearing on the desirability of rerouting is the establishment of a number of outside business sections, which have resulted in a considerable amount of community riding with a resultant shifting of the car loading.

A point is made of the fact that no radical changes in the routing have been made, since it is felt that the public objects to such innovations and abrupt changes. The proposed routes differ from the present ones as little as is consistent with obtaining the results sought after. The determination of what changes were desirable was made by a very careful checking of the traffic on all lines and covering all periods of the day at numerous points along each line and in both directions. Observers rode the cars at all periods of the day to determine the character of the territory, the trend of travel, the running time, transferring and other points having a bearing on the subject.

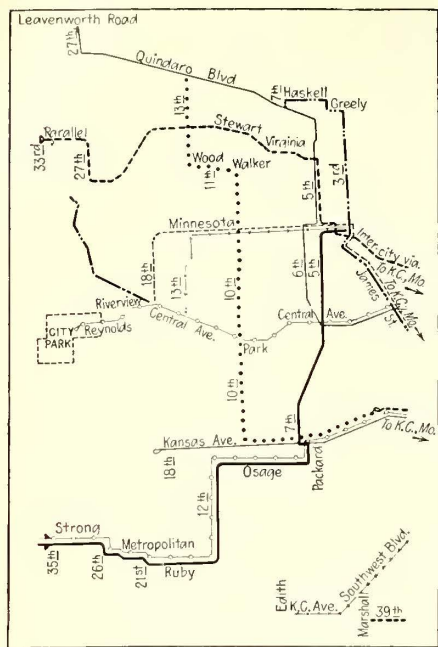
As to the results that will obtain from the rerouting installation, the report states that there will be much better service for the patrons because the lines will be more direct and the schedule speed faster. Routes from the same and adjoining outlying sections have been

CARS THROUGH PRINCIPAL INTERSECTIONS BETWEEN 5 AND 6 P. M. PRESENT AND PROPOSED ROUTING

Street	McGee		Grand		Walnut		Main		Delaware		Wyandotte	
	Pres.	Prop.	Pres.	Prop.	Pres.	Prop.	Pres.	Prop.	Pres.	Prop.	Pres.	Prop.
5th.....			129	47	99	45	37	30*	51	36	95	10
Indep.....			103	65	86	63					109	10
6th.....				86	49	86	63			41	36	
7th.....				234	174	234	158					
8th.....	131	118						84	64	84	64	155
9th.....								127	128			120
10th.....	156	112	190	138	174	98*						53
11th.....												115
12th.....	123	97*	189	205	197	195	164	227				128
13th.....			139	116	129	106						
15th.....	135	118	184	182	111	134	100*					
18th.....			118	118	89	66	95	110				
19th.....			119	120	71	60	119	138				
	545	445	1491	1214	1274	988	726	826	176	136	792	395

Total cars through all intersections:
 Present..... 5,004
 Proposed..... 4,004
 Per cent decrease..... 20.0

*Not used as a street car intersection.



THE KANSAS CITY, KAN., FORMER ROUTING

(Note that this map is a continuation to the left of the map below)

distributed over the principal north and south streets in the business district as evenly as possible. Every effort has been made to keep the street car traffic on the downtown streets balanced. Since many of the routes pass completely across the downtown district, more patrons will be taken to their destinations without transferring. At present about 125,000 people a day are transferred from one line to another, while under the new routing plan this will be reduced to 65,000. The need for multiple trans-

fers will be nearly eliminated except on some suburban lines. The new routes will closely unite all sections of the city and make travel easier.

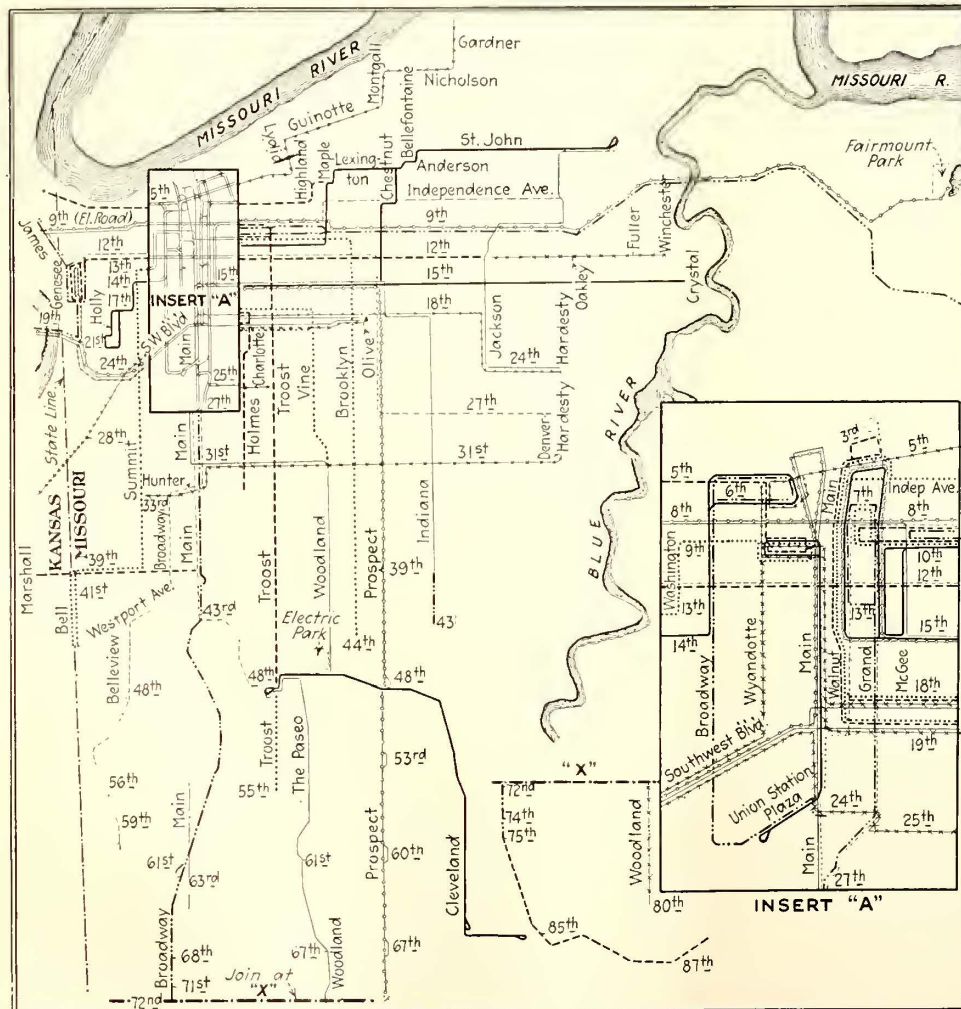
What is probably the greatest resulting benefit comes from the reduction of congestion in the downtown district. This is well illustrated in the table on page 957, which gives the number of cars per hour at each of the downtown intersections before and after the rerouting change, and by the corresponding pair of car flow diagrams.

SOME OF THE DETAIL CONSIDERATIONS

While it would not be very interesting to one unfamiliar with Kansas City and the present car routes to relate in detail the changes in routing that are recommended, yet it may be worth while to note a few of the explanatory statements as they appear in the report, after a statement of the detail routing, simply to show the line of reasoning.

The Jackson-Roanoke line is a through route, which it is proposed shall be formed by combining the present Jackson and Roanoke lines. The Jackson line as now operated passes through a district along Eighteenth and Nineteenth Streets that has little or nothing in common with the remainder of its territory. It should be run along Jackson Avenue and brought in by way of Twelfth Street. This will give a more direct line and carry the Jackson car through a more productive territory. The Roanoke line now comes in by a circuitous route and

is terminated at Tenth and Main, on the edge of the business district. The rerouting will carry it straight across Twelfth Street, through the heart of the downtown business section, so that patrons may transfer from it to practically all lines. Service demands on the two lines are well balanced, so that economical operation will result. On each round trip twelve turns will be saved, and the distance in the congestion will be less. Delays now occurring at Eighteenth and Olive, at Nineteenth and Main and at Tenth and Main will be avoided. In the rush hours a portion of the service should be turned back at Thirty-ninth and Summit and at Twelfth and Jackson. Connecting curves must be installed at Twelfth and Jackson. Fifth Street-Fifteenth Street is another proposed combination of two lines for a through route. By operating the Fifth and Fifteenth Streets lines as a single route by way of Walnut Street in both directions patrons of the East Fifth Street line will be enabled to reach practically the entire business district without the use of a transfer. All trunk lines in the city will



MAP SHOWING FORMER ROUTES FOLLOWED BY VARIOUS LINES IN KANSAS CITY, MO.

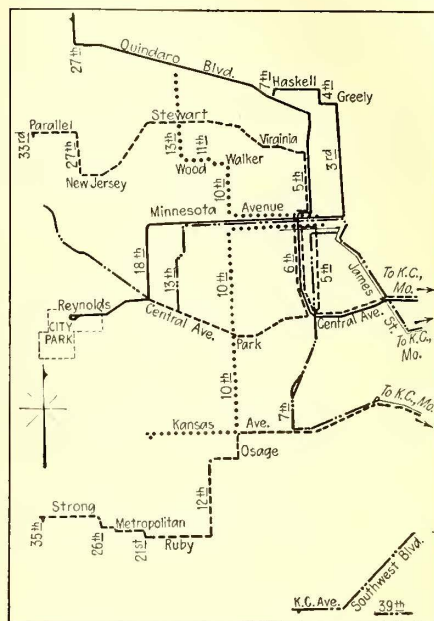
be accessible by means of a single transfer. Transferring will thereby be reduced, particularly in the congested district. Four turning movements at downtown intersections will be eliminated, and the distance will be reduced three-fourths mile per round trip. The patrons of the Fifteenth Street line will continue to receive all the privileges heretofore enjoyed. As the proposed route is on the same street in both directions through the congested district, there will also be avoided much confusion heretofore experienced. In addition patrons will be provided with a more direct and rapid route to the industrial plants located in the extreme north end of the city. In the rush hours it will be desirable to turn a portion of the service at Fifteenth and Kensington and Fifth and Grand. Facilities for this purpose are now available.

The Eighteenth Street line, which now terminates at Eighteenth and Olive, should be extended to Eighteenth and Jackson to provide crosstown service for an enlarged territory and replace the service now given by the Jackson line. Patrons will be afforded direct service to the industrial plants in the stock yards and warehouse districts and points beyond. Observations show that the riding in this section is now very light. Half of the service should go to Twelfth and Genesee and the other half to Kansas. In this manner the entire business can be better handled.

The Indiana and Rosedale lines are to be throughout over a stated course. This route is the same as the present Rosedale line as far as Tenth and Wyandotte, at which point it will turn and pass through the part of the business district on Main Street. The Indiana Avenue patrons will be brought in direct on Fifteenth and Main Streets. Both ends of the line will thus have access to the center of downtown activity. This will be a much more independent route than the present Indiana-Quindaro and avoid the delays and curves in the west bottoms and through the Kansas City, Kan., business district and beyond. With the use of safety cars, more frequent service can be given and on account of the reduction of delays more regular headway should be afforded. The track on McGee Street between Tenth and Fifteenth will be uncovered by this change in routing, so that this street will be available for the use of automobiles. A reduction of vehicle congestion in the parallel streets in the business district should result. The Country Club line connects an outlying residential section in the extreme southern portion of the city with the downtown district. To reduce delays and minimize the running time it should be

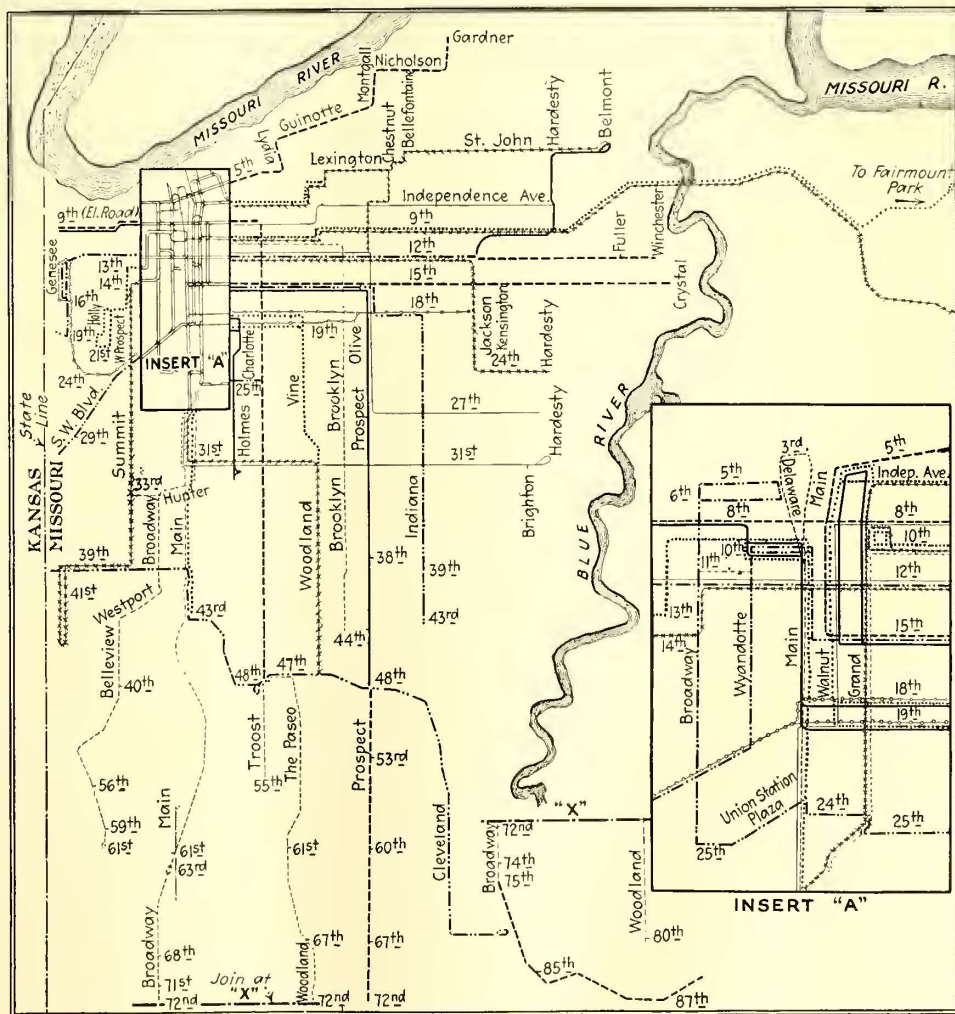
routed as direct as possible. It is therefore proposed to operate this line both north and south over Main Street. This routing will eliminate all turns in the congested district, and delays incurred by turning movements at such heavy traffic intersections as Thirteenth and Grand, Thirteenth and Walnut, Fifth and Grand and Fifth and Walnut cannot occur. It will furthermore provide patrons of this line with direct transportation to and from the Union Station.

The accompanying maps on pages 958 and 959 show the former routings and those proposed. In so far as

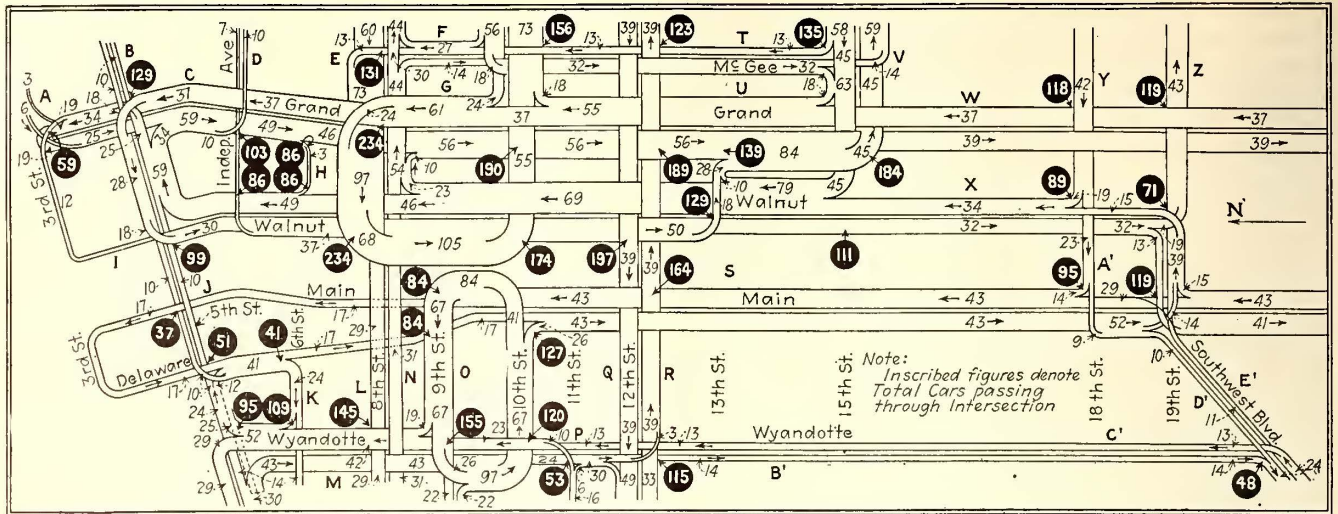


THE NEW ROUTING FOR KANSAS CITY, KAN.

(Note that this map is a continuation to the left of the map below)



MAP SHOWING NEW ROUTING OF CARS ON THE LINES IN KANSAS CITY, MO.



TRAFFIC FLOW IN THE CONGESTED DISTRICT UNDER THE FORMER ROUTING—NOTE SOME OF THE COMPLEXITIES OF THIS ARRANGEMENT

Reference Letter	Name of Line	No. of Cars	Reference Letter	Name of Line	No. of Cars	Reference Letter	Name of Line	No. of Cars	Reference Letter	Name of Line	No. of Cars
A	K. C. C. & St. J.	3	K	5th Street	10	R	12th Street	10	Y	Jackson	14
B	North Kansas City	3	L	Observation Park	8	S	27th-Minnesota	29	Z	Holmes	12
C	Fifth Street	10	M	Broadway-U. S.	6	T	Woodland	16	A'	Vine Street	7
D	Sunset Hill	19	N	Cent.-Fairmount	16	U	Main St. U. S.	12	B'	18th Street	9
E	Country Club	18	O	Indiana-Quindaro	13	V	Jackson	14	C'	Jackson	14
F	Vine Street	7	P	Argentine	10	W	K. C. L. & T.	1	D'	Holmes	12
G	North Kansas City	3	Q	Cent.-Fairmount	17	X	Indiana Quindaro	13	E'	Vine Street	7
H	Cent.-Fairmount	16		Indiana-Quindaro	14		Northeast	18		18th Street	10
I	Troost	31		Roanoke	22		Prospect	28		Jackson	14
J	Indep.-Rock	13		Jackson	14		15th Street	17		18th Street	9
K	Indep.-Mo.	14		Chelsea	15		Sunset Hill	19		Rosedale	14
L	Country Club	18		Main St. U. S.	12		Strang	2		Rosedale	13
M	Vine Street	7		Leavenworth	2		Indep.-Rockhill	13		18th Street	10
N	North Kansas City	3		Kaw Valley	2		Holmes	12		18th Street	9
O	Cent.-Fairmount	16		Argentine	10		Vine Street	7		(K. C. L. & T.)	1
P	Troost	31		12th Street	11		Strang	2			
Q	Indep.-Rock	13		27th-Minnesota	28						

possible, the different routes have been distinguished by characteristic symbolic lines on the maps, but there is no relation between the same symbolic line on a former route and on a proposed route, as so many changes were made as to render this impossible.

KANSAS CITY, KAN., REROUTING PLAN

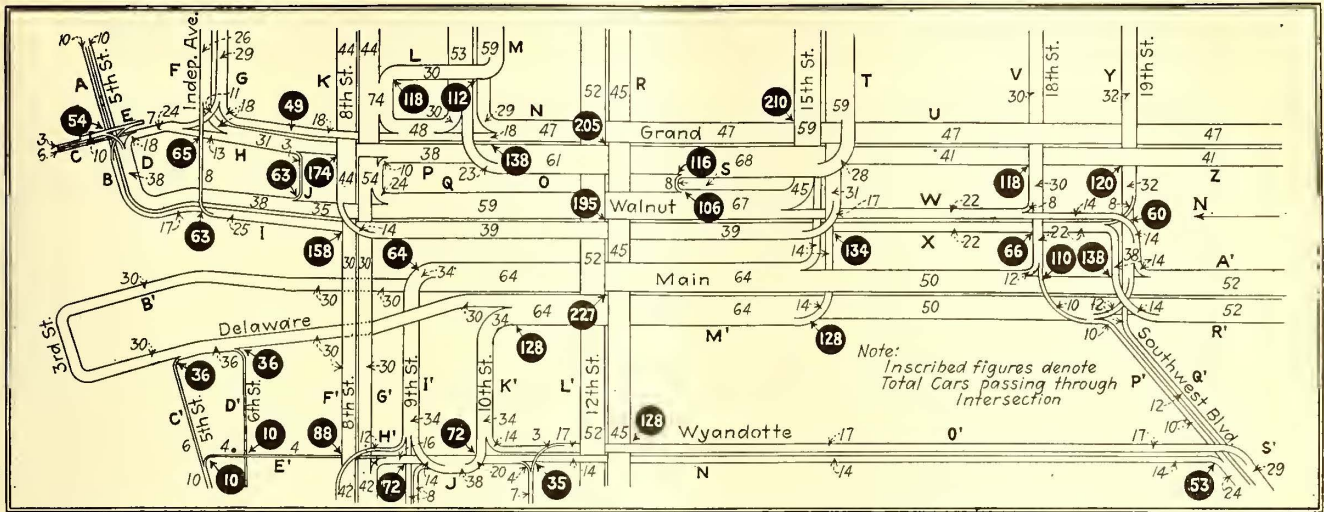
Section VIII of Mr. Beeler's report, which covers the rerouting plan for the lines in Kansas City, Kan., states that in the past many complaints have been made by the public that the company was not properly meeting the local traffic requirements. On the other hand, the company has complained that the lines in this city have not been self-sustaining. The survey made has shown that there is justification for both of these claims and that it is plainly evident that the difficulties are caused by the present routings.

The need for rerouting is attributed largely to the fact that Kansas City, Kan., has had a very marked industrial growth during the last fifteen years and now has a population of more than 100,000. The importance of the city as a business center therefore requires the readjustment of the present street car routings, which were laid out primarily as feeder lines to the Missouri system. During the early development of the city residents were largely dependent upon industries located in the bottoms, or east of this district. It is only natural, therefore, that car routes should have been designed to carry the greater proportion of the patrons on through lines to points east of the Kansas River. These conditions, however, have changed to such an extent that the present routings do not serve the community as a whole. The through-riding between the two Kansas

Cities is now confined largely to the rush hours, and on many of these through lines the traffic during the day is badly unbalanced and the service is neither required nor justified.

Consequently, with the constantly increasing importance of the city as a residential and industrial community, there has arisen a demand for more service between the business section and the residential districts of Kansas City, Kan., itself. Furthermore, the growth of the city has reached a point where additional railroad facilities are demanded. This has resulted in a proposed union station, to which adequate street car service from all sections of the city must be furnished. Since all lines cannot go directly to every important point in the city, the proposed system of street car routings has been laid out in a way to make the business district of Kansas City, Kan., the hub from which practically all lines will radiate. In other words, in working out the rerouting plan for the two cities, Kansas City, Kan., as well as Kansas City, Mo., has been considered as a separate system and the routing laid out to meet the requirements of traffic in this one city. Then to take care of the large amount of intercity travel the two city systems have been connected by intercity trunk lines so routed as to make direct connections with all of the main distributing lines in each of these cities. This will enable a passenger to go from any point in Kansas City, Kan., to any point in Kansas City, Mo., or vice versa, with not to exceed two transfers, and often only one.

The plan recommended for the Kansas City, Kan., local lines contemplates the establishment of a centrally located sheltered prepayment area through which



TRAFFIC FLOW UNDER NEW ROUTING SCHEME—NOTE DECREASED CONGESTION AT CROSSINGS AND REDUCED NUMBER OF TURNS

Reference Letter	Name of Line	No. of Cars	Reference Letter	Name of Line	No. of Cars	Reference Letter	Name of Line	No. of Cars	Reference Letter	Name of Line	No. of Cars
A	15th & 5th Streets	10	M	Fairmount Park	16	X	Independ.-31st Street	14	K'	Indiana-Rosedale	14
B	15th & 5th Streets	17		Indep. Mo.	14		Vine Street	8		Main St.-Observ. Park	8
C	K. C. C. & St. J.	3		Brooklyn-Sunset Hill	29	Y	Holmes-Quindaro	12	L'	Holmes-Quindaro	12
	No. Kansas City	3	N	Brooklyn-Sunset Hill	29		Vine Street	8		12th St.—Argentine	20
	Prospect Street	10		Northeast-Woodland	18	Z	18th Street	12		27th St.—Minnesota	10
D	Vine Street	8	O	Brooklyn-Sunset Hill	23		Brooklyn-Sunset Hill	23		Jackson-Roanoke	22
	K. C. C. & St. J.	3	P	Northeast Woodland	18	A'	Main St.-Observ. Park	8	M'	Main St.-Observ. Park	8
E	15th & 5th Streets	17		Prospect Street	20		Country Club	30		Holmes-Quindaro	12
F	Vine Street	8	Q	Independ.-31st	14	B'	Country Club	30	N'	Indiana Rosedale	14
	Northeast Woodland	18		Prospect Street	20	C'	Broadway-25th St.	6	O'	Indiana-Rosedale	14
	Northeast Woodland	18	R	12th Street-Argentine	10	D'	Broadway-25th Street	6		Strang Line	2
G	Vine Street	8		27th St.-Minnesota	10	E'	Leavenworth	2	P'	18th Street	10
	No. K. C.	3	S	Jackson-Roanoke	15	F'	Kaw Valley	2	Q'	18th Street	12
	Northeast Woodland	18		Prospect Street	8	G'	Troost	30	R'	Independ.-31st Street	14
H	Prospect Street	10	T	15th & 5th Streets	17	H'	Troost	30		Main St. Observ. Park	8
	K. C. C. & St. J.	3		Indiana-Rosedale	14	I'	Holmes-Quindaro	12	S'	Country Club	30
I	15th & 5th Streets	17	U	Brooklyn-Sunset Hill	29		Main St.-Observ. Park	8		18th St.	10
J	Vine Street	8		Northeast Woodland	18	J'	Indiana-Rosedale	14		Indiana-Rosedale	14
	K. C. C. & St. J.	3	V	Holmes-Quindaro	12		Holmes-Quindaro	12		Strang	2
K	Independ.-31st	14		Vine Street	8		Leavenworth	2		K. C. L. & T.	1
	Troost	30	W	18th Street	10		Kaw Valley	2			
L	Fairmount Park	16		Independ.-31st Street	14		Strang Line	2			
	Indep. Mo.	14		Vine Street	8		K. C. L. & T.	1			

all cars will be passed. Speaking of the advantages of this plan, the report states that it will greatly facilitate car movements, the riding public will be provided with the greatest convenience and safety obtainable, street congestion will be minimized, paper transfers practically eliminated, regularity of service maintained and rapid transit furnished between all points.

Under the new routing plan the citizens of Kansas City, Kan., will not be dependent upon Missouri lines for local transportation, and thus the irregularity of service due to long intercity lines will be eliminated.

All of the lines now entering the business district will continue to do so under the new routing plan, and in addition several other lines will be brought direct to the heart of the city. In order to place the maximum service where it is required and furnish the largest number of cars on that part of the route where riding is heaviest, it is recommended that a portion of the cars on certain lines be turned back before reaching the extreme end of the route. Cars which are to be turned back must always display designation signs plainly, indicating the point at which the trip ends.

[Editors' note: The two sections of the report by John A. Beeler, reported above, are Sections VII and VIII of an extended study in Kansas City. Sections I to V inclusive were reviewed in the JOURNAL, issues of Feb. 14, April 3 and Aug. 14. Section VI was a short report covering rerouting of interurban lines to eliminate them from the congested district.]

Instructive Analysis from Kansas City

Graphic Study of the Five-Year Period Reviewed in the Report of Robert P. Woods, City Member of the Board of Control, Kansas City Railways, Presents Interesting Results

THE final report of Robert P. Woods, city member of the Board of Control, Kansas City Railways, was printed in the JOURNAL on Oct. 9 and in the same issue was given a story of some of the financial events leading up to the recent receivership. The statistics presented in the Woods report seemed to lend themselves to an interesting analysis of certain transportation facts or tendencies on the property, which are presented herewith. Of particular interest is the sharp change in the characteristic or slope of most of the curves for the past year. It is impossible to say with any degree of certainty that this has all been due to the intensive efforts of the company to increase its efficiency, coupled with the work of John A. Beeler, most of whose reports on the Kansas City situation have already been reviewed in the JOURNAL. But doubtless this work has been instrumental in changing the course of events.

With approximately the same population and single-track mileage the railway carried 180,000,000 people in 1920* as compared with 192,000,000 in 1915, while the

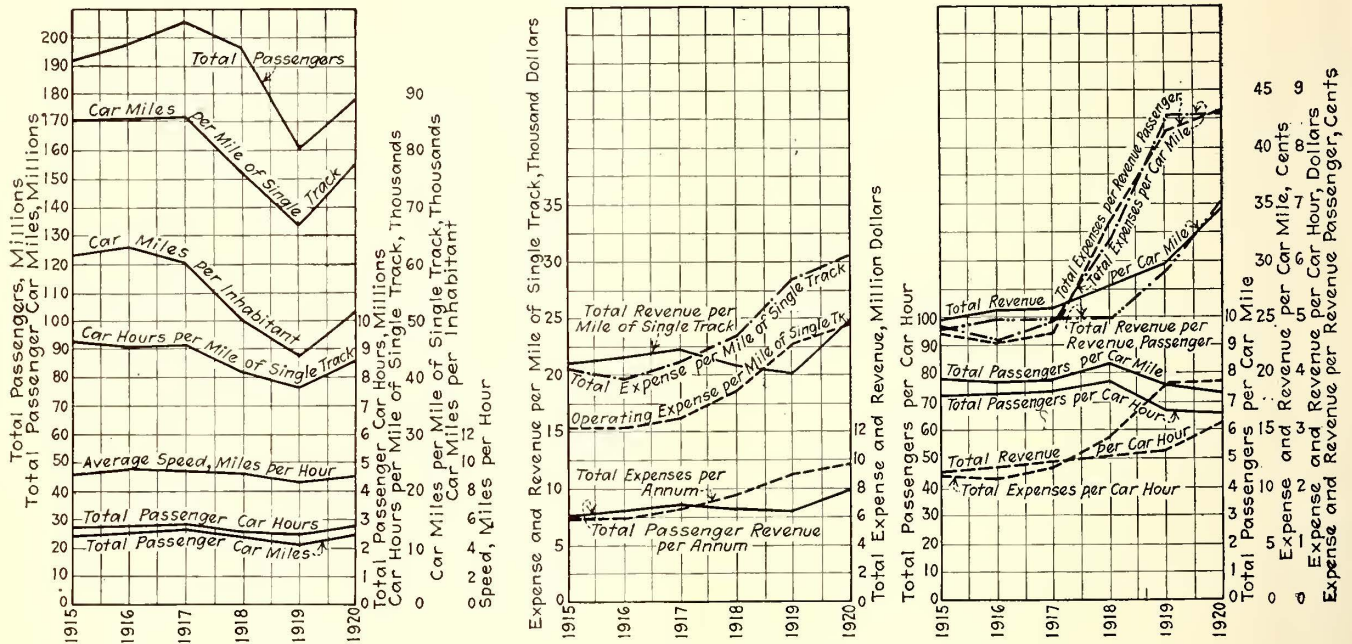
*1920 figures are for the fiscal year ended June 30, and are predicated on eleven months' actual data for the period ended May 31.—EDITORS.

fare is now 7, 7½ and 8 cents as compared with 5 cents in 1915. For a lower fare in 1919 the railway carried only 160,000,000 passengers. The curve for total passengers carried shows the effect of strikes, fare increases and jitney competition from 1917 to 1919, and it is remarkable that the rapid increase during the past year has been gained with higher fares and the same jitney competition. This increase is probably due to the effect of better service, increased speed and the usual reaction and recovery noticed when fare changes are made.

The effect of strikes, increased congestion and jitney competition from 1917 to 1919 is very noticeable from an inspection of the car-miles per mile of single track, car-hours per mile of single track and car-miles per inhabitant, but the hopeful outlook is shown by the marked upward trend evidenced between 1919 and 1920. A criterion of the better operating efficiency now existing is shown by the fact that the car-miles per mile of single track increased 16.4 per cent between 1919 and

The data on service and operation show a trend for the better, but the financial data show that relief must be found in some way. When the total revenue per revenue passenger for 1920 was slightly over 7 cents total expenses were 8.6 cents, and operating expenses and taxes alone were 6.96 cents. The total revenue per car-mile between 1915 and 1920 increased 30.2 per cent, while for the same period the total expenses per car-mile increased 77.3 per cent, chiefly due to greater operating expenses, and this difference has spelled financial disaster for the company. The fare increase for the same period has been, on the other hand, only 50 per cent, approximately.

A hopeful outlook and an evidence of operating efficiency are afforded by the curves for expenses and revenue per car-hour from 1919 to 1920. The expenses seem to be at the peak, while the revenues show a decided tendency to increase. The same condition is shown for the same period by the curves giving the expenses and revenue per revenue passenger. The



Data for 1920 Based on Eleven Month Period Ending May 31, 1920

ANALYTICAL CURVES FROM DATA INCLUDED IN THE FINAL REPORT OF ROBERT P. WOODS, FORMERLY CITY MEMBER BOARD OF CONTROL. THESE CURVES SHOW UNIT FIGURES OF INTEREST AND ALSO GENERAL TENDENCIES ON THE PROPERTY

1920 as compared with only an 11.4 per cent increase in car-hours and an average speed of 12.3 per cent. At the same time the car-miles per inhabitant for the same period increased 17 per cent, showing that a great deal better service is given. These results were brought about by a revamping of routes, schedules and stops and in spite of the 500 jitneys now competing for traffic. The curves for total passenger car-miles and car-hours show that the 1920 conditions were superior to those of 1915 as regards service rendered.

On a unit basis, the curves for total passengers per car-hour and per car-mile show a decrease from 1915 conditions which may be explained by decreased riding brought about by higher fares and jitney and automobile competition and by increased service offered. Although the curves show a downward trend the per cent decrease for 1919 to 1920 is far less than from 1918 to 1919, particularly as regards passengers per car-hour, which again shows the effect of the recent operating changes and improvements.

expenses increased only 3.6 per cent as compared to a revenue increase of 20.5 per cent. For the period from 1918 to 1919 the expenses increased at a much greater rate than the revenues per revenue passenger, showing again that the peak has been reached as regards expense increases. The revenue curves have not, however, gained enough to offset the increase in expenses.

On the unit basis of a mile of single track the curves for revenue, operating and total expenses offer food for thought. The expense curves for 1919-1920 show that the increase in total expense is due to an increase in operating expense and that the percentage increase in expenses is far less than the percentage in revenue. The curves showing total revenue and total expenses show the same tendency, but indicate that under existing fare and operating conditions many years will elapse before the revenues exceed the expenses. No company can operate for a long period when on a revenue of \$7,800,000 there is an excess of expenses over revenue of \$1,800,000.

Situation, from an Economic Viewpoint, of German Tramways*

Increasing Wages and Prices, Coupled with Extraordinary Decrease in Value of the Mark, Have Brought on a Real Crisis—By Crowding Passengers and Increasing Fares, This Condition Has Been Partly Met

THE situation of the German tramways is full of interest with reference to the mounting prices of materials and wages and also the increases of fares which have characterized the business of the urban rail transportation systems.

The frightful depreciation of the mark, which has been especially accentuated since 1918, creates a situation which reproduces, but with considerably more seriousness, that which exists in the French and English tramway undertakings. One cannot avoid being interested in the numerous diagrams reproduced herewith, which portray with an eloquence much greater than words the gravity of the situation.

It is easy to understand that it is extremely difficult in these actual circumstances to comprehend clearly the situation and to gain a perspective of the transportation enterprises on account of the following reasons: (1) The uninterrupted and rapid increase of wages on the one part and of the prices of all merchandise and material on the other part makes it difficult to estimate or gain a real comprehension of expenses; (2) the extreme want of materials and the difficulty of finding labor have made it necessary to neglect maintenance; (3) construction materials are in general of much poorer quality than formerly and from this results a reduction in useful life of material; (4) the lack of maintenance perverts results.

It might be said that expenses have often increased in the proportion of 1 to 10, but on the other hand the receipts per car-mile have been equally increased: (1) On account of the increase, quite generally with overloading, and often with very heavy overloading, of passengers, as compared to pre-war conditions; (2) on account of the increase of rates of fare.

Now, the running expenses of a tramway business include:

Wages and salaries.

Running expenses: Pertaining to the permanent way, construction and maintenance; rolling stock, energy.

The increase of the income tax imposed by the state has been in force since July 1, 1919; it is a little different for labor and for managers or other employees, but the difference is inappreciable. The dot and dash line in Fig. 1 illustrates the average increase of wages which has taken place and this shows that at the end of 1919 the expenses under this heading are at least six times as much as they were in 1913. Besides, it must not be lost sight of, in considering salaries and wages, that a new increase has taken place since Jan. 1, 1920.

On this same Fig. 1 there is a curve of the variation of the general cost of living according to official figures. The comparison of this line and that which corresponds

to the increase of wages shows that until 1918 the increase of wages was less than that of the cost of living, but that in 1918 the former passed the latter.

As the greater part of the necessaries of life in Germany are imported it is important, in order to understand the real change in costs, to show the curve representing the value of the mark established after communication with foreign money markets was resumed. This curve is shown in Fig. 1 by the dotted line. If everything used were imported, it is evident that the

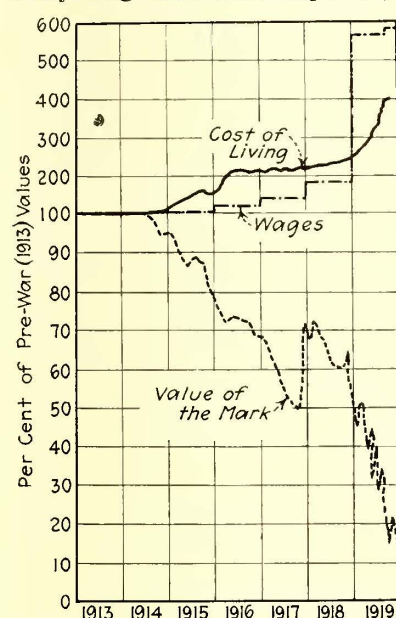


FIG. 1.—GRAPHICAL ILLUSTRATION OF THE VARIATION IN COST OF LIVING, WAGES AND THE VALUE OF THE MARK FROM 1913 TO 1919

of price of supplies of direct concern to the railway business, such as coal and steel and castings, is easy to establish based on official information.

The first two curves of Fig. 2 give this variation for coal and for rails. For the other materials necessary to construction and to the carrying on of the business it is necessary to depend upon information furnished by the managements of the companies or by the contractors who have handled the construction work.

The other curves of Fig. 2 represent the variations of the cost of copper, electrical equipment and of electrical power, a price intimately connected with that of coal. The price of copper trebled during the war and remained stationary until the middle of 1919, since which the increase in the price has been very great until it finally attained in the beginning of 1920 sixteen times the pre-war figure. Expenses connected with electrical material and machinery in general have approximately followed the same law of variation. The price of trucks and motors, for example, has become 12.5 times as great

* Abstracted from *L'Industrie des Tramways et Chemins de Fer*, which in turn takes its information from *Verkehrstechnik*, the original article being over the signature of Professor Helm, Eng. D., of Berlin.

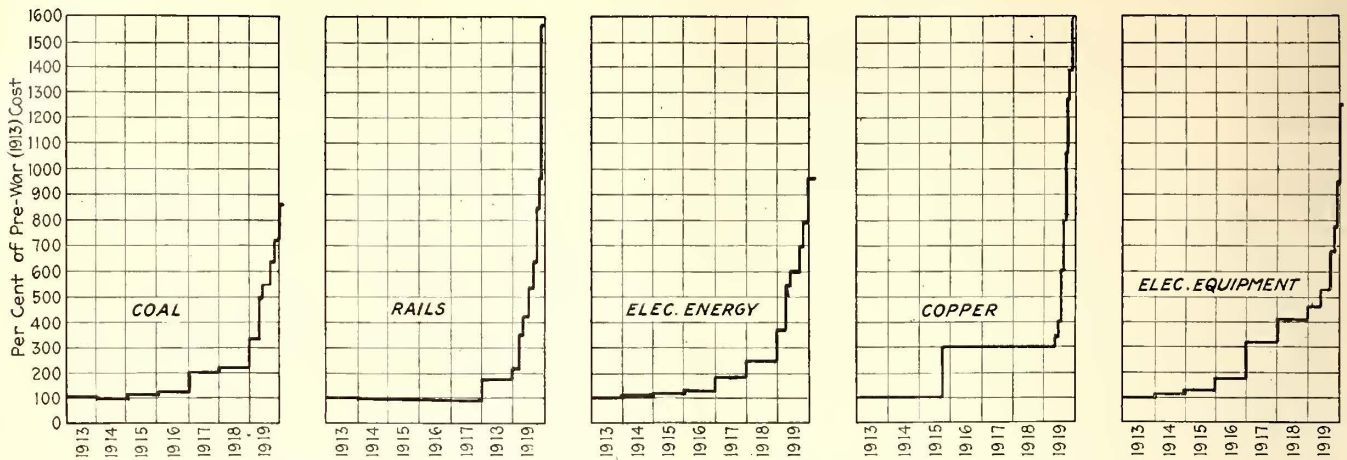


FIG. 2—CURVES SHOWING, IN PERCENTAGE OF COST IN MARKS, THE INCREASES IN COST OF VARIOUS ESSENTIALS TO TRAMWAY OPERATION

as previous prices, those of electrical equipment fourteen times greater, figured on the basis of Jan. 1, 1920.

In Fig. 3 there is represented the curve of variation of the combination of all expenses (wages, expenses of maintenance, replacements and new installations, and price of electrical energy).

The total expenses thus analyzed attain 9.15 times the pre-war figure and it is predicted that they will become twelve times that figure by the end of 1920.

In the evaluation of receipts it is necessary to add to the increase of fares the better or greater utilization of available cars as stated above.

Fig. 4 shows a curve representing the increase in receipts due to a better utilization of rolling stock, this factor alone causing receipts about 2.1 times as great as pre-war figures. With the majority of the companies, this increase has already assumed such proportions that present conditions indicate an overloading which cannot be exceeded.

It was during the year 1917-18 that this increase was the greatest; it is still noticeable in 1919, but it does not seem possible to hope for new increases in receipts from this source.

With reference to increases of fares, the Association of Tramways and Suburban Railways has established a municipal bureau which has made it possible to construct the curve in Fig. 5, indicating the average increase of fare modified in several cases to take into account the length of ride. In October, 1919 the mean fare was 2.1 times the pre-war fare; the calculation along this line for the first part of 1920 is not yet finished. One can safely predict, however, that the new tariff will be 2.5 times as much, in round figures, as that in 1916. For the purpose of comparison there is represented on the same figure the curves of variation of the fares for the passenger service of the Prussian state railways.

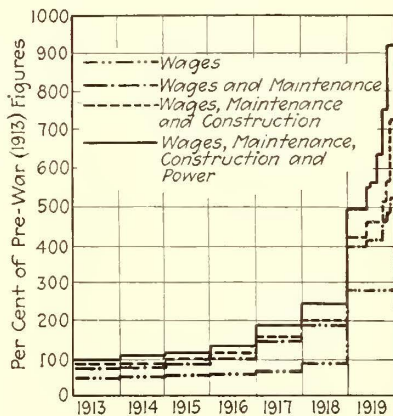


FIG. 3—COMBINED CURVES SHOWING TOTALIZED EFFECT OF VARIOUS INCREASES

The increase in total receipts is then 210 per cent on account of the better utilization of rolling stock available and 250 per cent on account of the increase in fares, making altogether 525 per cent above the pre-war figures.

From this it results, after being compared with expenses, at the end of 1919, that the fare should be 1.7 times the pre-war figure, and if one takes into account the expenses in the early part of 1920, 2.3 times those existing at the end of December, 1919.

If one would compare the increase to the pre-war base, fares should be multiplied by 2.5 times 1.7 (that is, should be raised in the proportion of 240 per cent) or even by 2.5 x 2.3 equals 575 per cent.

As a result of this, in tramway undertakings which charged in 1913 a fare based on 10 pfennigs, the fare ought to be 44 pfennigs, by the end of 1919, and 10 x 5.75 at the beginning of 1920, or 57.5 pfennigs.

Now, the fare currently in vogue is, for the year 1920, only 25 pfennigs; and the figure 40 pfennigs, adopted by some of the companies, is still much inferior to the 60 pfennigs established after the consideration given herewith.

The question now confronting the companies is to know how the tramway enterprises can arrive at any balance in their budgets in the presence of such great discrepancies between receipts and expenses. One must not lose sight of the two facts which were outlined above, namely:

On the one hand, the better utilization of available rolling stock, of which the influence has been very noticeable on the receipts up to recent months, has contributed much to re-establish the equilibrium, but this factor appears to have reached its maximum effect.

On the other hand, under the condition of the scarcity of labor and the lack of raw materials, maintenance has been neglected; this evidently does not constitute a real economy, but on the contrary, the corresponding expenses will have their effect upon subsequent budgets, and will be found then, in all probability, to be much increased.

In the annual statistics of industries and commerce in Germany the local railways and tramways show the least net profit. It is true that the profits of the tramways are not separated from those of the local railways. The figures in the table on page 965 give by themselves, however, an approximate idea of the proceeds or profits of the tramways from 1907 to 1915.

The economic crisis through which these companies are going is due chiefly to the opposition met at the hands of the authorities of the communities which are against raising the fare; however, that increase is necessary, not only on account of the interests of the companies themselves and of their stockholders but especially in the interests of the public, and the increase should be such as to permit these companies to meet the increase in expenses. During the war, and especially since the various communities have been laying plans to take over the private enterprises, a balanced budget has never been possible to realize.

Such are the explanations that it is possible to give

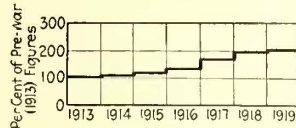


FIG. 4. INCREASE IN RECEIPTS DUE TO BETTER UTILIZATION OF FACILITIES

DATA ON DIVIDENDS OF GERMAN TRAMWAYS AND LOCAL RAILWAYS. FIGURES INDICATE IN PERCENTAGE THE NUMBER OF COMPANIES GIVING DIVIDENDS IN THE VARIOUS CLASSIFICATIONS LISTED

1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15
No dividends							
21.30	19.83	18.30	17.78	17.71	15.34	18.15	27.96
Dividends less than 6 per cent							
47.60	51.26	49.41	46.56	46.36	52.46	49.58	55.68
Dividends from 6 per cent to 10 per cent							
29.90	80.07	31.59	34.70	34.66	30.96	31.87	16.26
Dividends greater than 10 per cent							
1.20	0.84	0.77	0.96	1.27	1.24	0.40	0.10

to the critical financial situation of the tramway business. It is impossible to foresee the time when the equilibrium can be re-established with the continual aggravation at the increases of prices for all sorts of goods.

The important differences evident in the fare increases of the various companies (which all had as a base the fare of 10 pfennigs before the war) show that quite frequently certain businesses do not take into consideration the critical situation in which they find themselves from the financial point of view. It is possible to conclude from this analysis that the economic situation of the tramway businesses mentioned is extremely critical. With regard to wages actually paid and to the increase of expenses of all sorts, it will be necessary to multiply by six the pre-war fares and to double, at least, those in force at the end of 1919, and it is to be feared that other increases will be unavoidable in the near future. The figures and table given above must call forth interesting comments.

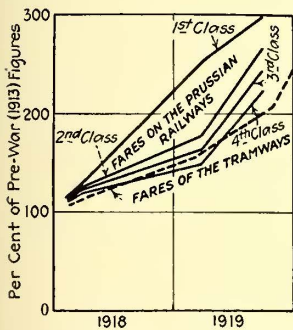


FIG. 5. AVERAGE INCREASE IN FARES ON TRAMWAYS AND RAILROADS

According to statements made by railway officials in Switzerland, their government contemplates spending a total of 52,000,000 francs on railway electrification. Up to Oct. 1 of this year the sum of 600,000 francs had been spent on this work and by 1922 they look forward to a complete electrification of all the main lines that run through tunnels and passes.

Australian Railway Experiences

P. J. Pringle of Ballarat, Victoria, Australia, Says That One-Man Cars Bring Good Results in His Country

THAT America is not alone in facing railway problems was made clear by P. J. Pringle, chief engineer and general manager the Electric Supply Company, Ballarat, Australia, in a recent paper read before the Tramways & Light Railways Association of Great Britain.

The Australian railway, he said, had reached a critical financial condition which could be met by: (1) Putting the loss on the shareholders; (2) raising the fares, or (3) reducing costs of operation. He stated that his company, which operates in Ballarat and Bendigo, Victoria, introduced one-man cars in May, 1913, on eight and one-half routes out of eleven, with the result that in many cases the company effected a 50 per cent saving in operating costs and about the same saving in platform costs. The one-man cars were used on approximately the same average schedule speed, or 8 m.p.h.

The one-man cars are all single deck with a fare box in the front entrance. There are hinged notice plates just above the dash, one side notifying "Pay as you enter," the other side "Pay as you leave." Cars traveling from suburbs to congested districts display the former, while cars loading in the congested districts display the latter.

The accidents were reduced to one-eighth of their previous value due to the use of the one-man cars. The trolley men gave little trouble because of the use of one-man cars after the first few days and now press to take a one-man car route in order to get the extra dollar a week.

Mr. Pringle states that the coning of rail and wheel treads creates corrugation and increases rail wear, and that the subject is worthy of careful investigation, particularly as many object strongly to the proposed new standard increasing the present 1 to 20 coning. He suggests that a standards committee should investigate the extent of side swaying of cars on systems with heavily and lightly coned treads as compared with those using flat treads; that meter readings be taken in the foregoing tests and that, if any system is operating with flat rail tread and wheel tread originally, the resultant coning of the rails be carefully examined. The slipping effect on straight tracks may cause corrugation troubles and the coned wheel and inclined rail head surface, together with the large diameter wheel fillets, may intensify the effect. He stated that corrugations on the Melbourne Cable Tramways are non-existent on routes over which single-track cars operate, and that the coning on the Edinburgh Cable Tramways is eight times that of the Melbourne Cable Tramways with a greater annual rate of wear and a life loss of 23 per cent as against 6.2 per cent.

A national uniform wage system has been advocated for Australian railways, said Mr. Pringle, but he considers such a system ill advised. Scales of living and costs of living differ in city and country districts and the differential systems based on each local situation he believes to be the only just wage system.

The authorities in Australia have recognized the importance of depreciation and now grant 10 per cent for power station plant and 5 per cent for tramcars.

Rapid Transit Station Design

Relation of Platform, Entrance and Exit Arrangement to Passenger Interchange, with Appropriate Examples from Typical Subway and Elevated Stations for Rapid Transit Lines

IN THE issues of *Engineering News-Record* for Oct. 28 and Nov. 4 Olof A. Nilsson, designer, Transit Commission of New York City, gives a comprehensive analysis of the problems connected with the design of stations for rapid transit lines and illustrates present practice by means of appropriate examples. Some of the points made by Mr. Nilsson are outlined in the following paragraphs:

Two factors determine the passenger capacity of a railroad, the capacity of each train and the minimum headway on which it is possible to operate trains. The former, of course, depends on the capacity of each car and the number of cars in the train. The minimum operating headway is determined by one of two independent factors, the safe minimum distance between trains running at a certain speed between stations, "the running headway," and the time required by the train to pass through a station block, "the station headway." The station headway, again, is primarily determined by the length of the train stop at the station. As ordinarily constructed the stations are the points of slow train movement, and, in general, the station headway governs, and the minimum operating headway is fixed by the maximum station headway on the line.

When a station is planned the starting point should be the ultimate carrying capacity of the line and the ultimate traffic yield of the district tributary to the station. From these factors and from the general scheme of operation the size and capacity of the cars and the number of cars to the train, the train lengths and train capacity, are determined. The train length is the basis for the platform length, while the width of the platforms, the width and capacity of stairways and passages, etc., are fixed with reference to the anticipated maximum traffic flow through the station. This is seldom a simple problem.

Classified on the basis of platform type, all stations are of either the side-platform type, the island-platform type, or a combination of both. With reference to location relative to the line, stations may be classified as:

(a) Terminal stations, which may be either the loop-end type (Hudson & Manhattan downtown terminal in New York) or the dead-end type (Brooklyn Bridge terminal New York).

(b) Intermediate stations.

(c) Stations at junction points, where two or more lines meet, or where one main line divides into branches.

(d) Stations at crossing points, where two or more lines cross, either with or without track connections.

In planning entrance and exit stairways it makes a difference whether the station is elevated or underground. In crowds more people go up a stairway than down in a given period. A convenient and safe rule in figuring the capacity of a stairway is to allow for each lineal foot in width 1,000 people per hour for downward and 1,100 for upward movement when the movement is all in one direction. The capacities of unobstructed ramps and passages may be assumed as 2,000 per lin.ft.

in width per hour. For an average walking speed of 5 ft. per second this allows 9 sq.ft. of floor space to each person. Where people move simultaneously in opposite directions under crowded conditions the capacity is less. No stairway planned for simultaneous movement in both directions should be less than 5 ft. wide. Sharp turns also seriously retard the movement and should be avoided wherever possible. The maximum grade for a ramp should be 11 per cent; 8 to 10 per cent is better. For stairways the pitch adopted in the New York subways—7 in. rise and 11 in. tread—is good; when conditions permit, it is desirable to reduce the height of the riser and correspondingly increase the width of the tread according to the rule that two times the height plus the width (both in inches) should equal twenty-five.

On a loading platform passengers waiting for a train naturally group themselves along the platform edge. Sufficient width should be allowed for these waiting passengers to permit a certain freedom of movement and to give unobstructed passage to incoming passengers. Moreover, behind these groups there should be enough width to permit people to move about between different parts of the platform and the platform stairways. Each station is an individual problem and no definite rule for platform width can be given, except the general statement that the more the conflicting passenger streams are separated into definite channels and the quicker the platform is cleared the better will be the result.

SOME EXAMPLES OF SUBWAY AND ELEVATED STATIONS ARE CITED

In the Paris rapid transit system the lines all have loop ends, permitting the trains to run continuously back and forth and around the loops without the use of switches and crossovers. For the most part these lines are built underground with stations as close to the surface as the method of construction and the topographic conditions allow. The standard platform length is 246 ft. and the width (of side platforms) about 13.5 ft. Intermediate stations are generally of the side-platform type, while most of the end stations have island platforms. The latter have also, in general, separate stopping places for loading and unloading, so that incoming and outgoing passengers are kept separate from train to street.

On one of the additions to the rapid-transit system of Berlin, the Schöneberg subway, a two-track line which was opened for traffic in December, 1910, the stations, of the island-platform type, have platforms 25 ft. wide and entrances at the ends through stairways 13 ft. wide to the middle part of the street. They were planned to be built in two stages, the first part of it only was designed to be completed at the opening of traffic, the second part to be added when necessitated by the growth of traffic. The first part of the station, with a platform length of 148 ft., accommodates a train of three cars; the completed station has a platform 312 ft. long

and accommodates a seven-car train. The middle part of the platform is occupied by various stands and enclosures for station attendants, newspapers, etc.

In Boston the busiest station on the subway system is the Park Street underground station at the intersection of the Tremont Street subway and the Cambridge-Dorchester tunnel. Here the lower level station, for Cambridge-Dorchester trains, is 350 ft. long and has two side platforms for unloading and one island platform for loading. The former are 10 to 12 ft. wide, the width of the latter varies from 18 to 30 ft., tapering from the center toward the ends. The upper level—for the Tremont Street surface cars—has two island platforms. Each track has berths for eight cars along the straight portion of the platform. The east platform (exclusive of stairways) contains about 9,625 sq.ft. and the westerly one about 14,050 sq.ft. The entrance and exit stairways from the upper level to the surface are through structures on the Boston Common. The southerly entrance on the easterly platform has an intermediate lobby or mezzanine above the platform for the control; on the other entrances the control is on the platform. The lower level has an entrance lobby at its easterly end just east of the Park Street structure with stairways to the street and from the unloading platforms, ticket control and a wide stairway to the loading platform. From both unloading platforms there are escalators to the street surface. For direct transfer between the two stations there are six stairways, one from each platform on the lower level to each one on the upper.

An extensive rapid transit system including both subways and elevated roads has been planned and is being built in Philadelphia and the stations on this system are good examples of modern, well planned, rapid transit stations. In the Girard Avenue express station on the Broad Street subway the platform length is 550 ft., the width at the center 20 ft. 9 in., tapering toward the ends through a large radius curve on the outside platform edge. The platforms are accessible from the street through a mezzanine under Girard Avenue which has eight stairways from the street and three to each platform. In addition there are stairways for exit only, near the ends of both platforms.

A local side-platform station on the same line at Ridge Avenue has a similar arrangement with entrances and exits at the center and additional exits near the ends. The platforms, 12 ft. wide except at the ends, where the width is 10 ft., are unobstructed through their entire length, platform columns being eliminated and the stairways being built in recesses outside of the walls of the main structure. Another local station at Twelfth and Arch Streets on the "delivery loop subway" has entrances at or near the ends with additional exits at the center.

The Brooklyn Bridge station of the first subway in New York, opened for traffic in 1904, was built for eight-car express trains with platforms about 350 ft. long. The width of the express platform at the center is 20 ft., narrowing toward the ends. The stairways from the platforms are 8 ft. wide and the mezzanine platform or bridge spanning the tracks is 20 ft. wide. The two side platforms of the station have never been used. When the rapidly growing traffic made the train service originally adopted insufficient, the express platforms were lengthened to 480 ft. and ten-car express trains put in service. A ten-car train is 520 ft. long,

so that the end doors of the first and last cars do not come within the platforms and are not used.

The Chambers Street station of the Seventh Avenue subway, opened in 1918, is located not far from the Brooklyn Bridge station and invites a comparison with the latter. The platforms are 18.5 ft. wide and 485 ft. long. Instead of a narrow bridge spanning the tracks there is a large mezzanine floor under the intersection of Greenwich and Chambers Streets with stairways to the four street corners. From each platform there are four stairways to the mezzanine. Should additional stairways and mezzanine area be required the mezzanine can be extended over the platform in both directions.

A station that by virtue of its location is destined to have a very heavy traffic is the Grand Central station of the Park Avenue-Lexington Avenue subway, opened for traffic in August, 1918. It is located diagonally across Forty-second Street between Park and Lexington Avenues, and is adjacent to and by means of underground passages connected with the New York terminus of the New York Central and the New York, New Haven & Hartford railroad systems and the Grand

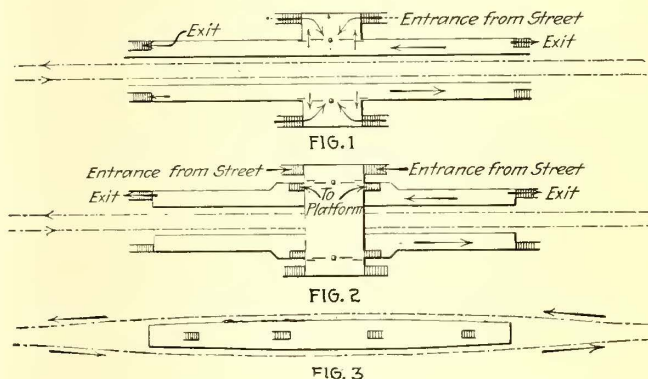


FIG. 1—SIDE-PLATFORM STATION. FIG. 2—SIDE-PLATFORM STATION WITH MEZZANINE. FIG. 3—ISLAND PLATFORM STATION

Central Terminal. Directly below the station and connected to it by means of a ramp, a stairway and three elevators is the Grand Central station of the Queensborough subway, which here runs under Forty-second Street. There is also a shuttle service under Forty-second Street from this station west to the Times Square station on the Seventh Avenue line. It is evident that in addition to the traffic originating in the neighborhood, rapidly being built up with large office structures and hotels, an unusually large transfer traffic will result from the meeting and intersection of these traffic lines. The station is of the ordinary type for four-track express stations with two island platforms of varying width about 485 ft. long. Each platform has, in addition to two stairways leading down to the passageway and ramp communicating with the Queensborough station below, six stairways leading to two mezzanine floors above the platform. From these mezzanine floors there are numerous passages and stairways leading through adjacent buildings to the street level and opening on Forty-second Street, on Park and Lexington Avenues and as far north as Forty-fifth Street. A short ramp connects the larger of the two mezzanine floors with an island platform serving the shuttle trains to the Times Square station.

The problem of locating entrances and exits is

frequently a difficult one for the station designer. On a busy street the presence of an elevated stairway or a subway kiosk on the sidewalk is, as has been demonstrated in New York, a serious impediment to the movements of pedestrians. On the other hand a subway or elevated entrance located entirely inside the building lines of an adjacent business building not only has the virtue of not being a sidewalk encroachment but is also an actual asset to the owners of the building, increasing in value as the traffic increases. This has also been demonstrated in New York, where property owners in general are alive to the advantage of having a subway entrance on the premises, and are quite willing to grant the space for and pay the cost of an entrance without any other compensation than the resulting increment in rental value.

In the building of the Frankford elevated railroad it was aimed to avoid placing the station stairs on the sidewalks. At all stations on this line a building containing stairways, control, toilets and waiting room has been built within the building lines on property taken for the purpose under condemnation proceedings. At the platform level there is a bridge from the station building to the platform. Such a station is located at Ruan and Church Streets. It is a rectangular building and control may be at either the street level or at the platform level.

Electrification of Railways in Great Britain

Advisory Committee Presents "Interim Report" Favoring 1,500 Volts, Direct Current, for Contact System and 50 Cycles for Transmission

THE committee appointed by the Minister of Transport of Great Britain to inquire into the electrification of railways has presented an interim report, covering the progress made as a result of twenty-eight sittings held beginning on March 22. This committee comprises Sir Alexander Kennedy, chairman; S. G. Redman, secretary, and Sir John A. F. Aspinall, A. R. Cooper, Sir Philip Dawson, Sir Alexander Gibb, Charles H. Merz, Sir Philip Nash, Lightly Simpson, Roger T. Smith, Sir John Snell and Sir Henry Thornton.

This committee was asked to consider (1) whether any regulation should be made for the purpose of insuring that the future electrification of railways in the country be carried out to the best advantage in regard to the interchange of electric locomotives and rolling stock, uniformity of equipment, etc.; (2) if any such regulations are desirable, what matters should be dealt with and what regulations should be made, and (3) how far it is desirable, if at all, that railways or sections of railways already electrified should be altered so that they may form parts of a unified system.

The committee reported that evidence had been taken from witnesses representing a number of railways and that Ivan Ofverholm, chief electrical engineer Swedish State Railways, and Col. Huber-Stockar, consulting engineer Swiss Federal Railways, had come to England to give the committee the benefit of their advice.

The principal points raised in the report are covered in the following paragraphs:

It is considered that in order to insure that the future electrification of the railways shall be carried out to the best advantage, it is desirable that certain general

regulations should be made for observance by the railway companies when electrifying their lines. These regulations should be directed especially to insuring standardization of those methods and appliances which are likely to prove most satisfactory under British conditions. They should put no avoidable difficulties in the way of the adoption in future of any improvements in methods or appliances which may from time to time become available with increasing knowledge and experience.

The committee recommended that regulations be issued to the effect that in the cases of those railways which have not as yet electrified any lines, as well as those which at present have electrified all or part of their lines on a direct-current system, electrification or extended electrification, as the case may be, should be carried out on the direct-current system.

It is further recommended that the standard pressure of the direct-current system at the substation busbars should be 1,500 volts, subject to the continuance of any existing 600-volt or 1,200-volt installation; also that half the standard voltage be adopted, where advantages would arise from the use of this lower pressure, and that higher pressures be adopted, limited to multiples of the standard pressure, where it can be shown to the satisfaction of the minister that sufficient advantage would accrue.

It is still further recommended that both overhead and rail conductor collection should be permitted, the position and general design of the conductors and structures to be in accordance with recommendations to be made later. In a subsequent report the committee will also suggest the requirement that locomotives or motor coaches be able, where necessary, to run at two different voltages and with either rail or overhead collection.

It is recommended also that the generation of current for direct current lines should be alternating, three-phase, at such voltage as may be desirable in each case; also that in the case of existing generating stations supplying at any frequency between 25 and 50 cycles it is unnecessary to make any change in frequency, but that it is desirable that where any one such frequency is in general use in a particular electricity district, any new power station put down in that district for supplying a railway should adopt the frequency which has been approved by the electricity commissioners or is in general use in that district. The committee states that, from evidence which has been put before it, as well as from the experience of its members, a desirable frequency is 50 cycles.

The committee excepts from its recommendations the electrified portion of the London, Brighton & South Coast Railway system which long ago adopted single-phase current for its suburban lines, and did so with a special view to the adoption of a system which at that time appeared the only one admitting of extension from London to Brighton, when this extension became feasible. The general manager of the company, Sir William Forbes, came before the committee to say that his company considers the extension to be now not only feasible, but urgently desirable. In view of the circumstances, the committee recommends that the electrical system of working at present in use, or actually under construction, on the Brighton company's suburban lines need not be changed and that in view of the recent proposals of the government as to the grouping of railway companies the question of the system on which the pro-

posed extension of this railway line to the coast should be carried out is one for special consideration from the point of view of the requirements of through working and interchangeability of traffic with the other systems forming part of the proposed Southern group. Subject to these matters receiving the fullest consideration, and provided the completion of the proposed extension on the present system shows a substantial financial advantage, the committee is of the opinion that it should be allowed.

Three Fundamentals Govern at Richmond

IN A recent communication to the editors of *ELECTRIC RAILWAY JOURNAL*, Thomas S. Wheelwright, president Virginia Railway & Power Company, Richmond, Va., made the following comment on the general traction situation, which is worth special note:

"I am firmly convinced that in order for the utility business to re-establish its much-needed credit it must first prove its willingness and ability to adhere to a few fundamental principles: First, it must establish its relations with its employees on the basis of the open shop, which I believe to be a concrete application of American independence. Of course, the rates of wages must be fair and equitable, and in this connection I firmly believe in the principle of profit sharing which we have put into effect. Second, that the old contractual relations with the municipalities which were initiated and have been continued on a 'jockeying' basis will have to be wiped out and replaced by contracts guaranteeing a just and inviting return on the

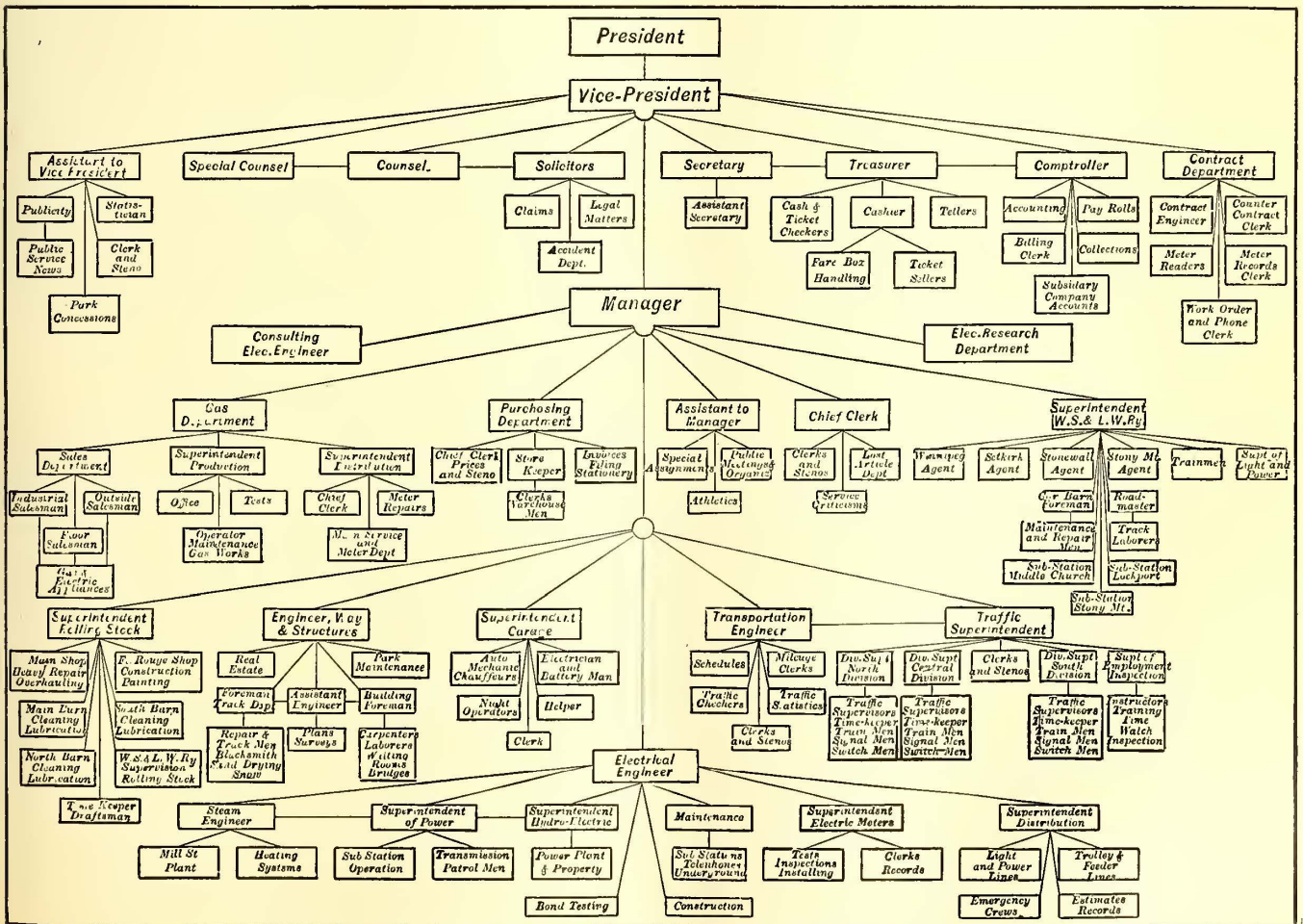
fair value of the properties. Third, that the equipment or machines by which the public is served must be improved and made to conform to present-day conditions, especially by the wider adoption of the safety car and the use of trackless trolleys in the smooth-paved districts, with a view to the latter vehicle gradually replacing the present trolley as the streets are smooth-paved.

"With these principles in mind and persistently adhered to, I do not believe it is too much to hope or expect that the trolley business in the next generation will be an even greater factor in community growth than it has been in the past."

Staff Organization of Winnipeg Electric Railway

THE Winnipeg Electric Railway staff has recently been considerably reorganized, some of the changes being mentioned in the issue of this paper for Aug. 28, page 441.

As stated in that article, the managerial work has been turned over to Frank L. Butler, formerly general superintendent, who reports to A. W. McLimont, vice-president. The accompanying organization chart shows the way in which responsibility focuses in the several departments, and the chart also constitutes a general bird's-eye picture of the railway system as a whole. It comprises about 112 miles of track and 325 or more cars and seven buses are used. A large lighting and power business is conducted.



NEW ORGANIZATION CHART FOR WINNIPEG ELECTRIC RAILWAY

Electrification Situation Summarized

At Joint A. S. M. E. and A. I. E. E. Section Meeting
Held in New York City George Gibbs Presented
a Comprehensive Picture of the Problem

IN THE issues of this paper for Oct. 23 and 30 the proceedings of a joint meeting of mechanical and electrical engineers held in New York City on Oct. 22 were covered in some detail. Space limitations last week precluded the inclusion in extenso of the closing remarks or summary of George Gibbs, chief engineer electric traction Long Island Railroad, but a longer abstract was promised. This follows:

Mr. Gibbs considered first the two types of power plant that are available for transportation work, the portable and the stationary. In steam service the plant is a part of the moving train; in electric it has both stationary and moving elements, *viz.*, a central power-generating plant, various connecting links to bring the power to the train and means of utilizing it there.

As regards simplicity, therefore, the self-contained steam locomotive has an inherent advantage over the combination of elements required for electric propulsion, and the latter must show some peculiar advantages in an operating rather than a structural sense if it is to supersede steam traction. Furthermore, the steam locomotive has been developed to a perfection of detail and a high degree of steam economy during the one hundred years of its use; it does wonderful work, and is in possession of the field, representing a heavy money investment, and can, therefore, be displaced (even by something better) only by slow degrees. Railway men can hence discuss this new rival of the steam locomotive with calmness and should co-operate with their enthusiastic electrical friends in giving their suggestions a trial. One never can tell what good may develop out of a thing, especially when he does not fully understand its possibilities.

STEAM AND ELECTRICAL MEN MUST GET TOGETHER

Mr. Gibbs said that he spoke as a steam railway man and confessed to a "sneaking" fondness for the reliable old "iron horse." He was, however, sufficiently "in" with the new order of things to warrant him in speaking plainly to the electrical men and suggesting to them due modesty in making their claims. Co-operation of both sides must be had in the development of a useful new traction means. This is especially desirable now, as the paramount necessity of the country is more and better transportation. If it can be furnished through electric traction, in particular cases as a starter, this should be known now. An electric system will function in a successful, reliable and efficient manner for any kind of railway service. It is capable of unlimited hauling capacity, is flexible as to speed and has important features conducing to safety in handling trains. The fundamental question affecting its adoption, however, is this: "Is the substitution of electric for steam haulage warranted by its advantages in the production of more transportation, and if so, is it practicable financially?" No sweeping generalization to the effect that electric traction will be used because it functions well will impress railway managers; they must have the answer to the above question.

Now, as regards the first portion of this query, it would appear that there are a number of important

situations in which electric traction will produce results which cannot be had by the steam locomotive, notably in increasing existing track capacity, especially on lines having heavy grades, in yard shifting, in suburban and terminal services, and in locations (such as in tunnels) where the absence of combustion is necessary or desirable. Such installations should be undertaken if financially feasible, and feasibility can only be determined by a critical examination of each case. Assuming that the money can be raised for an improvement which will pay, it will be found that electric traction will pay, directly or indirectly, in the special cases to an extent depending upon the density of traffic and the difficulty of maintaining proper steam operation.

It must be admitted that an electric installation involves a higher first cost than steam; in fact, its adoption means that more or less existing investment must be scrapped. Therefore, the increase in fixed charges must be offset either by the direct operating savings produced or these plus the indirect savings and benefits. The latter may mean avoidance of permanent-way additions, permissible change in operating methods, greater traffic movement and production of new kinds of traffic. In spite of some differences in opinion, we cannot escape the conclusion that there is always a large saving in fuel with electric traction, generally some saving in maintenance cost of "power equipment" and often important savings in train crew costs, engine house expenses, minor supplies, etc.

In conclusion, Mr. Gibbs said that sometimes the "direct" savings will be sufficient to return a handsome profit over and above charges; if not, the indirect savings must be included. It will avoid future disappointment if the facts are faced. The electrification of the railways of the country as a whole, or the electrification of the whole of any extensive component system, is neither practicable nor desirable, measured by costs and results; the doom of the steam locomotive has not been sounded and will not be in our time. But the fact that electrification is not universally applicable should not discourage any one; it has a very large and profitable field (both for the railways and the manufacturers). These facts indicate the importance of carefully investigating each proposed application to insure that it is properly conceived and carried out.

Rail-Light Bowlers at Play

THE Doherty Men's Fraternity League, which takes the place of the joint company section of the Toledo Railways & Light Company, Toledo, Ohio, has issued its bowling schedule for the 1920-1921 season. All departments of the company are represented by teams, and sixteen alleys are required for the weekly game. As the rules may be suggestive to men interested in developing interest in sports on other properties, they are given below:

This bowling league shall be known as the Doherty Men's Fraternity League and shall be governed by A. B. C. rules.

The entrance fee for each team shall be \$10, one-half of which is to be added to the prize money furnished by the company and one-half to be used as forfeit money, which will be returned in case the team finishes its bowling schedule.

All fines will be taken out of prize money at the end of the season.

Each team will be limited to eight men, not more than two of whom may be "A B C," "All-Star" or "Greater Toledo League" bowlers.

If a team appears on the alley with only four men the average of that absent member of the team who has rolled the greatest number of games shall be used as the fifth man's score.

All disputes shall be referred to the grievance committee for adjustment and its decision shall be final.

Regular games shall be bowled on Tuesdays at 8:30 p.m., one-half on the Colonnade and one-half on the Auditorium alleys.

ELECTRIC RAILWAY PUBLICITY

Devoted to How to Tell the Story

Further Suggestions as to Movies

SOME suggestions regarding the use of movies were printed in last week's issue of this paper, and the following additional communications are given to indicate the continued interest in this subject as a practical means of railway publicity.

F. W. Brooks, president Detroit United Railway, writes in regard to the suggested use of motion pictures in a broad way in the promotion of electric railway publicity work: "I think the suggestion well worth earnest consideration, keeping always in mind the fundamentals set forth in your article."

F. R. Coates, president Toledo Railways & Light Company, writes that he "fully concurs" with the ideas expressed in the editorial suggestion in the Sept. 25 issue of the JOURNAL.

A prominent general manager of a Western street railway writes the significant comment that "any statement emanating from a public utility as to the conditions confronting either the utilities as a whole or the particular utility must have the stamp of genuine 100 per cent truth upon it or it will do more harm than good."

A. E. Potter, general manager the Rhode Island Company, writes:

"I believe that with a proper person heading a publicity department much good can be done in creat-

ing a better understanding on the part of the public as to the problems which confront a street railway.

"I am not so strongly of the opinion that motion pictures would be particularly beneficial, but might feel differently if there was an opportunity to try the experiment."

Circulation Must Have First Consideration in Working Out Film Plan

ILLINOIS COMMITTEE ON PUBLIC UTILITY INFORMATION

CHICAGO, ILL., Oct. 26, 1920.

To the Editors:

No one can doubt the effectiveness of motion picture films intelligently conceived, adequately executed and consistently and extensively employed. At the same time I am not yet ready to admit that any means of publicity is better than the newspaper. It is true that a great many people patronize "the movies" and it is also true that the great numbers who do not are usually the kind of people who are susceptible to influence by educational publicity and who when duly influenced are of the most assistance to the utility business. It is also true that almost everybody reads the newspapers and our impressions and opinions are in very large measure, and without our always realizing it, based upon what we read in the newspapers.

Please do not misunderstand me as in any way decrying the advisability of using motion picture films. I believe in using all means of publicity and films are one of the best. But you will doubtless find, as I have whenever attempt has

Information Campaign in Newspaper Advertisements

Increase in Freight Rates Hits Local Utility Hard

\$22,000
Added to
Yearly
Fuel
Bill
of the
Pine
Bluff
Company

The increase in freight rates, which became effective yesterday, means an increase of \$22,000 a year in the fuel bill of the Pine Bluff Company.

The railroads were entitled to the "raise," because the old rates were inadequate to meet the increased cost of the service, and pay a fair rate of interest on the money invested.

The increase in cost of fuel, labor and materials causing the average increase in operating expense of 76.2 per cent in the past two years over the year ending June 30, 1918, has been shown.

Figures on prices of commodities and other services demonstrate that the utilities and the newspapers are the only manufacturers or servants of the public whose pay has not advanced proportionately with increased costs.

With \$22,000 added to its fuel bill, the greatly increased price of fuel itself, the higher costs of labor, material and money, and the contemplated further increase in the pay of street carmen, it is obvious that the Pine Bluff company is entitled to a "raise" in pay.

Everyone
Prepare
To make Monday's
Celebration the
Greatest Labor Day
Event in the State.

The Pine Bluff
Company

FOR SALE—Handsome brick veneer home; two stories; bath on each floor; large lot; this property is very valuable; it is near street car line. Address "Owner," care this newspaper.

"This Property is Very Valuable"
"It Is Near Street Car Line"

How often you see this statement or its equivalent in a for sale or rent ad?

Many people think of street cars as of value only to those who use them.

These advertisements serve to emphasize what everyone knows: the street railway—like other public utilities—is an asset, a big asset, to the community.

Everyone benefits through the operation of the street cars. They make property more valuable and promote the "growth" of the city. Take the street cars out of a city and see what happens. Real estate values slump; people move away; business goes on the blink, the town is like a deserted cemetery.

It is in the interest of the capitalist, as well as the salaried man, to see that the car lines prosper.

The Pine Bluff Company

The Pine Bluff (Ark.) Company has been running a series of newspaper advertisements in its publicity campaign. Some of these are shown for the ideas they may suggest for use elsewhere.

Costs Go Higher; Wages the Same!

While wages of most workers have been increased, there's one class of servants whose pay has not been advanced in keeping with the higher cost of service. This is the public utilities.

"Fuel and Lighting Materials Increased in July 21-8 Per Cent," says The Bache Review of August 21, an authority on business conditions. The Bache Review reports that while there has been a decline in wholesale prices of some commodities, prices are still above those of July, 1919. "Food articles having increased during the year 24.1 per cent, and fuel and lighting 47.4 per cent."

Than the Public Utilities there are no more loyal servants. They are ever at your command—furnishing transportation, light and power, or water at a wave of the hand, the turn of a switch or twist of a spigot. They are willing, but like children, they cannot thrive and grow and maintain maximum efficiency unless properly nourished.

Is Your Child Under Weight?
Feed him balanced rations, that you may prevent tuberculosis. Thousands of Arkansas children are undernourished.
Jefferson County Public Health Association.

The operating costs of public utilities have increased tremendously, you know you are paying them practically the same wages as five years ago.

The Pine Bluff
Company

been made to get down to the concrete facts in relation to motion picture films, that the detail of getting the film shown—in other words, in getting the thing we call “circulation” in newspapers—is one to be considered first and always, instead of last as it usually is. The film that isn't shown doesn't do much educating.

BERNARD J. MULLANEY,
Director.

Film Publicity So Effective that Expense Should Be Secondary

CHICAGO SURFACE LINES

CHICAGO, ILL., Oct. 26, 1920.

To the Editors:

Accepting the invitation for criticism and suggestions on the “Next Step in Publicity Work” editorial suggestion in your issue of Sept. 25, page 604, I am pleased to outline my views on a subject which should be considered seriously by the industry.

There is no question in my mind but that the average citizen could be reached most surely and most effectively by the “movies,” and if each electric railway company could afford to produce and circulate its own appeal by the far-reaching film story the results would be more than worth while. For many companies, of course, this means of publicity would prove too costly. The next proposition, then, is to have the industry “get behind” a national railway film.

As your editorial points out, “the success of any motion picture publicity will depend on the character of the film.” Herein is the real problem. Can a scenario be prepared which will tell the story desired by the electric railways and at the same time prove interesting to the public and acceptable to the managers of the motion picture theaters? Upon first thought one might answer “yes,” but when one thinks of the various sizes of railways to be suited and of the widely different classes of audiences to be reached the answer does not appear so easy.

I recall an interesting film of this character which I saw some years ago telling the story of progress in steam railroad transportation from the beginning up to the latest electrified locomotive. A similar story for electric railways would be easily prepared, but to my mind this would not reach the object desired, namely, a more sympathetic understanding of the electric railway problem. Another film which I saw was used in the campaign for a new franchise for a railway company. It pictured some of the improvements contemplated, including extensions to parts of the city which were urging better transportation. Another “movie” which suggested the value of this medium for reaching a large portion of the public was the film shown by the Kansas City Railways at Atlantic City recently. Many of your readers probably have seen the series of films issued in the name of the Ford Motor Company telling the story of various industries. These films appear to represent a high character of workmanship and they undoubtedly interest the average spectator. One noteworthy feature is that they tell their several stories briefly. This

element should be borne in mind in any scenario issued on behalf of the electric railways. The “story” must not only be interesting, it should also not be dragged out. It is quite likely that the “national railway film” will in the end develop into a series of films—one series, perhaps, telling the story of the interurbans and another the story of the urban systems.

The difficulty will be in having leaders of the industry agree on the essentials of the story to be presented. If this can be done the new factor in publicity work is bound to be so effective that expense should be considered a secondary element. It might even be worth while for the Committee of One Hundred to offer a cash prize for the most satisfactory scenario presented.

J. V. SULLIVAN,
Assistant to the president.

Suggestions for a Series of Films Which Must Be Short to Succeed

WINNIPEG ELECTRIC RAILWAY

WINNIPEG, CANADA, Oct. 22, 1920.

To the Editors:

The “call to arms” in the interests of publicity for the street railway industry, sounded by the ELECTRIC RAILWAY JOURNAL in its Sept. 25 issue, is opportune. The success which has attended the inauguration of a policy of publicity, as various records of companies will show, should prompt all interested in the future of electric railways to give further thought to this phase. Further research in the question of “putting publicity over” is fully warranted by the results so far achieved, especially so when one considers that publicity for street railways is a comparatively new development.

In contemplating the future, the opportunity for development seems to be not so much in “what story to tell” as “what is the most effective medium of telling it.” It does not appear that there is much left unsaid by the various publicity campaigns which have been carried on in all parts of the country. Certain it is that if these had only been 100 per cent effective there would be no further need of publicity. So, while the street railway “stories” can be

told again and again in a variety of forms, there remains to be developed new and more effective avenues of telling these stories.

The suggestion of the JOURNAL that the motion picture field is worth considering as the next possible step in street railway publicity is worthy of the most serious consideration. To the questions as to whether the street railway story can be told in motion pictures, and if, when told, such pictures can be placed in motion picture theaters throughout the country, I would answer emphatically “Yes.” It has been my experience that motion picture theaters are open for the exhibition of advertising films in return for free advertising on the street cars, such advertising to take the form of window or dashboard posters.

A brief reference might be made to the public market which the motion picture field offers. In a city of, say, 200,000 people there will be an average of twenty-five motion picture houses, showing to audiences aggregating,

Rhymes of the Underground

Adolphus Minns resides at Kew
And does what people ought to do.

In boarding trains his instincts are
To “let 'em first get off the car,”
Then “hurry up” himself to enter
And “pass along right down the center.”

Though nigh his destination be,
No selfish “door obstructor” he;
Rather than bear such imputation
He'll travel on beyond his station.

His unexceptionable ways
E'en liftmen have been known to praise—
A folk censorious and, as such,
Not given to praising overmuch.

Small need have they to shout a grim
“No smoking in the lift” at him,
Or ask if he's the only one
For whom the lift is being run.

Adolphus Minns, who lives at Kew,
Does all that people ought to do—
Retires to bed before eleven,
Is up and shaved by half-past seven—
And, when he dies, he'll go to Heaven.

Perhaps he's gone; I've never met
His like at Kew or elsewhere yet.

—From *Punch*, London.

weekly, 250,000 people. Of these picture houses, six will be classed as "first run" houses, which will not show films as a "second run." This means that five of the twenty-five theaters will not show a film, but the remaining twenty will. A conservative estimate will place the number of people which these twenty theaters play to in one week at 150,000. In larger cities the figures are correspondingly increased.

In Canada one of the large steam railway companies has started a news film service, which is carried by a chain of vaudeville houses. A few interesting "news" views are shown, ending with views of scenery or holiday resorts and fishing retreats reached by the line of that railway, although the people are not told in the film that they have to take this line to reach the places shown. If a steam railway finds it profitable to put on a film of this nature for the purpose of increasing passenger traffic, surely the electric railway companies of this continent will find it a good investment to show a series of films designed to effect a more thorough understanding between the public and street railways regarding the problems confronting them. It would appear that if the motion picture field is to be fully developed it should be on a national basis, with pictures sent out by a national syndicate and with the costs of operating such a syndicate borne by a pro rata assessment on the various company members.

The next question and a most important one to be considered is the matter of the character of the films. The films must be acceptable to the public and acceptable to the motion picture manager. The story to be told of the street railways is a long one and should be divided into a series of small films averaging 750 or 1,000 ft. in length, each film to be definite and complete in itself. Just by way of suggestion as to what these films should be, I think that it might be well first to depict the construction of a street car, tracing the treatment given the wood, steel and other material from the time they enter the factory to the finished product, like "The Making of a Ford Car." Very few street car patrons have any conception of the intricate motors and massive machinery hidden by the floor of the street car on which they are traveling. This film would carry smart subtitles and would close with a bill summarizing the costs of construction. It might be advisable to contrast these costs with pre-war figures.

A second picture might very well deal with unique street car accidents. Every street railway has a record of some unusual accident which can be easily portrayed on film and such a film might show how such an accident might have been avoided. Exhibition of such a film would hold public interest and be of tremendous educational value.

A third film to be sent out from this "American Electric Railway Cinema Syndicate" might very well deal with the history of transportation—always an interesting story. The development of street cars, from the old horse cars with their inconveniences to the present-day cars with their "elegancies of travel" would be shown, with views of the new one-man cars.

The question of "service" might be dealt with in a fourth film. Views could be taken of the carhouses of some large system, showing the preparations made just prior to rush-hour time. Next view might show a factory with thousands of workers pouring out into the yard and the cars lined up in procession ready to deal with them. Here and there a view of queue formation might be shown, with a hint that this method of loading means quicker service. It occurs to me that the handling of crowds and the various methods adopted would almost occupy the length of a film itself, if all the various factors were to be depicted. Other views would show snow sweepers in action, while others would show the "dispatching" offices and other interior workings of some of the big systems. All these factors would have a cumulative effect in impressing the public with the amount of service they receive for their few cents.

A fifth film might be confined entirely to the inner workings of a street railway company. Views of the machinery which sorts out the nickels, the dimes, the pennies, and also the tickets might be shown; also the mass of pennies received in one day, and what becomes of them. Other interesting labor saving devices might well be shown with interest to the public and benefit to the companies. This film might also carry some views of how complaints are handled, and giving an insight into the trainmen's training school.

And so on. I should think that probably a dozen or more such films could be developed and sent out to the various cities. A reel or two would have to be devoted to the financing end of the street railway business. A story might be told along the lines of "Autobiography of a \$100 note," representing the year's savings of a young man. He withdraws it from the savings bank, places it in a trust company, which in turn puts it with others to buy street railway securities. The interest which this \$100 should rightly earn might be shown in the form of a cartoon. First we

see, say, a \$10 bill on the screen, representing the interest. Along comes a jitney and takes a slice of it. Then comes franchise taxes and impositions and takes another slice; a Ford car takes another slice, and finally along comes old man H.C.L. and swallows the remainder.

THE accompanying illustration is from an advertisement in the San Francisco Examiner. It is not a street railway ad either, but primarily features the clothing worn by the hero of the episode depicted, which are "Langham Clothes." While the young lady has her eye on the vacant taxi, her escort evidently prefers the car, in the interest of economy and safety. The comment made by the cor-

I believe any company which is able to place a series of, say, a dozen such films in several of the leading picture houses in the city in which it operates will find a wonderful return for the comparatively small amount of money required to have the films made.

I would close with a warning—don't attempt to make one long picture telling the street railway story. Motion picture houses positively will not show them. The only chance whereby it is possible to get industrial films shown is by limiting them to 500 or not more than 1,000 ft. I know several large concerns which have had long industrial films made for advertising purposes, at enormous expense, and then have been unable to get them exhibited. Theater managers will take short industrial pictures; They will not take long films.

HERBERT C. HOWARD,
Publicity Agent.

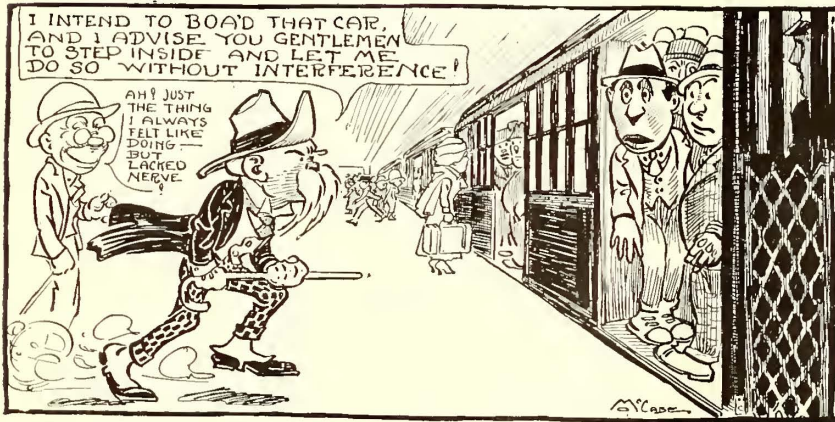
Merchants Can Help the Railways



CLOTHING ADVERTISEMENT
FEATURES ECONOMY
OF CAR SERVICE

respondent who sent in the clipping containing this advertisement was: "If the street car is to be featured with ready-made clothing as a modern thrift ideal, it may be said that electric railway publicity is at last beginning to produce results."

As Seen by the Cartoonist



Mr. McCabe, who draws for the "Interborough Bulletin" and "New York Railways Employees' Magazine," has a happy way of picturing the needs for a higher fare on the New York transportation systems, as well as some

of the foibles of the traveling public. This selection of some of his recent cartoons in these publications includes several of "Colonel B'ff," who is always ready to say and to do the right thing in the right place at the right time.

The Job of a Public Relations Representative*

How a Newspaper Man for Twenty Years Analyzes the Problem of the Electric Railway in Getting Its Story Over to the Public—The One Big Rule to Follow Is to Know the Man to Be Reached and to Talk His Language

By FRED A. CUMMINGS

Public Relations Representative Eastern Massachusetts Street Railway, Boston, Mass.

I WISH to make it plain at the start that I am not a street railway man. I am fundamentally a newspaper man, having worked for twenty years on the territory of the old Bay State system, and as such I did everything possible, both as editor and reporter, to put the railway in wrong. I don't desire to take back anything I said about the old régime of the Bay State, however. I was one of the most hostile newspaper men in the region. I was strong for the proposals of organized labor on the system and felt that the people at the top were a bunch of "highbrows" and were unable to handle the "lowbrow" element which actually operated the property.

I have been with the Eastern Massachusetts Street Railway for about a year now and I wish to state that I am all over my hostility, for I have seen the other side. I wish to emphasize, though, that the hostility in the newspapers toward the street railway seems to me to be because the street railway has never attempted to maintain cordial relations and to obtain the viewpoint of the man who sits at the city editor's desk. The average street railway man thinks a newspaper man is excess baggage and has the aim in life to give the street railway the worst end. This emphatically is not so. The street railway man must study the problems of the man at the city editor's desk and make it possible for him to get the right slant on news of all sorts. In general, the reason why the public is so misinformed is that the street railway has not come half way in explaining its difficulties to the newspapers.

My first act upon joining the staff of the Eastern Massachusetts system was to take a ride over the entire system. I then expressed myself to the managers of the property that this railway is a public institution and any man in the district which the railway serves has a right to ask any question with reference to its operation. Full and complete publicity to the community served is by far the best policy. Further, the manager, when he is talking to newspaper men and when he is acting in charge of his property, should think "What would I do if I owned this property?" and then act in accordance with the answer to that question. Railway managers should get in close touch with newspaper men, who above all others probably have the feel of the pulse of a community, and the newspaper men are then only too glad to make sure that they get the right story on all street railway matters from the manager.

My own duties have to do with more than publicity in that I have a general undefined "department of public relations." Frankly, I started with the idea that the top man tried to scheme his best to put down

the man underneath. As frankly I now admit my error, for, as I have investigated electric railway situations, I find that the man at the top comes more than half way in his treatment of the men on the property. But the fellow at the bottom is not so constituted as to come half way until the manager proves to him his integrity and honesty of purpose. The public relations man is an important factor in this last act. If I may cite one case of my own experience: I asked leave to speak to a large group of men who were contemplating making trouble on the property and was unanimously refused. When these men gathered the next day, however, I was there on a platform telling these men in their own language that they had the wrong dope and proved to them the good intentions of the management and showed them that the management was acting upon these good intentions.

One of our problems in Massachusetts has been the elimination of jitneys, and we rid ourselves of this type of competition by intelligent organizing of public information as to exactly what it meant if the jitneys were allowed to continue to operate. I went to each newspaper and put our entire analysis of receipts and expenditures on the table of the city editor. I told him I was ready to answer anything he desired to know; that the company was in a life and death struggle and asked for a fifty-fifty chance in treatment of its situation by his newspaper. We did not ask any favorable editorial treatment, but asked for fair play, and got it. There was, naturally, some strategy in the elimination of jitneys in some of the towns and it was necessary to take definite stands in order to impress upon the communities the actual facts of the situation and the seriousness of the condition of the company with continued jitney competition.

In this connection I would emphasize that no whiner gets any sympathy. It is necessary to send some one out who can and will say "liar" when it is necessary. This sometimes brings a charge of arrogance against the railway man, but our experience has been that the final result is an appreciation on the part of the public that we knew our business and were working for the good of the community, as well as for ourselves, and we finally came to an agreement with the community.

Now where do electric railways get off? We are hedged in on all sides by public utility commissions, but no commission in existence will be allowed by the public to make a street railway operate at a loss, if the street railway itself will spend a little money in the right kind of publicity. Electric railways in the past, however, have hired too many publicity men who thought only of the creases in their trousers and the flowers in their buttonholes. It is necessary to mingle with newspaper men and get in with them. Usually the best publicity men are lower down in the ranks; those

*Abstract of address delivered before the joint meeting of the New England Street Railway Club and the Providence Section, American Electric Railway Association, Providence, R. I., Oct. 7, 1920.

who get the jobs, however, are generally better with their mouths than with the typewriters.

The trouble with you electric railway men is that you don't know the psychology of the public mind. You don't let the whole story get out. If you electric railway men are thinking of publicity, don't hire a man in whom you don't have entire confidence. Get one who knows the psychology of the newspaper office and the city editor's desk. It is absolutely necessary to get the state of mind of the city editor for all publicity work. You can be confident that a city editor will not lie or misrepresent, and often a city editor makes the best publicity man the railway can get hold of when he is correctly informed. But most of them start wrong. In our own district all Boston newspapers were instinctively against the street railway—all boys in the business grow up in that attitude. This is typical of other situations, and the newspaper men must be educated.

Furthermore, give the public answers to the questions it is interested in. People in general don't care about our financial condition in the abstract. What the public really desires to know is, why aren't the cars on time? Why aren't the cars clean? Why aren't trainmen courteous? Poor rails and cars get on the nerves of the public. If this is what the public wants to know, tell the newspapers why and tell them in the right way, and they will help you out.

Now I want to point out that if any other industry had been abused—had been assassinated, it might be said—as has the electric railway industry it would be dead and buried. The only thing that has kept the electric railway alive to date is its absolutely intrinsic necessity. On account of the industrial and transportation situation, there is a big future for electric railways, if only each man connected with the railways will convince himself that this is so.

One of the most interesting phases of my own experience as a public relations representative has been how the public takes hold of the one-man car. We operate at present 200 of these and have fifty more coming. We also operate some double-truck one-man cars. There were some organization troubles, but 90 per cent of the people on the Bay State system are perfectly satisfied. W. D. Sullivan, managing editor of the *Boston Globe*, said recently that the one-man car was certainly a wonderful idea and was proving so, especially in his vicinity. He wondered why it took electric railway men till 1920 to knock one useless man off of the car in justice to both the public and the men. The cheaper operation resulting from the one-man car makes wages higher and fares lower.

[In the discussion which followed Mr. Cummings' address, abstracted above, he clarified his attitude toward organized labor by declaring that street railways would make a mistake to try to change present conditions. He said he knew the men were 90 per cent good and that it was better to take care of the other 10 per cent, regardless of some of their dissatisfaction. One man may be a terrible demoralizer, but he must be educated.

With reference to one-man cars he said that the company first put in 200 Birneys and then added thirty two-truck one-man cars. From this experience the company decided to convert other two-truck cars to save platform expense only, as these cars fitted the track and traffic conditions met on the eastern Massachusetts system. The system as a whole is largely a one-man car property and both Birneys and double-truck one-man cars can be used.—EDS.]

Repair Shop Facilities and Equipment

Suggestions for Providing Proper Shop Facilities for Maintenance and Overhauling of Railway Equipment of Electrified Steam Lines

AT THE annual convention of the Association of Railway Electrical Engineers held in Chicago, Oct. 19-22, the committee on electric repair shop facilities and equipment gave a proposed arrangement for a repair shop of an electrified railroad.

The plan assigns a space for a storeroom and the committee recommends that the supply of those parts used only for motor repairs be carried in a substore at the electrical shop rather than in the general storeroom. If this is done the foreman of the shop will know at all times what material is on hand, on order and in the shop being made up, and he can be made responsible for keeping a well-balanced stock. By this arrangement a great deal of time will be saved that necessarily would otherwise be spent going to and from the general store for material, and a considerable saving in material should be effected, as practically exact amounts needed would be used and could be accurately charged to the various jobs.

Suitable storage rack should be provided in the main shop for incoming equipment to be repaired as well as finished work. This applies particularly to armatures and motors. A low, heavy table is desirable on which defective motors can be placed, thereby raising them above the floor level so that the workmen can more readily inspect and test them. Power circuits should be convenient to this table for all voltages used in the shop or division of the railroad for which this shop makes motor repairs. The table should be sufficiently large to accommodate easily the various testing instruments used in diagnosing the trouble. After it has been decided what part of the motor is in need of repair it can be torn down on the testing bench. The part in need of repair should then be placed in a box where all dirt can be blown from it by compressed air. This box should be provided with an exhaust blower so that dust and dirt will be taken away and deposited at some convenient point.

Ample bench room should be provided along the wall under the outside windows, and at each vise there should be a drawer for taking care of mechanics' tools, a gas and air connection, also a test lamp in the lighting circuit with permanent portable points to be used for general testing.

Winding racks for handling armatures and rotors undergoing repairs are necessary. These should be designed to take care of any length of armature to be handled, and preferably one head should be adjustable in order to cut down the total number of racks required.

DIPPING AND BAKING ARMATURES

There is some difference of opinion as to whether or not it is desirable to dip and bake an armature after it has been repaired. If it is decided that dipping and baking is desirable the armature should first be dried in an oven for ten hours at a temperature of 100 deg. C., the commutator and bright metal parts should then be taped with friction tape and the armature immersed and allowed to soak in the insulating material until all signs of bubbling cease, which will be at the end of about twenty or thirty minutes. When bubbling ceases

it indicates that practically all of the air and moisture has been driven out of the windings and it should then be placed in a carrier on wheels in such a manner that the shaft will be perpendicular and immediately placed in the oven, where it should remain until the varnish is dried and hard. The temperature of the oven should remain at not less than 100 deg. C. By standing the armature on end the excess compound will drain out in such a way as to not throw the armature out of balance, as would be the case if it were laid on its side.

The committee recommends that the impregnating tank be sufficiently large to immerse completely the largest armatures and that a suitable cover be provided to cover the tank when not in use. The oven should be amply large to handle a number of the largest armatures at one time and doors should be provided so the armature carrier can be wheeled in.

MACHINES, COIL WINDING AND TESTING APPLIANCES

Other equipment that should be furnished in the shop includes a small lathe, drill press, foot-power squaring shear, coil-winding machine, taping machine or taping attachment, commutator slotting machine, as well as a rack for storage of conduit from engines undergoing repairs in the shop, a pipe bench and vise, bench for repairing and testing headlight turbines and shelving for miscellaneous material coming into the shop for repairs.

For railroads located a considerable distance from the large electrical manufacturing concerns the committee recommends the winding of all armature, field and stator coils, since with a good winding machine these coils can be very quickly assembled by a first-class workman, and by following this arrangement a large reduction can be made in the amount of store stock. If the attempt is made to carry coils for the various types of motors a large stock is necessary, whereas when coils are made up as needed, because of the fact that a great number of these coils are wound with the same size wire, it is only necessary to carry a comparatively small amount to take care of repairs. For example, consider three motors using the same size of wire in the coils:

	Amount of Wire	No. of Coils
Motor No. 1.....	75 lb.	50
Motor No. 2.....	60 lb.	40
Motor No. 3.....	90 lb.	60
	<u>225 lb.</u>	<u>150</u>

In order to have a sufficient number of coils available to rewind completely any one of these motors it would be necessary to carry in the store 150 coils of approximately 225 lb. of wire. If coils are wound as needed a supply of 100 lb. of wire would be ample stock to carry, as this amount would be sufficient to make up a complete set of coils for any one of the motors. Obviously if this practice is extended a large saving will result.

The committee recommends in connection with any repair shop a liberal supply of portable ammeters and voltmeters for all the voltages in use. It also feels that a megger is a desirable addition to the equipment of such a shop. By making regular insulation tests of motors in service with this instrument a great many motor defects can be detected and corrected before serious trouble develops, thereby considerably reducing the number of armatures and motors requiring complete overhauling.

In a repair shop that takes care of motor repairs on

the rest of the road or division to which usually the entire motor is sent when it fails the committee recommends the installation of a generator in the electrical shop for use in testing out these motors after they have been repaired. The motor to be tested should be belted to the generator and the generator loaded by means of a water rheostat. In this way the motor will have been tested thoroughly before being returned to its original location.

Electric Welding for Railway Shops

Requisites for Successful Welding Are Emphasized and Economies that Result Shown in Report of Committee

IN THE report of the committee on electric welding, presented at the annual convention of the Association of Railway Electrical Engineers held in Chicago, Oct. 19-22, some facts of interest to electric railways were given.

The report stated that by certain methods various jobs can be safely and economically welded, but attention should be directed to three prime requisites that must be completely and thoroughly met if the application of the process is to be a success. (1) Proper material for making the weld; (2) rules and methods for properly using these materials, and (3) intelligent application of the process to the various mechanical devices or articles that are to be welded.

It should be realized by all that in any autogenous weld the best that can be done is to obtain good cast iron, cast steel or alloy steel in the weld, the casting in this case being the added metal in the weld, or, in other words, the weld itself. No effort should be spared to secure the proper materials for welding. If high grade materials are to be joined, whether the joint be in truck frames or boiler steel, the proper materials for constituting the weld should first be secured.

No expense or pains should be spared in an unswerving endeavor thoroughly to train mechanics until they are capable of making first-class welds with a high average of efficiency and factor of safety.

To secure success (or, perhaps better still, lasting success) in electric arc welding the co-operation of all concerned is an absolute necessity, including the mechanical engineer, the engineer of tests, or metallurgist, the superintendents of motive power and rolling stock, the master mechanic, the foreman and the operators themselves. Fully 90 per cent of all welds that have failed in service have been due to the use of the wrong welding material or unfamiliar or unintelligent application in the design, or inexpert execution of the weld.

The requirements necessary for securing good welds vary broadly, first by group and then by detail member or class. Group arrangement is as follows: Plate material, shapes, forgings, cast iron, cast steel and malleable iron, and yet another (and one which is just now coming to be a very important one), *viz.*, track steel.

The plate group may be subdivided into two classes, first, where free or loose plate material is welded, and, second, when welded in structural or vessel form, which may in turn be again subdivided into non-pressure, low-pressure and high-pressure vessels. All non-ferrous metals are classed together in a second general classification.

In conclusion, the committee feels that it would not be

advantageous to submit a report at this time, other than the progress report which has just been outlined, because the present developments are in the evolutionary stage and the test data and research matter gathered during the past three years are not in shape to present at this time.

Letters to the Editors

Suggestion for New Dimensions of Safety Car

THE WILKES-BARRE RAILWAY COMPANY

WILKES-BARRE, PA., Oct. 27, 1920.

To the Editors:

At the joint meeting of the Transportation & Traffic and Engineering Associations on safety car operation, held at the Atlantic City convention, the discussion brought forth the fact that, in one instance at least, the present standard safety car is not considered as being of sufficiently ample dimensions for the service it would be called on to perform.

To meet the demands which would be made on it would necessitate increasing the weight from 16,000 lb. to between 18,000 and 19,000 lb., with the result that the present standard two-motor equipment may prove inadequate. To increase the motor equipment rating under present methods of motor suspension and gearing means a considerable increase in weight.

In order to keep weights down and to increase the clearances between the motor cases and street crown, the writer suggests that, instead of adhering to the conventional method of suspension, the number of motors per car be restricted to one instead of two and that this single motor be hung longitudinally on the truck with the ends of the armature shaft coupled flexibly to transmission shafts carrying worms meshed to suitable gears on the car axles.

In this way a single high-speed motor of small weight and dimensions may be used with greater efficiency than could be attained by splitting the load between two low-speed motors, each of half the rating of the high speed unit.

It is interesting to observe the relation between the costs and weights of a single high-speed motor equipment and a double low-speed motor equipment each motor of which is of half the rated capacity of the single high-speed equipment. Assuming the ratio of a two-motor equipment armature speed to a single motor equipment armature speed to be as 1:2.8, then the weight of one-motor equipment is about 41 per cent and the cost about 48 per cent of a two-motor equipment aggregating the same horsepower.

With regard to the worm drive the writer has been in touch with a manufacturer of gears of this type for automobile trucks and is informed that gear ratios as low as 1:5 can easily be obtained and that their efficiency is very high and ranges from 92 per cent when new to between 97 and 98 per cent when worn in. The worm drive is quite noiseless in operation and will not bind the motor when the car is coasting. Being located in the center of the car axle it is freer from

water and dust accumulations than would be a gear placed close to the car wheel.

It may be argued against this method of drive that all the eggs are in one basket and that should the single motor for any reason become inoperative the car would have to be pulled in. This is, of course, true; however, with the frequent service made possible with safety cars, no great delay should be incurred by such a mishap, as the following car could quickly push the cripple to a switching point and clear the road.

As against this argument, it will readily be admitted that one motor is easier to maintain than are two and consequently there is less excuse for a defective one-motor equipment than there is for a faulty two-motor equipment. Further, with a single-unit equipment the car and controller wiring should be reduced and simplified, thus removing, in part at least, another possibility of trouble.

While the suggestion outlined above may appear radical, it must not be forgotten that the whole safety car idea is itself a radical departure from what has heretofore been considered as standard practice, and if the scheme here presented is feasible and offers certain advantages ultra-conservatism should not be permitted to prevent its consideration.

J. KENNEDY MANN, Electrical Engineer.

Pole Shifting Is Not as Simple as It Looks

BROOKLYN RAPID TRANSIT COMPANY

BROOKLYN, N. Y., Oct. 19, 1920.

To the Editors:

I read with much interest the article in the Sept. 25 issue of the *ELECTRIC RAILWAY JOURNAL* relating to labor-saving devices used in Cleveland for pole shifting. From the number of requests that are continually received by railway line departments for the shifting of trolley poles it might appear that most garages are located so that the entrance run will come just where a trolley pole will interfere with the ingress and egress of automobiles.

The amount of work that is necessary for shifting a pole surprises the uninitiated, who appear to think that it means merely the digging of a new hole and the lifting of the pole out of the old location and dropping it into the new one. A recent request asks, "Will you be kind enough to have one of your men remove this pole about 2 ft.?" The pole referred to was made of steel tubing and weighed approximately 1,000 lb., so that it would be quite a job for one man to move. Aside from the weight there were attachments of span wires, feeders and other equipment, all of which must be taken care of and proper permits obtained from city authorities for their change.

Another request which I have seen stated that the only wire attached to a pole which it was desired to have moved was a span wire and that the pole could be moved by the builder's own employees, if the railway would permit them to do so. Investigation showed that the pole also supported a side feed pipe leading from a manhole in the street, through which a tap was brought from the underground cable up to the trolley wire. This pipe had been entirely overlooked by the owner and the moving of the pole would have required a change in the route of the pipe which would have necessitated the

opening of the street and the rerunning of the pipe, which was quite an expensive job.

The shifting of a pole seldom improves a line, in so far as the railway company is concerned, and frequently it weakens it if the new location is more than a few feet from the old one. The shifting usually lengthens the section on one side of the pole and shortens the one on the other, and also if a pole on one side of the street is moved and its mate across the street is left in place the result is a skew span, which may cause trouble if the angle between the span and the trolley wire is made too acute. In any case such a location is unsightly.

As the railway does not gain by the transfer of the poles to another location, it is usual to ask property owners to stand all of the expense of the work. It is usually very hard to convince owners of the justice of this claim and many appeals are made to aldermen or other city officials to try to have cost of transference borne by railways. In all cases that have come to the attention of the writer these appeals have been of little value, and eventually the company has been authorized by the owner to shift the pole at his expense.

On the railway with which I am most familiar the only time when poles are moved without charge to the person requesting the change is when the building is high enough to permit of the attachment of the span wire to an I-bolt set in the walls of the building and when the pole to be moved is not carrying any wires except those supporting trolley wire. In such a case the pole can be removed and used elsewhere by the railway company and the burden of painting and otherwise maintaining the pole counterbalances the cost of removal. In such cases it should be necessary, however, for the house or building owner to agree in writing to the attachment to the building and further to agree to reimburse the railroad company for the cost of putting the pole back in its original location if he should later insist on the removal of the attachments from the building.

Some railways have regular printed agreements covering all the points mentioned. In one of these the agreement asks the railway company to remove a pole and to attach the span wires to the building by means of an I-bolt or bolt fastened into the wall. In this case the property owner grants to the railroad company the right to attach and maintain during the life of the agreement its span wires attached to the I-bolt. This privilege is granted for the term of one year only, but continues in force thereafter until the owner secures from the city authorities the necessary permits for setting and maintaining trolley poles in substantially the same locations that are occupied by the poles which are removed, the expense of setting new poles and of transferring wires from the building to them being borne by the property owner.

The railway company agrees that the form and manner of attaching the span wire at the building shall at all times be subject to the approval of the property owner, that the railroad company will protect and indemnify the owner against any claims for damage or loss arising out of the use of walls of buildings as a support for its span wires, and that upon its abandonment of the use of the building the privilege of attaching shall cease.

Such agreements have been used in a large number of cases with entire satisfaction to both parties interested.

G. H. MCKELWAY,
Engineer of Distribution.

Association News

October Compilations by Service Bureau

DURING October the bureau of information and service issued the following bulletins:

Jurisdiction of Public Utility Commissions Over Jitneys, a compilation of replies from secretaries of commissions, showing the extent of control, requirements for permission to operate and a brief summary of the regulations imposed in each case.

Methods of Fare Collection on Zone Systems, a tabulation of replies to Data Sheet 208 issued by the joint committee on collection and registration of fares of the Transportation & Traffic and Accountants' Associations.

Cost of Materials, a tabulation prepared by several manufacturers bringing up to date the information submitted by them before the Federal Electric Railways Commission.

Confidential Power-Cost Data, a tabulation of replies received to Data Sheet 197a issued by the power generation committee showing the following items for thirty-four power plants: output, peak capacity, load factor, pounds of coal and B.t.u. per kilowatt-hour, and segregated costs per kilowatt-hour covering fuel, labor, maintenance, etc., and in addition a brief description of equipment and facilities.

In addition to the above supplements have been issued to the bulletins on wages of trainmen, cost-of-living studies, cities which have increased rates of fare and lists of cities of over 25,000 having no fare increases.

New Zealand Railway Electrification

RECENTLY, according to the London *Electrician*, the English Electric Company was awarded the contract for the electrification of the section known as "Arthur's Pass" of the Midland Railway of New Zealand. At present all the railways in New Zealand are steam-operated, but it is proposed to electrify this connecting link between the government railway system of the east coast and west coast of South Island. The section to be electrified includes a tunnel more than 5 miles long and a 3 per cent grade to the summit, 2,400 ft. above sea level.

The system to be used is 1,500-volt direct current with overhead contact and the power will be generated directly by geared-turbine sets. It will be necessary to operate the boilers on dust fuel taken from neighboring mines whose product is too poor for ordinary consumption.

Transportation in Paris to Be Unified

THE Paris Municipal Council and the Conseil General of the Department of the Seine have acquired all surface transportation lines in Paris, France. These are to be paid for in annual installments. The transportation lines will not be operated directly by the municipality, but through the medium of an operating company, which will receive interest at 6 per cent, out of which the operating company must pay taxes. Provision is to be made, however, for a reward to the operating company for good management.

Recent Happenings in Great Britain

Meeting of Municipal Tramway Association Outstanding Event— London's New Fares in Effect

From Our Regular Correspondent

The nineteenth annual conference of the Municipal Tramways Association was held in Cardiff on Sept. 15 and 16. The meeting was occupied almost entirely with questions of finance—that being the dominant topic here as it is in America. Fares, working expenses, cost of renewals, depreciation funds and economics in operation all claimed attention. There was general agreement as to the troubles, but no sovereign remedy for them as a whole was forthcoming. The value of the conference lay rather in the exchange of views and in the detail suggestions put forward. The president was Sir John Courtis, chairman of the Cardiff tramways committee.

TRAMWAY fares were dealt with in two papers by Councillor Higham, chairman of Blackburn tramways committee, and P. Priestly, manager of Liverpool Corporation Tramways. The former contended that in most towns the time had arrived for the abolition of the penny fare and also for sweeping away cheap workmen's fare. Mr. Priestly pointed out that many towns had obtained powers to increase the statutory minimum charge from 1d. to 1½d. per mile. Every passenger should pay his share of the expenditure. The short distance passenger should pay more in proportion than the long distance passenger.

A. L. C. Fell, manager of the London County Council Tramways, dealt with power expenses. How to obtain economy with the poor quality of coal now available was one of his points. The better education of all employees in economical methods was another. He would like to see a scheme under which the staff and the employees would have a direct financial interest in the success of the undertaking. The employment of a fully qualified chemist to carry on tests of fuel, water, etc., at the power station, the payment of bonuses to motormen and conductors for reducing power consumption and the use of trail cars were other suggestions.

DEPRECIATION DISCUSSED

Two papers on repairs and depreciation in relation to capital and revenue were presented by James Dalrymple, manager of the Glasgow Corporation maintained intact. Mr. Horsfield also ager of Cardiff Corporation Tramways. The former insisted on the necessity of providing a full depreciation fund out of revenue for the purpose of paying for renewals, and also of keeping the undertaking in thorough repair. Otherwise capital could not be maintained intact. Mr. Horsfield also urged the need for a depreciation fund in addition to the ordinary sinking fund. The tendency of some authorities to borrow for renewals should be checked at its inception.

The future of capital expenditure was the subject taken by R. S. Pilcher, manager of Edinburgh Corporation Tramways. It was his view that the cost of permanent way had become so high renewals of tramway track where the traffic was light could not be carried out, but that motor omnibuses or

the trackless trolley system should be substituted. Such vehicles also could be used for extensions.

MILKING THE MUNICIPAL COW

The various papers were discussed at length. On the question of fares it was pointed out that in the case of small undertakings, as the routes were short, if the fares were too high the people would walk. Other speakers complained that in many instances municipal tramways had been turned into "a milch cow" for the relief of the rates and consequently had become practically bankrupt. The necessity of educating the public to realize the depreciated value of the penny was also insisted on. An exhaustive analysis should be made of conditions so as to determine what each fare ought to be.

On the subject of working expenses, one gentleman who said that the tramcar was the cheapest vehicle to run was of the opinion that it could be made a good deal cheaper if as much scientific attention was devoted to its improvement as to the motor omnibus. In regard to depreciation funds, some members took the view that in cases where capital had been nearly paid off renewals should be carried out by means of new capital. One prominent manager thought that having regard to the present high cost of renewals the ideals of authors of the papers on depreciation would have to go, and that re-borrowing would have to be considered.

G. W. Holford, manager of Salford Corporation Tramways, was elected president of association for the ensuing year.

LABOR DISPUTE SETTLED

In the middle of September a settlement was reached in a dispute which threatened to have a serious effect on many electric traction undertakings. A number of men, members of the Electrical Trades Union, employed in the works of Cammell Laird & Company at Penistone, Sheffield, had struck work on the ostensible ground that one of the foremen was not a member of their union. Many foremen, however, are not members of the men's unions, and the real reason for the suspension seems to have been that this foreman had engaged some men who were not members of the union. The employers refused to give way on a question of principle and as the strike was per-

sisted in the Engineering Employers' Federation issued lock-out notices applicable to numerous works throughout the country. The men's union then threatened to call out their members employed in electric generating stations. The National Joint Industrial Council for the Electricity Supply Industry was called on to inquire into the subject, but after it had met the men's union withdrew objection to the Penistone foreman. Then the employers withdrew their lock-out notices and soon peace reigned.

SHORT-HAUL FARE REVIVED

The increased fares on the London underground railways, the London County Council Tramways and the London General Omnibus Company's buses came into operation on Sept. 26. In all cases the new fares are above a penny a mile for short distances, but under that rate when the distances get up to 4 or 5 miles or more. A novelty, or rather a revival, on the tramways is the 1½d. fare, but now it covers only 1.2 miles, or less than half of what it did in pre-war days. As the result of the failure to come to an agreement (to which reference was made last month) between the County Council and the Omnibus Company, the latter on Sept. 27 inaugurated a 2d. midday fare for any distance (above minimum) within the tramway area so as to compete with the corresponding fares on the cars. These fares are in force only during the slack hours (10 a.m. till 4 p.m.), and they do not apply on Saturdays, Sundays and holidays. The company promises to give them a trial, to publish figures giving the exact results, and to challenge the County Council to produce its figures for comparison. The minimum ordinary fare on the underground railways and the omnibuses is 1½d., and a suggestion has been made for minting a halfpenny coin.

FARE INCREASE RESULTS APPARENT

Some results of the increase of fares were issued early in October. They related to the first complete week after the increases came into operation. On the railways the increase in fares averages 30 per cent, while the increase in traffic receipts was 25 per cent. On the omnibuses the fares were increased 25 per cent and the receipts for the week were up by 14 per cent. The difference is ascribed to a slight falling off in the number of passengers and to the passengers riding shorter distances. In the case of the London County Council Tramways the average percentage increase of fare is not stated, but the traffic receipts rose by 29 per cent.

An interim report by the Electrification of Railways Advisory Committee was issued on Sept. 30. The report, which is dealt with elsewhere in this journal, makes important recommendations as to future electrification, among them being that methods and appliances should be standardized and that the direct-current system at a pressure of 1,500 volts should be used.

News of the Electric Railways

FINANCIAL AND CORPORATE • TRAFFIC AND TRANSPORTATION

PERSONAL MENTION

Mending Mexico's Muddle

**Committee Representing Bondholders
Confers with Mexican Authorities—
Properties Returned to Owners**

Many matters outstanding between the Mexico Tramways and its affiliated companies and the government of Mexico are now under discussion with a view to reaching a settlement as quickly as possible. The electric railway in Mexico City was returned to its owners by the government last May. When the lines were handed back no indemnity was paid for their occupation for the period of more than four years. The present negotiations, it is believed, have given rise to the rumor noted in the *ELECTRIC RAILWAY JOURNAL* for Oct. 2, page 685, that the government planned permanently to municipalize the roads.

Since the return of the tramways the lines have been operated by the company with the end in mind of restoring the tracks and cars to proper operating efficiency as rapidly as possible. No funds were available for this purpose except such as were received from the gross earnings, but already much has been done in the way of improvement.

MORE REVENUE NEEDED

Owing to the continuous rise in the cost of living, it was necessary on several occasions to advance the wages of the employees of both the tramway and the light and power companies. In the case of the tramway an advance was made in fares, but it has not been possible so far to complete arrangements to increase these sufficiently to compensate the company for the advance in wages and general rise in the cost of materials. If the company is to pay its way, therefore, it will be necessary to establish a new scale of fares. It is hoped that a solution of the difficulty will be reached before long. The taxation of the companies, the payment of large sums owing to them by the government and various other important matters are also under discussion.

It is hoped that early in the new year the committee which represents the bondholders of the several properties will be in a position to make a report to the security holders with full information as to the financial position of the companies and what funds will be available for meeting their obligations. The committee will at the same time make such recommendations to the bondholders as they think will best serve their interests. Meanwhile, a firm of chartered accountants is working on the accounts with a view to establishing the exact financial posi-

tion of each company. The report of these accountants should be completed soon and will enable the committee to determine what terms of settlement can be recommended to the bondholders.

E. R. Peacock, chairman of the committee representing the bondholders, and H. Malcolm Hubbard of the committee visited Mexico City last spring immediately after the revolution. Declarations of policy made at that time by those in authority were taken to indicate an improvement in the attitude of the former government and would seem to justify the statement that things are better in Mexico.

\$5,000,000 Improvement Program

A \$5,000,000 extension program for 1921 has been announced by G. J. Kuhrts, general manager of the Los Angeles (Cal.) Railway. The expenditure will cover new cars, a new division carhouse, new substations and extensive reconstruction of tracks and pavement. Recommendations of the State Railroad Commission of California will be followed throughout.

Reconstruction of track and purchase of track equipment will involve \$1,600,000. Renewal of overhead equipment will take \$300,000. A substantial investment will be made in new cars, but the exact amount and number of cars have not been definitely decided upon.

Four new substations are to be constructed at a cost of \$500,000. One of these substations is to be built in the district which will benefit by a tunnel, giving another outlet from the congested district at Second and Hill Streets. Half a million dollars is to be spent on a new carhouse.

In addition to the expenditure for bettering railway service, the Los Angeles Railway has under way a \$200,000 home building program for employees. The construction of the first homes has been started.

The Los Angeles Railway has made three important moves in the year now nearing a close: First, the rerouting of all lines last May to give economies recommended by the State Railroad Commission. Second, the installation of safety car service. Third, the application for increased fare. Los Angeles held to a 5-cent fare to the last, but the application for increase finally became necessary to make revenue meet operating costs. At this writing the commission has not given a decision, although Richard Sachse, its chief engineer, recommended in favor of a 6-cent fare and continuation of the safety car program. The railway operates approximately 775 cars a day.

New Publicity Committees

**Ohio and Missouri Utilities Organize
Committee to Spread Information
and Educate the Public**

Committees on Public Utility Information, patterned after the Illinois plan, have been organized in Ohio and Missouri. The Ohio committee will have offices at 901 Illuminating Building, Cleveland. It has engaged as director Benjamin E. Ling, a newspaper man of wide experience. The chairman of the committee is W. W. Freeman, president of the Union Gas & Electric Company, Cincinnati.

Among the railway men on the committee are the following:

Walter A. Draper, vice-president of the Cincinnati Traction Company; Col. J. H. Alexander, vice-president of the Cleveland Railway; L. J. Wolf, vice-president of the Cleveland, Southwestern & Columbus Railway.

COMMITTEE IN MISSOURI, TOO

These, of course, are only the railway men on the committee. There are some ten other members serving on that body representing the electric light, gas and other utility interests, all these men being executives of important companies.

The Missouri Committee on Public Utility Information will be conducted under the direction of the Missouri Association of Public Utilities with headquarters at 3725 North Broadway, St. Louis, Mo. The personnel of this committee is as follows:

E. D. Bell, general superintendent of the Illinois Traction System (Missouri properties), chairman; F. G. Buffe, general manager of the Kansas City Railways; H. Wurdack, general manager of the Light & Development Company, St. Louis; J. H. Horgan, general manager of the Empire District Electric Company, Joplin; W. J. O'Connor, assistant to president of the Southwestern Bell Telephone Company, St. Louis, and Wiley F. Corl, general manager of the Mexico Light & Power Company.

MANY SIMILAR BODIES

With the completion of these two new committees there are now organizations actively at work for the purpose of disseminating information about the utilities in Illinois, Indiana, Kentucky, Nebraska, Ohio, Oklahoma, Arkansas and Missouri. Wisconsin and Michigan have formed committees which expect to become active as soon as the election is over. In New York, Iowa, Texas and several other states definite steps have been taken looking toward similar action.

Utilities a Political Issue

They Are Dragged Into Campaign on One Pretext or Another in Many States

In only a few cases were railway issues involved directly in the results recorded at the polls on Nov. 2, but in a number of other instances the decisions made by the electors will probably have an important bearing on the future of public service properties. Perhaps the most important issue before the voters of a single community was the franchise proposal in Toledo, Ohio. Both service-at-cost and municipi-

said to have scratched their ballots and voted for democratic state and local candidates in order to defeat the Thompson republican candidates. Nevertheless, the avalanche has carried into office Len Small for Governor, and all of the other Thompson candidates.

The nomination and election campaign pledges of Mr. Small, working with the Thompson machine, were for the abolition of the Illinois Utilities Commission, the passage of laws making home rule and municipal ownership possible, and the restoration of 5-cent fares. So far as the activities of the Thompson machine were con-

planks in their platforms dealing with the utilities. The Democratic platform put the party on record as opposed to legislation permitting state commissions to impair or modify contracts fixing rates of fare made between cities of the State and the railways. It was charged by the party that measures violating this principle were advocated by a Republican Speaker of the Assembly in 1919 and 1920. On the other hand the Republican platform proclaimed that there had been no efficient regulation of utilities; that the transit systems had disintegrated; that lines had been abandoned; that nothing had been accomplished for the public benefit, and that none of the pre-election promises of the Governor had been fulfilled.

In his speeches Governor Smith, elected by the Democrats two years ago, said that municipal ownership was the only solution of the transit problem and that such ownership was bound to come in New York and other large cities of the State. In the campaign taking points were made by the Republicans of the changes made in the Public Service Commission at the behest of Governor Smith, and by the Democrats of the alleged record of corporation activities of Judge Nathan L. Miller, Mr. Smith's Republican opponent. Judge Miller was elected over Mr. Smith by a small plurality.

REMOVAL OF COMMISSIONS REBUKED

In New Jersey the utilities were dragged into the campaign through the recent removal of the members of the Board of Public Utility Commissioners by Governor Edwards. There the election was a congressional one. Republicans captured all of the seats except one. Their victory is regarded as a rebuke to Governor Edwards, who campaigned for a Democratic legislative body to uphold him in his ousting of the members of the utility board. He is attempting to replace these members with a Democratic board. The Republican Senate has failed to confirm the new appointees. Mr. Edwards urged the voters to wrest the legislative control from the Republicans and give it to the Democrats. The bill was approved providing an appropriation for the vehicular tunnel under the Hudson River between New York and New Jersey.

In Rhode Island the Democratic candidate for Governor, Edward M. Sullivan, who was defeated, sought to make an issue out of the affairs of the Rhode Island Company. He advocated the acquisition by the State of all the electric railways and their operation by the State through a special corporation chartered for that purpose.

Citizens of San Francisco had before them a charter amendment to provide an enabling act to make it possible to submit to the voters a proposition to acquire the United Railroads. It is believed that the amendment was approved. It required only a majority vote to carry the amendment, but in the matter of issuing bonds to finance

5c. Car Fare Is Enough

Engineers who have studied the subject for Mayor Thompson's Traction Commission testify that the street cars of Chicago can be run at a profit on a 5-cent fare.

The traction companies and the commercialized newspapers who aid them and lie to you are trying to fool you into voting against candidates who, if elected, will give us a 5-cent fare.

Will you—who must pay extra fare every time you get on a car—will you let the traction barons and their camouflaged "non-partisan" Democrat agents fool you into voting against yourself?

Len Small, the Republican nominee for Governor, is pledged to put an end to the Public Utilities Commission which permits the traction barons to boost fares in violation of contracts, and to gouge the car-riders every night and morning.

Don't be fooled by the tools of the traction barons into voting against yourself.

Vote for Len Small for Governor

(See Other Side)

Do You Want 5c. Car Fares?

Tomorrow, every man and woman voter has the opportunity to vote for the restoration of 5-cent car fares. If the people do not so express their desire for 5-cent fares, then car fares will be further increased to 10, 12 and 15 cents!

You will vote for men who will give you 5-cent car fares or for men who will help increase car fares.

The Governor, who will be elected tomorrow, will sign or will veto the bill passed by the Legislature, giving the people the power to adopt 5-cent car fares.

Len Small, the Republican nominee, if elected, will sign the bill. The Democratic candidate is against a 5-cent fare and would veto the bill.

Later the County Judge will decide whether or not to put the question on the ballot so the people can vote on it. Frank S. Righeimer, the Republican nominee, if elected, will put the question on the ballot, because he has been and is fighting for 5-cent car fares.

The State's Attorney is the official who can prevent the traction barons from defeating, by boodle, the Thompson Traction Plan for 5-cent car fares when it is submitted to the vote of the people. Judge Crowe, the Republican candidate for State's Attorney, has fought consistently for the Thompson Traction Plan for 5-cent fares, and, if elected, will not permit the sinister interests that have gouged the people for the last four years to continue to cheat you through bribery of public officials.

Republicans should vote the Republican ticket straight. Democrats, Socialists and Independents, who want 5-cent car fares, should mark a cross in the square before the names of each of the following candidates:

FOR GOVERNOR

LEN SMALL

FOR COUNTY JUDGE

FRANK S. RIGHEIMER

FOR STATE'S ATTORNEY

ROBERT E. CROWE

(See Other Side)

ANTI-RAILWAY CAMPAIGN CIRCULARS DISTRIBUTED TO CHICAGO VOTERS

pal ownership measures were submitted in that city. As noted at length elsewhere in this issue, the city adopted the Milner service-at-cost plan of settlement.

In Illinois candidates have been elected to office whose campaign pledges may result in conditions very detrimental to the best interests of the people of the State and particularly of Chicago. There was widespread objection to the methods and propaganda of the Mayor Thompson political machine, which in this election spread its activities from the city of Chicago to include the entire State. In consequence more than 300,000 people are

cerned, these three planks were the mainstays of the campaign platform. The accompanying illustration gives an idea of the spurious literature with which the people of Chicago have been flooded during the campaign. The Thompson machine candidates for County Judge of Cook County and State's Attorney in Chicago were also elected. The only success in the state against the Thompson machine was the nomination and election to the United States Senate of William B. McKinley, president Illinois Traction System and United States Congressman.

In New York State both the Republican and the Democratic parties had

any proposal for taking over the United Railroads a two-thirds vote will be necessary.

Residents of Pasadena, Cal., voted against building a municipal electric railway between Los Angeles and Pasadena to compete with the Pacific Electric Railway. This is the second time within a year that the plan has been defeated.

Increase Again Denied

Seattle's Mayor Again Points Out How Impossible It Is to Increase Municipal Railway Wages

Mayor Hugh M. Caldwell of Seattle, Wash., has advised the representatives of the trainmen of the Seattle Municipal Railway that he will not confer with them on the matter of wage increases. The request of the men, if granted, would cost the city \$500,000 a year.

The representatives of the union recently requested the Mayor to confer with them on a proposed wage increase. In reply, Mayor Caldwell advised them that they had become civil service employees, and enjoyed no special rights as city employees by reason of their union membership. He also pointed out that the railway department has no power to enter into a contract with a union, and that requests for wage increases must go before the City Council.

SEVENTY-FIVE CENTS AN HOUR ASKED

Surprise was expressed by the Mayor at the men's request, in view of the fact that the railway is about \$500,000 in the hole, aside from depreciation charges. Mayor Caldwell called attention to the fact that a letter addressed to the budget committee of the Council on July 20 of the present year requesting an increase in pay indicated that the trainmen recognized the fact that they were civil service employees, and subject to civil service regulations. The request of last July was denied. The Mayor reiterated the fact that no other officials of the city government have any authority to grant any increase of pay to city employees.

Mayor Caldwell referred the application for increase to D. W. Henderson, superintendent of railways, who submitted an estimate, based on figures for August of the present year, showing that expenses would amount to \$496,615 annually if the city should grant the advance requested. An increase of pay to 75 cents an hour would amount to an advance of 11.7 per cent over the present scale.

Mr. Henderson pointed out that wages of trainmen have increased 64 per cent to 80 per cent over those paid on Jan. 1, 1918. The Mayor also called attention to the fact that trainmen are now receiving two weeks' vacation, with pay, a privilege not granted under private management. This alone is costing the municipal railway approximately \$100,000 a year.

Voters Approve Service at Cost

City of Toledo and Railway Will Now Proceed to Put New Arrangement Into Effect

Toledo adopted the Milner service-at-cost plan of street railway settlement and turned down an anomalous municipal ownership proposition by a vote of nearly three to one at the election on Tuesday. There were 45,990 votes in favor of the service-at-cost measure and 18,029 against. This is the first time that a constructive street railway measure ever won out in Toledo and it is also the most decisive vote on any referendum ever submitted to the people.

THE election assumed national importance on account of the interest taken in the long years of struggle over the railway question in Toledo and because women were to express themselves for the first time on traction questions.

The returns by precincts show that the women are largely responsible for the tremendous majority given the Milner plan. In the Seventh Ward where women were registered in a larger percentage to men than any other, the franchise ordinance passed almost unanimously.

The municipal ownership twin bond ordinances were defeated by wider margins. The first one, ostensibly to provide \$3,000,000 bonds for the purchase of buses for auxiliary service to the railway system, was defeated by a vote of 16,469 in favor and 46,369 against. The second municipal ownership ordinance, purporting to provide \$4,000,000 through bonds for constructing lines, was defeated with 17,780 votes in favor and 43,125 against.

The drubbing handed to the *News-Bee*, a Scripps-McRae newspaper, was complete. It campaigned against the railway ordinances and individual candidates in the elections and was rebuked for its years of fighting against the Toledo Railways & Light Company.

Frank R. Coates, president of the Rail-Light, expressed satisfaction with the returns and declared that the company would proceed with improvements and additions to many other departments of its business.

The ordinance will probably accomplish its task of providing service-at-cost to the Toledo patrons within the next ninety days. That is the period allowed for the acceptance by the Toledo Railways & Light Company and the Community Traction Company, created by the measure.

This acceptance has been agreed upon by the directors of both companies and a written copy of it filed with Mayor Cornell Schreiber last August.

The matter of making the ordinance a binding contract on both the city and the railway is now only perfunctory.

A fare of 6 cents cash and 1 cent for a transfer is provided for in the ordinance. This will go into effect and reduce fares and transfers each a cent when the cost-of-service plan begins to operate. The fares will remain this way for six months, after which time they will be regulated by the amount in the stabilizing fund. The company will be asked to furnish \$500,000 as working funds to put the measure into effect.

The next move will probably be the appointment of a board of control to consist of three members—one for two years, one for four years and one for six years. All others shall be appointed at the end of these terms for six years.

On recommendation of this board the Mayor will also appoint a railway commissioner who will represent the city in the operation of the system. The board will fix his salary and appointments of assistants will be subject to its approval.

One of the first duties of the board of control will be to study a plan for re-routing the present car lines and making plans for a crosstown line. The company has agreed to furnish an additional \$1,500,000 for these changes.

The return to the Community Traction Company shall be based upon the valuation of \$8,000,000 and the bonds representing this amount will draw 6 per cent return. All additional financing shall be by preferred stock which will yield 9 per cent.

The plans voted on Tuesday were prepared under a settlement plan brought forth by Judge John M. Killits of the federal court at Toledo following the bringing of the cars back to the city after the famous "ouster" of a year ago.

The progress made in educating the public of Toledo is indicated by the change from a favorable vote on eliminating of street cars a year ago next Tuesday to an overwhelming vote in favor of a franchise last Tuesday.

Both the city and the company will make active arrangements to put the plan to work.

Charter Amendment Probably Passed

Although final returns on charter amendment thirty at San Francisco, Cal., were not expected to be in until Nov. 4, it was the opinion on Nov. 3 that the amendment had carried, probably by a two to one majority. This amendment provides a simple method whereby city officials can agree with utility officials on the price and terms for taking over a property and then submit to popular vote for ratification any proposal for the purchase of a utility. Amendment thirty and the ratification procedure it proposes both require only majority votes to carry. At present San Francisco has no authority to agree with any utility on the purchase price of a utility except after a bond issue for the express purpose has been carried. Such bond issue requires a two-thirds vote. No direct proposal for the purchase of the United Railroads was voted upon.

News Notes

Advance for Sacramento Employees.—Platform men of the Pacific Gas & Electric Company, Sacramento, Cal., have been granted an increase of 4 cents an hour and shop employees have been given a rise of 9 cents flat. The motormen and conductors have been receiving 47, 49 and 51 cents an hour. This is the second wage advance by the company within a year. The last one took effect in May.

Voters Defeat M. O. Plan.—Residents of Pasadena, Cal., voted on Nov. 2 against building a municipal electric railway between Los Angeles and Pasadena to compete with the Pacific Electric Railway. This is the second time within a year that the plan has been defeated. The vote was practically five to one against the plan, returns from forty-five out of seventy precincts giving 2,215 in favor of the proposal and 5,561 against it.

Order for Arbitration Ignored.—Gaylord Thompson, general manager of the New Jersey & Pennsylvania Traction Company, Trenton, N. J., has sent a communication to the City Commission of Trenton stating that his company will not arbitrate the recent trouble of the employees. The company says the motormen and conductors who went on strike have been discharged and that the city's order for arbitration at this late date will be ignored.

Receiver Plans Collective Bargaining.—Lindley M. Garrison, receiver of the Brooklyn (N. Y.) Rapid Transit Company, made public on Oct. 30, a letter received by him from Federal Judge Mayer urging that his promise to Mayor Hylan that the right of collective bargaining between the company and its employees be carefully safeguarded, and Mr. Garrison's reply to the effect that a plan of co-operation was being prepared and would shortly be submitted to the court. It has been reported that the employees are engaged in creating a brotherhood similar to that of the employees of the Interborough Rapid Transit Company.

Object to Rebuilt One-Man Cars.—The local of the Amalgamated Association at Boston has announced that a communication has been sent to William D. Mahon, president of the Amalgamated Association, urging him to come to Boston to discuss the friction between executives of railway systems and the unions over the double-truck one-man cars. Some time ago the wage conference board of the union of employees of the Eastern Massachusetts Street Railway sent a similar request to Detroit, the headquarters of the International, in which it was pointed out that the men of that system were

in open revolt against the one-man cars in some of the cities and towns through which the Eastern Massachusetts Street Railway operated.

New Orleans Men Sign.—J. D. O'Keefe, receiver of the New Orleans Railway & Light Company, New Orleans, La., and James Rodgers, representing the local division of Amalgamated Association, on Oct. 21 signed a contract under which the men will be paid at the rate of 49, 52 and 55 cents an hour. The agreement is to stand until July 1, 1922, the wage scale being subject to further revision on July 1, 1921. By the terms of the contract the men are barred from striking to enforce demands for higher pay. The new wage scale represents an increase of 25 per cent over the former rates, and was recommended by the special masters who arbitrated the dispute between the company and its employees following the strike of last July. Payment of the new rates began on Oct. 21.

Housing Plan Progressing Satisfactorily.—Nearly 300 applications for participation in the housing plan of the Los Angeles (Cal.) Railway have been filed by employees. The majority ask the company to purchase a lot and build a house. The other proposals offered are that the company build a house on land owned by an employee or that the company finance the purchase of a house and lot selected by an employee, or that the employee rent a house built by the company. Twenty-five cases have already been handled and work on the first seven bungalows has been started. To guard against speculators offering to help an employee complete the payment on a home and then re-sell it to some one outside the company, it is stipulated that the deed shall not pass from the company to the employee within five years. Payments for houses are arranged like rent. The maximum period for buying a house is fourteen years.

Favor Illinois Utilities Commission.—The Illinois Committee on Public Utility Information has just printed an interesting page containing thirty-eight excerpts from various Illinois newspapers on so-called "Home Rule" in Illinois. Editors have given much space in their papers of late to the proposal recently discussed in the large cities of Illinois that all public utilities should be ruled by individuals and not governed by Public Utilities Commission. From the tenor of the editorial comment on this reprint sheet it would appear that the Illinois Public Utilities Commission has the backing of the public. An editorial from the Rockford Star pertinently sums up the situation. It says, "The apostle of 'Home Rule' does not say that the public utility commission idea, which he now denounces, came into force because 'Home Rule' failed." The page also contains seven editorials from Iowa newspapers which voice the sentiment that Iowa needs a Public Utilities Commission to bring about the necessary adjustment in the present utility field in that State.

Programs of Meetings

Association of Terminal Engineers

At a meeting to be held in New York City on Nov. 9, at the United Engineering Society's Building, Col. J. C. Bonner, inventor of the "Bonner Rail-Wagon System," described in the issue of this paper for Oct. 12, 1918, will speak on "Twentieth Century Freight Handling."

National Municipal League

At the twenty-sixth annual meeting of the National Municipal League, which will be held in Indianapolis Nov. 17-19, the session on the morning of Friday, Nov. 19, will be given up to the topic "Service-at-Cost for Street Railways—Panacea or Nostrum?" This meeting will be a joint session with the Municipal League of Indiana. The program for this meeting follows:

Cincinnati—"Service-at-Cost and the Sliding Scale."

Cleveland—"Service-at-Cost and Efficient Management," Fielder Saunders, Street Railroad Commissioner, Cleveland, Ohio.

Boston—"The State Trustee Plan," James F. Jackson, chairman of the Public Trustees of the Boston Elevated Railway.

Indianapolis—"Indianapolis and the Five-Cent Fare," E. T. Lewis, chairman Public Service Commission of Indiana.

"Service-at-Cost or Municipal Ownership?—Seattle's Experience," Charles M. Fassett, ex-Mayor of Spokane, staff member of American City Consultants.

Central Electric Railway Association

The fall meeting of the Central Electric Railway Association will be held at the Claypool, Indianapolis, on Dec. 2 and 3. There will be a meeting of the executive committee at 9 a.m. on Dec. 2. The business session will convene at 10 a.m. Reports of committees will be presented. There will be an address by James P. Barnes, president of the Louisville Railway. No formal subject for the address has been assigned. The association will reconvene at 2 p.m. The following papers will then be presented:

"Publicity," Bernard J. Mullaney, manager of the Public Relations Department of the People's Gas, Light & Coke Company, Chicago, Ill.

"Co-operation," W. L. Goodwin of the General Electric Company, Schenectady, N. Y.

On Dec. 3 the association will convene at 9.30 a.m. The following papers will be presented:

"Public Relations," Martin J. In-sull, president of the National Electric Light Association, Chicago, Ill.

"Accident Prevention," Charles B. Scott, general manager of the Bureau of Safety, Chicago, Ill.

There will be general oral discussion on all papers by the members of the association. On the night of Dec. 2 it is planned to hold a theater party.

Financial and Corporate

Changes at Youngstown

Financial Readjustment Disclosed by Announcement of Offering of \$13,000,000 of New Securities

Announcement made by the banking syndicate handling the \$13,000,000 issue of Pennsylvania-Ohio Power & Light Company's first and refunding mortgage 7½ per cent sinking fund gold bonds discloses changes in the scheme of organization of the public utilities properties centering at Youngstown, Ohio. The proceeds of the bonds now being offered together with the proceeds of \$4,050,000 of junior securities will provide for the retirement of \$12,522,000 of first and consolidated mortgage bonds of the Mahoning & Shenango Railway & Light Company due on Nov. 1, 1920; will provide for the retirement of floating and guaranteed debts, and will furnish sufficient working capital for the new company. Upon completion of the financing the Pennsylvania-Ohio Power & Light Company will have no debt other than the funded debt shown in the accompanying table of capitalization.

NEW COMPANY FORMED

The Pennsylvania-Ohio Power & Light Company has been incorporated to take over the electric power and light business of the Pennsylvania-Ohio Electric Company. The latter company owns the entire common stock of the Pennsylvania-Ohio Power & Light Company except the directors' qualifying shares. The territory served is within an area of about 600 square miles in Pennsylvania and Ohio midway between Pittsburgh and Cleveland. There are twenty-five municipalities in this territory, including the cities of Youngstown, Warren and Niles in Ohio and Sharon in Pennsylvania. The population served is in excess of 300,000.

The electric railways comprise 59.13 miles of single track. Of this mileage

rell, Ellwood City and Sharon, Pa., and the vicinity.

Upon the completion of the present financing the capitalization will be arranged as indicated in the accompanying table.

The bonds now being offered will be part of an authorized issue of \$75,000,000 dated Nov. 1, 1920, due Nov. 1, 1940, of which in addition to the \$13,000,000 present issue \$1,989,000 will be reserved to be issued to retire outstanding underlying bonds, par for par, and the remainder will be issued for not more than 75 per cent of the cost of additional property and of future addi-

EARNINGS FOR YEAR ENDED AUG. 31	
Gross earnings	\$4,682,852
Operating expenses and taxes	2,705,789
Net earnings	\$1,977,063
Annual interest charges on first and refunding mortgage sinking fund bonds now offered and underlying divisional mortgage bonds	1,074,450
Balance	\$902,613

tions, extensions, or improvements to the properties of the Pennsylvania-Ohio Electric Company or its subsidiaries under well defined restrictions as to earnings. The bonds will be issued in series bearing interest at such rate or rates as the board of directors may determine. The bonds of the present issue will be designated as series A and bear interest at the rate of 7½ per cent per annum. An annual sinking fund will be provided for the first and refunding mortgage bonds accruing from Nov. 1, 1921, payable semi-annually, of 1 per cent per annum to Nov. 1, 1930, of the total amount of first and refunding mortgage bonds issued and 1½ per cent per annum thereafter to maturity. Bonds so acquired for the sinking fund are to be canceled and not reissued.

The bankers include in their summary of the activities of the company the accompanying statement of earnings of the property to be owned or

CAPITALIZATION

(Upon Completion of Present Finaneing)

Funded Debt		
Underlying divisional 5 per cent bonds (closed mortgages)	\$1,989,000	
First and refunding mortgage 7½ per cent sinking fund gold bonds (this issue)	13,000,000	
Ten year 8 per cent secured gold notes, due Nov. 1, 1930†		\$14,989,000
Capital Stock:		2,250,000
Preferred stock, 8 per cent cumulative	1,800,000	
Common stock		6,000,000*

* Application for the issuance of \$4,000,000 additional common stock is pending before the Public Utilities Commission of Ohio.

† To be secured by \$3,375,000 general mortgage bonds, due Nov. 1, 1930 (junior to the first and refunding mortgage bonds).

49.35 miles is interurban, of which approximately 40 miles is on private right-of-way. There are 218.5 miles of new high voltage electric power transmission lines and extensive distribution lines in Youngstown, Gerard and Struthers, Ohio; Sharpsville, Far-

controlled by the Pennsylvania-Ohio Power & Light Company for the year ended Aug. 31, including the total present annual interest charges, interest on the first and refunding mortgage sinking fund bonds now offered and underlying divisional mortgage bonds.

\$10,604,268 Original Cost

Commission Reporting to the Tennessee Body Agrees Upon This Amount as Value of Railway Property

The joint report on the appraisal of the property of the Nashville Railway & Light Company, Nashville, Tenn., made for the Railroad & Public Utilities Commission of the state by Ross Harris, representing the city, Robert M. Feustel, representing the company, and Albert S. Richey, representing the commission, was submitted to the commission on Oct. 28. The appraisers definitely agreed upon every matter.

FINDINGS REVIEWED

The engineers found that on the original or historical cost basis the amount invested in the property of the company, including superseded property, was \$14,828,536, of which \$10,604,268 was in the railway department and \$4,224,268 was in the light department and subject to the treatment of superseded property. They believe this the amount entitled to a reasonable return. Exclusive of superseded property the investment was \$11,672,886, of which \$8,101,413 was in the railway department and \$3,571,473 in the light department. On the reproduction cost basis, using prices current during the first six months of 1920, the amount was \$19,936,593, of which \$13,672,679 was in the railway department and \$6,263,914 was in the light department.

The amount of cash paid in by the security holders of the present company for stock and bonds issued at the formation of the company on July 1, 1903, was estimated at \$4,316,776. At the same time the company assumed underlying securities to the amount of \$2,577,000. Property additions, as shown by the books of the company, between the formation of the present company on July 1, 1903, and up to April 1, 1920, the date of the present appraisal, amounted to \$7,225,023. The total of these three amounts, \$14,118,798, therefore, very closely approximates the actual cash investment of the present owners and bondholders.

TWO BASES USED IN APPRAISAL

In accordance with the expressed wishes of the members of the commission appraisals were made on two bases, described as follows:

1. An original or historical cost appraisal. This was on the same basis as the 1919 appraisal of the property of the Memphis Street Railway. Wherever it was possible to ascertain the actual costs of parts of the property such amounts were used. Wherever the records of the company failed to show the actual costs of any parts of the property, estimates were made of the costs of such parts as of the dates of installation, in so far as such dates could be determined or approximated. This appraisal includes allowances for superseded property, which has not been amortized through income, and other uncompensated losses or costs incurred in building up the business.

2. A reproduction cost appraisal, using prices current during the first six months of 1920. This appraisal does not include superseded property, but makes a deduction for accrued depreciation, or "lack of newness," and an addition for going value.

Each of the appraisals was made on an inventory of property as existing on April 1, 1920. In both cases the value of the property was separated as between that used for the conduct of the railway business and that used in the lighting and electric power business.

Ten years, practically covering the

electrification and the immediate subsequent rebuilding which was made necessary by the very rapid progress in the art, was taken as representing the development period. The accumulated deficit for the first ten years shown amounted to \$502,406. That amount, therefore, was included as part of the investment. Seven per cent was used in the calculation of the deficit, in the belief that such was a fair rate of return on money invested in electric railway property during the development period. It is expected to review the findings of the appraisers in detail in an early issue of this paper.

Receivers in Charge in Kansas City

Messrs. Fleming and Wilson Qualify for Office and Continue Previous Management—Colonel Kealy Tenders Resignation

Colonel Fred W. Fleming and Francis M. Wilson, appointed receivers for the Kansas City (Mo.) Railways, on Oct. 26, took charge of the property Thursday morning, Oct. 28. The receivers had qualified Wednesday. Their first official act was to issue an announcement stating that all employees of the company would continue in their present duties. P. J. Kealy, president of the company, tendered his resignation. The receivers did not act on the resignation and it is in abeyance. Colonel Kealy is continuing to perform practically the same duties as before, with the receivers functioning as operators of the property. F. G. Buffe continues as general manager, and the other officials in their respective positions.

THE board of control—formerly consisting of President Kealy, representing the company, and E. M. Stayton, representing the city—ceased to exist as a functioning entity with the appointment of the receivers. Judge Stone said in court that this board seemed to be eliminated, since the authority of the court could not be delegated. The receivers are now of the opinion that the office and engineering facilities and machinery of the board of control, as well as the personal services of Colonel Stayton, will be essential to them in the operation of the property. It is said that Colonel Stayton will therefore be retained, in some capacity.

SPECIAL COUNSEL NAMED

James E. Goodrich has been appointed by the court to be counsel for the receivers. Judge Goodrich is especially prominent as counsel for banks and corporations. He is attorney for the Federal Reserve Bank of this district. The appointment of Mr. Goodrich had special interest locally, as offsetting intimations that the receivership had political color. Mr. Wilson and Colonel Fleming are both Democrats. They both are friends of Senator James A. Reed. Mr. Goodrich is a Republican.

The announcement by Judge Stone of his selections for the receivership caused surprise among the attorneys and interested parties. Several nominations had been made, the nominators explicitly denying any purpose to seek to conserve any special interest. Attorneys present had also spoken in behalf of the appointment of a local man or local men to the work. It was known in various circles that certain men were being urged for receivers. There was the usual amount of gossip as to the

probabilities. The name of Francis M. Wilson had been mentioned in these prophecies, but Colonel Fleming's name had not.

Judge Stone, opening the Tuesday session with the announcement of his selections, said:

Men should be put here that the court thinks are eminently fitted for the responsibilities and qualified to meet the problems of this company. Those problems are both business and legal. The court has tried therefore to select a business man of successful experience, and an attorney of wide experience.

Colonel Fleming was named first. In his selection the court as well as the parties in interest recognized the need of business experience in the receivership. Mr. Wilson was added in the creation of the receivership to provide intimate assistance and co-operation, incidentally of a legal nature, to Mr. Fleming.

A few hours after their appointment, the receivers issued a statement to the public, prepared by Colonel Fleming, as follows:

The court has been compelled to take charge of the street railway property because the company cannot pay its debts and because the railways system must be maintained to protect the property and assure these cities a necessary means of transportation. In a matter of such great importance to the property owners and to the public, the receivers invite and should receive the cordial co-operation of every public spirited citizen. While the unfortunate financial condition of business will necessarily limit what the receivers can do, it is their purpose to furnish the best service possible to the public under these circumstances.

As soon as they have had opportunity to familiarize themselves with the situation, the problems which involve the property and which involve the public will be fairly and carefully considered and determined.

The appointment as receivers came without solicitation, directly or indirectly, and the receivers consider their selection as a call to public service. They are both disinterested, except as officers of the court, performing a public service, and are so situated at this time that they can give their undivided attention to the discharge of these duties so highly important to the welfare of Greater Kansas City.

They are both sincerely grateful for the confidence reposed in them by Judge Stone, and their sole purpose will be to aid him in the proper administration of this sacred trust.

Following the appointment, various matters were taken up with the court, by parties having interests. One of these concerned taxes due and unpaid, or soon to become due, or in controversy. Nearly \$500,000 in taxes must be paid this year, it was stated. The status of the tax claims was debated.

SETTLEMENT OF BILLS BEFORE COURT

It was pointed out that personal taxes unpaid do not become a lien until after judgment; that some of the unpaid taxes are in controversy, and even if not paid will not involve a penalty. The volume of taxes yet to be paid for this year was of interest because their amount had a bearing on the time within which bills unpaid or accruing could be met by the receivers.

At the previous hearing, Oct. 21, William C. Michaels of the law firm of Haff, Meservey, German & Michaels, representing specifically the General Electric Company, had presented the matter of setting a period back to which supply bills should be paid. The effort of Mr. Michaels was, of course, in the interest of all creditors whose bills for operating materials and equipment have not been paid in the past few months. The order of Sept. 9 appointing the temporary receiver has set Aug. 1 as the date to which the receiver should revert in the payment of current supply accounts. Mr. Michaels urged that claims for necessary supplies dating back to Jan. 1, 1920, should be paid, as the setting of this date would include practically all such bills. These, he said, should be paid without necessity for intervention or special hearing to disclose preferential character.

Edward Russell Platt, representing the bondholders' committee, suggested that the payment of back debts of this nature under receiverships was only a custom, and had almost always resulted from agreement, and not from a declaration of a principle. He suggested that all parties with such interests ought to have a day in court, and outlined a plan for quick action on such bills. His plan was for the receivers to make a list of bills contracted in the past four to six months, make recommendations as to bills which were entitled to preference, and present the lists and recommendations in court. At such hearing, creditors could state objections, and additions or subtractions might be made. Such plan, he urged, would avoid putting a heavy burden upon the court, in hearing individual claims separately; the mass of claims could be got out of the way promptly.

\$366,000 IN CLAIMS PENDING

Judge Stone read from the bench a statement secured by him from the board of control, indicating the total of claims pending, unpaid since Jan. 1. Incidentally it was stated by Colonel Kealy that all supply bills had been met since Aug. 1. The statement read by the judge showed a total of about

\$366,000; in this was \$184,000 for supplies, \$44,000 for street cleaning, and minor items.

On Wednesday the court issued the formal order establishing the receivers. This order set no date as the beginning of any period of priority for supply creditors. The matter was left, therefore, in the position suggested by Mr. Platt. The receivers are expected shortly to prepare a list of claims, so that the bulk of supply bills pending can be disposed of promptly. It is said that all current bills were paid by the company as deliveries of supplies were made, up to about June of this year; and since the temporary receiver paid bills dating back to Aug. 1, the unpaid bills have dates within a short period.

The matter of contracts for bridges and viaducts, and payments thereon, has come up at each session. The Twenty-third Street viaduct matter has occupied much time. Wyandotte County, Kansas, has completed the Kansas end of this viaduct; and the part of the cost which the railway was to pay is part of the \$800,000 claimed as owing Wyandotte County on various bridges and viaducts, most of this having been reduced to judgments. Kansas City, Mo., entered into a contract with the railway and railroads, under which the electric railway was to pay about \$250,000 toward the building of the Missouri end of the viaduct. The contract for erection was let, and work is in progress. The city of Kansas City, Mo., and the contractor intervened in the receivership proceedings and have sought to secure establishment of the contract under the receivership. Decision was postponed at the first two recent sessions concerning the receivership, until the receivers might have opportunity to examine the subject.

CITIES INTERVENE

On Oct. 30, the attorney for the city again brought up the matter, urging that immediate action be taken, so that the contractor would know his status. At this time, the first intimation was heard of opposition to the adoption of the contract immediately by the receivers. Blatchford Downing, attorney representing the second mortgage bondholders, and incidentally, first mortgage interests also, suggested the advisability of a hearing, and receipt of testimony before conclusion could be reached as to the necessity for this viaduct in the present operation of the property. He pointed out that the viaduct is designed to serve chiefly Kansas City, Kan.; and that the Kansas City, Kan., section of the property is now not making money. Counsel for Kansas City responded that it was a franchise obligation, and whether the Kansas end of the system or the viaduct itself was profitable to the company was not a factor. He added that the viaduct was to be a benefit to the company, as well as to the city.

Judge Stone directed that the opposition to the adoption of the contract by the receivers be made formal in pleadings to be filed on Nov. 1 and

Nov. 3 was tentatively set for hearing.

At this juncture Judge Stone mentioned the prospect of appointment of special master. He said that he wished to hear the viaduct matter himself, but that many subjects were likely to be presented which it would not be feasible for him to hear in person. He suggested that attorneys advise him in advance when a mass of testimony is to be presented in any of the incidental controversies, so that a special master could be appointed.

Mr. Downing, representing the individual trustee under the second mortgage, suggested that he was not at present in a position to file a cross bill asking for foreclosure of the second mortgage and possibly would not be until the New York Trust Company comes into the present proceedings. Second mortgage interests, he said, are parties to these proceedings because defendants to the intervention of the parties to the first mortgage.

So far as the company is concerned there are very many business men in the city who have tried to help restore the company in the good esteem of the public. It is only fair to these men, as well as to the company and its officials, to say that the company stands higher now in public esteem than any other railway ever did in Kansas City.

There are two elements of the public that feel real sympathy for the company in its difficulties. One element is the business men, who realize the insuperable obstacles the company has encountered to successful operation—

The employees are contented now. They have their own brotherhood, with machinery for handling grievances, machinery which has been effective. They hope for the same facility of intercourse with the receivers and under the receivers that they have enjoyed heretofore. They hope that no opportunity will be presented to union agitators to promote disruption.

OUTSIDE LABOR ACTIVE

On the other hand union labor circles in Kansas City have hoped to find in the receivership an opportunity for re-establishing their policies and methods in the railways. That the unions are thus disposed is indicated in a letter sent to Judge Stone, before his appointment of permanent receivers. This letter recommended the immediate discharge of the present officers of the company, and urged the appointment of a single receiver, especially recommending F. C. Niles, the temporary receiver.

Deficit Continues on Chicago "L"

The first full month's operation under the 10-cent cash fare, with four tickets for 35 cents, on the Chicago Elevated Railways showed for September a net deficit of \$25,361. This rate of fare was authorized on Aug. 4, but did not become fully effective until Aug. 9, so that August figures reflect the increase but do not show the full effect. A summary statement for the last three months follows:

	July	Aug.	Sept.
Total earnings.....	\$1,401,065	\$1,458,708	\$1,434,377
Total expenses.....	1,254,520	1,411,253	1,254,331
Net earnings.....	\$146,545	\$47,455	\$180,046
Interest charges.....	206,160	205,682	205,407
Net deficit.....	\$59,615	\$158,227	\$25,361
Number of passengers (1920).....	17,024,667	15,025,599	14,698,167
Number of passengers (1919).....	13,990,060*	13,578,959*	14,169,071
Increase.....	3,034,604*	1,446,640	529,096

*A strike of three days in July and one day in August makes these figures abnormally low and the comparison with 1920 for both July and August not fair. Also, the traffic in July, 1920 was abnormally high, due to several events which brought a great many people to Chicago during that month.

one of these obstacles being the rise of the jitney. This element feels that there is no way to get service without paying what it is fully worth, paying now or later, in some way.

The other sympathetic element has grown largely in the past few months. It is of car riders. They realize the importance of service to the city and themselves. They are somewhat indignant at the jitney—not finding fault with the men who run jitneys, but deploring the course of events which has made the jitney so sharp a competitor of the railway, but deploring most the development of this jitney service, which is to a degree irresponsible, unreliable, without regulation, so largely without resources to meet liability.

The receivers therefore take hold of the company under conditions far more propitious than are often found in similar circumstances. There are few complaints as to service; there are few accidents. The trainmen are courteous, and perform their work well.

It should be explained in connection with the large operating expense in August that this includes \$145,336 of back pay accumulated in June and July, resulting from the last wage increase which was made retroactive to June 1.

Syracuse Valuation Wins Praise

The valuation of the city lines of the New York State Railways in Syracuse, made recently by Ford, Bacon & Davis, New York, and mentioned on p. 610 of the issue of this paper for Sept. 25, has received favorable comment in the Syracuse paper, and its acceptance has been recommended by the City Street Railway Commission. In referring to the appraisal in an editorial, the Syracuse Herald praises the thoroughness with which the work was done and speaks of the "judicial impartiality" of James C. Emery, who was in charge of it for the appraising engineers.

Cincinnati Deficit Increasing

The report of the Cincinnati (Ohio) Traction Company to W. C. Culkins, Street Railway Director, shows a deficit of \$68,954 in September. The total operating expense for the month was \$559,898. Taxes and other deductions amounted to \$274,854. Detailed accounting of the operating expenses shows that \$61,749 was spent on ways and structures. Equipment last month cost \$70,968 and power \$108,600. The

	September	
	1920	1919
Operating expenses:		
Ways and structures.....	\$61,749	\$70,240
Equipment.....	70,968	43,489
Power.....	108,600	75,379
Conducting transportation	274,507	232,389
Traffic.....	1,027	812,54
General and miscellaneous.	42,646	38,174
Total.....	\$559,898	\$460,487
Taxes and other deduc-		
tions.....	274,854	242,818
Total cost of service.....	\$834,753	\$703,305
Total revenue and income.....	\$765,798	\$672,052
Total deficit.....	\$68,954	\$31,252
Fare.....	8 cents	7 cents
	cash or	cash 6½-
	ticket	cent ticket
Revenue passengers.....	9,561,608	9,972,289
Density of traffic.....	5.50	5.64

item conducting transportation consumed \$274,907. One thousand and twenty-seven dollars was spent on traffic and \$42,646 for general and miscellaneous. The number of revenue passengers during the month was 9,561,608. The deficit is said to be due to the increased cost of coal and wages and the falling off of travel. The fare in Cincinnati is 8 cents cash. The figures of operation are included in the accompanying statement.

Some B. R. T. Lines Restored

Shuttle service has been installed on three of the nine trolley lines on which service was temporarily abandoned recently by the Nassau Electric Railroad and the Brooklyn, Queens County & Suburban Company of the Brooklyn Rapid Transit System because the operating revenues of the lines failed to meet actual operating expenses by \$500,000 a year.

The Metropolitan Avenue Line, with a mileage of 9.336, has been replaced by a shuttle service from Flushing Avenue to Dry Harbor Road, a distance of 2½ miles. The Ocean Avenue line, with a mileage of 10.038, has been replaced by a shuttle service from Flatbush Avenue and Avenue F to Ocean Avenue and Avenue W. The shuttle line is about one-third the mileage of the old route.

The Thirty-ninth Street-Coney Island line, with a distance of approximately 8 miles, has been replaced by a shuttle line operating about 2 miles from Fifth Avenue and Eighty-sixth Street to Bath Avenue and Bay Nineteenth Street.

All three shuttle services were installed at the request of residents of the territories traversed by the lines who stated at hearings before the Public Service Commission that they were

primarily interested in securing service and were willing to pay whatever it cost to provide service. Representatives of civic bodies stated they were not opposed to an increased fare if it actually cost more than 5 cents to provide service and the alternative to the increased fare was no service at all.

Proceedings are still pending before the commission for the restoration of service on the Church Avenue line, with a mileage of 6.419, without the necessity to give or receive transfers to and from the dozen intersecting and connecting lines. Investigators for the commission reported that inquiries along the route of this line failed to disclose a single resident who was opposed to the abolishment of the transfer privilege.

Financial News Notes

Discontinuance Asked.—The Dover, Somersworth & Rochester Street Railway, Dover, N. H., has petitioned the Public Service Commission for permission to discontinue its tracks in Rochester on North Main Street, from the Central Square to Strafford Square.

750,000 of Bonds Planned.—The Cincinnati (Ohio) Traction Company has petitioned W. C. Culkins, Director of Street Railways, to be allowed to issue \$750,000 par value of bonds to reimburse the company for extensions and improvements. Application also will be made to the State Public Utilities Commission to determine the terms under which the bonds shall be issued.

Road at Abilene May Resume Operation.—An ordinance has been passed by the local authorities at Abilene, Tex., amending the franchise of the Abilene Street Railway. In consequence it is expected that the line will resume operation. Some four or five months ago the American Public Service Company, Dallas, Tex., agreed to take over the railway and to spend about \$60,000 in repairs to track and equipment.

Application to Issue Notes Granted.—The Wisconsin Railroad Commission on Oct. 25, 1920, granted the Milwaukee Electric Railway & Light Company permission to guarantee as to principal and dividends \$1,090,000 of ten-year 8 per cent sinking fund equipment trust gold certificates. The proceeds from the sale of these notes will be used to finance the purchase of the railway cars ordered to be installed by the commission. The company's application was referred to in the ELECTRIC RAILWAY JOURNAL of Oct. 23, 1920, page 893.

Steam Road Seeks to Purchase Electric Line.—Negotiations have been in progress for some time for the sale of the Sacramento Northern Railroad,

Chico, Cal., formerly the Northern Electric Railway, to the owners of the Western Pacific Railroad. The matter has been placed before the New York office of the Western Pacific Railroad and it is said that John S. Drum, president of the Mercantile Trust Company and a director of the electric road, and G. F. Detrick, president of the electric line, have been handling the negotiations with the railroad. The electric railway extends northward from Sacramento through the valley as far as Chico.

\$1,750,285 Net for Monongahela Company.—Net earnings of the Monongahela Valley Traction Company, Morgantown, W. Va., for the twelve months ended Sept. 30 last, are practically double the annual bond interest charges of the company. The report of the period shows: Gross earnings, \$5,538,110; operating expenses, taxes, depreciation and sinking funds, \$3,787,824; net earnings, \$1,750,285; annual interest charges on \$15,237,000 bonds, \$883,590; balance, \$866,695. Net earnings are stated after depreciation sinking fund requirements, which for the twelve-month period amounted to more than \$170,000. If these were excluded the ratio of net earnings to annual bond interest charges would be nearly 2.2 times.

Tax Liability Fixed.—By a decision recently handed down by Judge Clay Allen in the Superior Court at Washington, D. C., the Puget Sound Traction, Light & Power Company must pay delinquent taxes aggregating the sum of \$401,017. The suit of the company against King County sought last June to enjoin the county from collecting taxes on the railway for the year 1919. The company will appeal the decision. The actual transfer of the lines from the company to the city of Seattle took place on March 31, 1919. During 1919 the company was in possession of the lines for three months and the city for the remaining nine. This means that the city will pay three-fourths of the taxes and the company one-fourth.

St. Louis Traffic Increasing.—With a daily average of eight fewer cars in operation the United Railways, St. Louis, Mo., in the quarter ended Sept. 30 last, carried 143,388 more passengers than in the preceding quarter, according to the quarterly report filed with the City Register of St. Louis. The report shows that during the quarter 69,756,328 passengers were carried as compared with 69,612,940 in the preceding period. The average number of cars in operation on weekdays during the last quarter was 1,310; on Saturdays, 1,220, and on Sundays 760, an average of 1,208. In the preceding quarter the average was 1,216. Col. A. T. Perkins, general manager for the company, said that every effort was being made to get more cars into service. The first of fifty cars being built in the company's shops are being assembled and will be ready for service soon. Ten one-man cars being built by the American Car Company are to be delivered Dec. 1.

Traffic and Transportation

Jitney Bill Defeated

Seattle Voters Reject Proposal to Give Bus Operators Control Over Service and Fares

At a referendum held in connection with the general election on Nov. 2 the voters of Seattle, Wash., decisively rejected an ordinance which, if approved, would have given bus operators authority to select routes and to regulate fares without interference from the city government. The bill had been sponsored by the bus interests in an effort to nullify the terms of a local ordinance ruling the jitneys off the streets served by the Seattle Municipal Street Railway.

The judiciary committee of the City Council, after extended conference with representatives of the jitney interests, has adopted the jitney bus routes drafted by Carl H. Reeves, superintendent of the utilities department. The action was taken after Mayor Hugh M. Caldwell had called for a "showdown" with the jitney men, who objected to regulation not of their choosing. The Mayor said:

If the jitney operators won't accept anything but their own terms, and we must have a showdown, let's have a showdown. If they won't accept reasonable regulation, let's pass the regulations as we see fit, and let them accept or quit. I concede that when 9,000 persons use the buses in a day, they should be given some consideration, but neither they nor the operators have any right to insist on the terms on which they are to run. Let us effect a compromise with the jitney drivers or any other we can agree with, and let the others take the regulations or leave them. The operators can't keep the city tied up indefinitely on this court litigation.

WOULD LIMIT PASSENGERS

The regulations provided in the recommendations made by Mr. Reeves and adopted by the committee provide for limiting passengers carried to two more than the seating capacity of the jitney, except on cars where standing room is available—to permit the present 10-cent fare to stand except on long drives, such as the Alki line, where a 15-cent fare will be favored, and to allow a 25-cent fare after 1 a.m.

If the Council passes the amendments and adopts the routes outlined, the jitney men must then file new applications for permits, as all but a few were refused permits by the Council after the passage of the present ordinance.

Another problem still pending is the one of time schedules. It is expected more difficulty will develop in this matter than on the question of routes. The drafting of the schedule was to be speeded, as the stand of the jitney men on the jitney referendum bill depended on whether satisfactory regulations are adopted by the city before the special election.

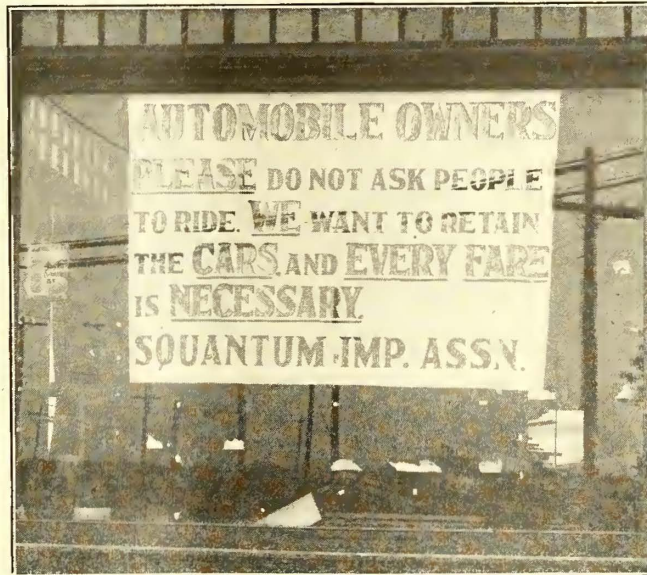
In a communication to the Mayor and the City Council, D. W. Henderson, gen-

eral superintendent of railways, stated that jitney buses are costing the municipal railway \$160,000 or more a year, and that unless strict regulation is effected, 500 to 600 buses will be running the streets taking the cream of the traffic, and cutting still further into the railway revenues.

Mr. Henderson recommends that the jitneys be forced to give regular and reliable service, staying on their respective routes, and operating daily for the convenience of their patrons.

An Appeal to Save a Railroad

Two years ago the Eastern Massachusetts Street Railway discontinued the Squantum line as the receipts were not paying operating costs. When the operation of jitneys was discontinued about three months ago, the Board of Trade asked Mayor Whiton of Quincy to request the Eastern Massachusetts Street Railway to restore service on the Squantum line. The company found that it would cost \$25,000 to



HOW SQUANTUM AIDS THE TROLLEYS

rehabilitate the property and stated that if the city of Quincy would post \$25,000 to insure against the company's loss, service would be restored. The company reconstructed the line and soon after the operation started.

Since then another factor has entered the field to hinder the operation of this line at a profit. Automobiles entering and leaving Squantum have picked up prospective patrons of the street cars along the road and transported them free to Quincy or Squantum. The Squantum Improvement Association was formed to combat this practice. It erected a very novel sign to appeal to the automobilists and had it set in a very prominent location.

P. R. T. Charges 7 Cents

Company Raises Fare at Direction of Public Service Commission—Four Tickets for a Quarter

Nickel fares became a memory on Nov. 1 as far as the Philadelphia Rapid Transit Company is concerned. On that date the company placed in effect the 7-cent cash fare previously ordered by the State Public Service Commission. Under the new plan four tickets are sold for 25 cents. Payment of fare in the form of cash or tickets entitles riders to free transfers or 3-cent "exchanges" as under the 5-cent fare.

A feature of the new rate system is the method of computing the fare to be paid by children. Heretofore age has been the determining factor in allowing children to ride free. Under the new arrangement payment of fares depends upon height, all children more than thirty-one inches tall being required to pay full fare. A line has been marked in each car near the conductor's station by which children will be measured as they enter the car.

The new rates are to continue in effect for a period of six months. Company officials estimate that the 7-cent cash fare with reduced rate tickets will yield less in revenue than the straight 5-cent fare without transfers or exchanges, as proposed by Thomas E. Mitten, president of the company.

Simultaneously with the advance in fares the company began paying its employees at the rate of 72.5 cents an hour, an increase of 7.5 cents over the former scale. Under the wage agreement between the company and its men the latter were entitled to this increase beginning May 16 and June 1. At the urgent request of Mr. Mitten the carmen agreed to forego the wage increase

pending the granting of a higher fare.

Mr. Mitten has announced that the company will immediately begin the accumulation of a reserve fund so that the men can be given the back pay now due them at as early a date as possible. By this means the management hopes to be able to turn over this back pay to each man in a lump sum, if possible before Jan. 1. Mr. Mitten has urged the men to place this money with their savings in anticipation of an ultimate reduction of wages to 65 cents an hour. Mr. Mitten some time ago warned the men that the new wage scale was only temporary and that, with the return of a lower level of prices, the men must expect a reduction in pay.

Fare Advance an Issue

Labor Opposed to Rate of Seven Cents Put Into Effect at Fort Worth Recently

An injunction looms up as probable to restrain the Northern Texas Traction Company of Fort Worth, Texas, from continuing in effect the 7-cent fare started on Oct. 22 in the city of Fort Worth. Organized labor has taken up the fight and the City Commission has also expressed opposition. In response to a formal request from the City Commission for data showing the necessity for the fare increase, George H. Clifford, general manager, explained the grounds on which the recent advance in the rate was made.

Mr. Clifford explained that contracts had expired under which the company had been purchasing fuel oil for 90 cents a barrel and that since Oct. 1 the company had been paying \$3.50 a barrel for fuel oil in the open market. Mr. Clifford also pointed out the improvements now under way and pledged called for an outlay of more than \$1,000,000. These include the purchase of thirty-five new one-man cars.

Protestants against the fare increase point out that these improvements were pledged by the company in return for the recent increase in fares from 5 cents to 6 cents, and that the company cannot again advance the matter of improvements as grounds for another fare increase.

The City Commission has advised those protesting against the fare increase that the only recourse is in the courts. The franchise under which the company operates authorizes it to charge a fare that will make adequate return, and the company is judge of the fairness of the return. The only recourse, once the new fare is put into effect, is to restrain the higher fare through the courts.

Eight Cents in New Orleans

The New Orleans Railway & Light Company, New Orleans, La., on Oct. 22 raised its fare from 6 cents to 8 cents by authority of the Commission Council. The Council approved the fare advance on Oct. 19 as a means of averting a second strike of the railway's employees. The new fare will continue for a period of six months. Free transfers are retained.

The increase in fare was recommended in the report of the special masters who heard the men's demands for higher pay following the strike which tied up electric railway service in New Orleans last July. The local Association of Commerce was largely responsible for bringing about an agreement between the city and the company on the fare question. Danger of another strike was removed on Oct. 21 when J. D. O'Keefe, receiver of the company, and James Rodgers, representing the carmen, signed a contract under which the men will be paid at the rate of 49, 52 and 55 cents an hour.

Futile efforts have been made by groups of citizens hostile to the company to compel it to abandon the 8-cent fare. Criminal charges were brought against Mayor Behrman, Mr. O'Keefe and other officials of the city and the company, on the ground that they had violated the law in permitting the fare increase. These charges were dismissed by the court on Oct. 27. Petitions have also been circulated calling upon the Commission Council to submit to popular vote the question of reducing the fare to the original 5-cent basis.

Ten-Cent Fare in Effect

A straight 10-cent fare went into effect on Nov. 1 on the lines of the Connecticut Company, New Haven, Conn. There was a noticeable falling off in patronage on many of the lines in Hartford and in other larger cities of the State on the first day under the new fare régime. However, the railway officials take the stand that as winter comes on there will be the usual patronage of the trolleys.

Jitneys were running in Hartford as usual on Nov. 1 despite the city ordinance which ruled them off the main highways when the 10-cent fare went into operation. This continuance of bus service was due to an agreement by counsel for the jitneys and the railway that both sides would await the decision of the Superior Court on the pending injunction which, if granted, would bar the railway from forcing the jitneys off the main thoroughfares. The buses did not do a heavy business on the first day because of the 10-cent trolley fare.

"Knocking" Safety Cars Forbidden

Platform men in the employ of the Los Angeles (Cal.) Railway have been forbidden to make remarks "tending to bring the safety car into ridicule" under penalty of severe discipline. George B. Anderson, manager of service of the railway, has issued an order instructing every carman to "speak of the advantages of this car, if he refers to it at all in conversation with the public." The order, which is addressed "to all trainmen, especially motormen," reads:

Your attention is especially directed to bulletin No. 389, issued Sept. 27 by R. B. Hill, superintendent of operation, which states that any trainman unnecessarily ringing his gong when he finds a safety car on the track ahead of him or any trainman who makes remarks tending to bring the safety car into ridicule will be subjected to severe discipline.

Violations of this rule will be interpreted as exhibitions of disloyalty to the company, actuated by a desire to incite the public against a car which experience shows is better adapted for quick and safe street railway service than any other type of car.

Every trainman who is interested in safe and successful operation will speak of the advantages of this car, if he refers to it at all, in conversation with the public. If a man's attitude toward the safety car is unfriendly it will be taken for granted that he is not interested in safe and successful operation and he will be treated accordingly.

We do not desire in our service any man who, by word or deed, stirs up public antagonism to the service which we are endeavoring to render.

Transportation News Notes

City Grants 8-Cent Fare.—The Board of Aldermen of Concord, N. C., recently authorized the North Carolina Public Service Company, Greensboro, to charge an 8-cent cash fare on its lines in Concord. The new rate took effect on Oct. 1. Four tickets are sold for 30 cents.

Higher Freight Rates Sought.—The Pittsburgh (Pa.) Railways has filed with the State Public Service Commission notice of an advance in local freight tariffs, under which it proposes to raise class rates 40 per cent. The company also seeks a minimum rate of 50 cents on each shipment.

Fares Raised on Interurban.—Fares on the lines of the Kentucky Traction & Terminal Company, Lexington, Ky., have been advanced to a basis of 3.6 a mile. The company formerly charged at the rate of 3 cents a mile. The company has also raised its freight rates. The minimum fare remains at 7 cents.

Will Raise Glen Cove Fare.—The Glen Cove (N. Y.) Railroad has been authorized by the State Public Service Commission, Second District, to raise its fare from 5 cents to 7 cents. The company is a subsidiary of the Long Island Railroad and is capitalized at \$10,000.

Ticket Sale Discontinued.—The Wisconsin Railroad Commission has granted the petition of the Milwaukee Northern Railway, Cedarburg, to discontinue the sale of six tickets for 25 cents good on the company's line within the city of Milwaukee. A straight 5-cent fare became effective on Aug. 15.

Ten Cents in Adrian.—The Adrian (Mich.) Street Railway has raised its fare from 5 cents to 10 cents. The company has been in financial straits for several months. A committee of Adrian citizens has been negotiating with the railway management with a view to the municipal operation of the system.

Eight Cents Asked in Auburn.—The Auburn & Syracuse Electric Railroad, Auburn, N. Y., has applied to the Public Service Commission for the Second District for permission to charge an 8-cent cash fare on its Auburn city lines. The Auburn City Council recently passed an ordinance waiving the city's right to oppose the increase.

Would Raise Augusta Fare.—The Georgia Railroad Commission will hold a hearing on Nov. 23 on the application of the Augusta-Aiken Railway & Electric Company, Augusta, for authority to make a general increase in its rate. The present fare in Augusta is 7 cents. The company has not stated the amount of the increase to be asked.

Six Cents in Huntington.—The West Virginia Public Service Commission has authorized the Ohio Valley Electric Railway, Huntington, to raise the fare on its Huntington lines from 5 cents to 6 cents beginning Nov. 8. The commission has directed the company to complete within sixty days track improvements now under way.

Would Abolish Tickets.—The Butte (Mont.) Electric Railway has applied to the State Public Service Commission for authority to discontinue the sale of reduced-rate tickets. The commission last June allowed the company to raise its cash fare to 8 cents provided that tickets be sold at the rate of 7 cents each. The company's petition has been taken under advisement.

Commission Hears Rate Plea.—Hearing was held on Oct. 21 by the Public Utilities Commission of Utah on the application of the Utah-Idaho Central Railroad, Ogden, Utah, for permission to increase its minimum fare from 5 to 10 cents, one way, and from 10 to 20 cents, round trip. This fare affects trips of a distance up to about 2½ miles. No protests were filed with the commission.

Check on All Transfers.—Orders have been issued to conductors of the Los Angeles (Cal.) Railway not to throw away or destroy any transfers punched and not issued. Such transfers must be turned in to a division clerk with a report. The order is part of a campaign being made by the railway to have conductors punch all transfers correctly and accept them only at the proper transfer points.

Postpones Reading Increase.—The Reading Transit & Light Company, Reading, Pa., has announced that, pending action by the State Public Service Commission, it will take no steps to raise its fare from 7 cents to 8 cents. The company originally proposed to advance its rate beginning Oct. 27. A number of complaints have been filed with the commission opposing fare advance. The commission will hold a hearing on the matter on Nov. 19.

Street Collection in Los Angeles.—To speed up the loading of cars in the congested zone during rush hours, extra conductors of the Los Angeles (Cal.) Railway are being stationed at the street intersections to collect fares and permit passengers to enter at the front gate, which is ordinarily used as an exit only. Mail carriers bearing full sacks of mail are now permitted to enter by the front gate at all hours of the day. This plan has been approved to present delay and congestion on the rear end of the car.

Louisville Settlement Soon.—Settlement of the fare difficulties of the Louisville (Ky.) Railway is expected at an early date, according to city officials and representatives of the company. The railway has been seeking an increase in fare from 5 cents to 7 cents under a cost-of-service plan. A member of the City Council recently stated that action on the fare question would be deferred until after the general elec-

tion on Nov. 2. In the meantime the company is continuing its campaign of education by the use of advertisements in the Louisville newspapers.

Survey of Railway at Memphis Completed.—The main points of the survey by Ross W. Harris of the Memphis (Tenn.) Street Railway were outlined at a recent meeting of the Engineers Club. Numerous charts and maps were submitted showing the lines, location of population, etc. Mr. Ross is of the opinion that distribution of traffic is so unequal that better railway service is impossible under present conditions. The reasonable capacity of cars during rush hours is exceeded 50 per cent, the report states. Rerouting is recommended to take the burden of traffic off Main Street.

Telephone Dispatching Abolished.—Telephone dispatching of all cars has been abolished by the Los Angeles (Cal.) Railway. Car crews now follow their established schedules and telephone to headquarters only in case of serious delay or other trouble. The new plan relieves the conductors of telephoning from the terminal at every trip and gives the railway a saving in switchboard equipment and dispatchers. With the change, a number of new supervisors have been appointed to assist the car crews on the streets. Turn-backs or diversions from the regular route are recorded on a mileage card kept by the conductor and later submitted for inspection.

Seeks Curb on Jitneys.—The towns of Braintree and Holbrook, Mass., will be deprived of electric railway service at an early date unless they take steps to curb the operation of jitney buses within their borders. Homer Loring, chairman of the public trustees of the Eastern Massachusetts Street Railway, Boston, has informed the Boards of Selectmen of the two towns that the company will discontinue serving Braintree and Holbrook, unless the municipal authorities take steps to bar the buses. Mr. Loring contends that jitney competition makes it impossible to operate the lines in question in accordance with the provision of the Public Control Act.

Merchants Asked to Aid.—Use of co-operative tickets, good for rides on the Quincy Division of the Eastern Massachusetts Street Railway, to be furnished to suburban patrons, has been suggested by Forrest I. Neal, chairman of the home rule committee in charge of the division. Mr. Neal made the suggestion in replying to an attack by Col. Henry L. Kincaide, a former member of the committee, who claimed that merchants were losing suburban business because of high fares. Chairman Neal admitted the high fares were responsible to some extent, but blamed the cessation of war work for the greater part of the reduction of business. He declared that the Quincy Division was not on a paying basis at present, but was improving and in six months fares probably would be reduced.

Would Speed Up Service.—A readjustment in the running time of the cars of the Cincinnati (Ohio) Traction Company is urged by William C. Culkins, City Street Railway Director, now that the pay-as-you-leave plan has been tested thoroughly. Mr. Culkins in a recent letter to the company calls attention to the opportunity of improving the running time on many, if not on all lines. He points out that on many lines the cars crawl through the downtown district to avoid arriving at the terminal ahead of time. He states that he has received complaints that cars stop for as long as five minutes just outside of the "delivery" district. By readjusting the schedules so as to have the cars pass a given point on schedule on the out-bound trip, it is his belief that car service would be improved. He suggests further that car service could be reduced during the day, thereby saving a large sum of money for the company.

Ask More in Alton.—W. H. Sawyer and Fred E. Allen, temporary receivers for the Alton, Granite & St. Louis Traction Company, Alton, Ill., have filed a petition with Federal Judge English at Danville, Ill., for a 10-cent fare on the Alton city lines. The present fare in Alton is 8 cents. A report showing the receipts and disbursements since the railway was placed in receivership was also filed with Judge English. The receivers state that the men have been given an increase of 6 cents an hour. Motormen and conductors employed on limited trains are receiving 60 cents an hour, men employed on local interurban cars 59 cents an hour and Alton city line employees 57 cents an hour. This increase, which was granted by the receivers, has not been officially accepted by the men. The men, prior to the receivership, had made demands for an increase to 90 cents an hour. The naming of the receivers halted the arbitration of the wage demands and the 6-cent increase followed.

City Fights Fare Increase.—A brief has been filed with the California Railroad Commission by the City Attorney of Los Angeles opposing the granting of an increase in fare to the Los Angeles Railway. The company some time ago applied to the commission for permission to raise its rates, but failed to mention a specific increase. At subsequent hearings before the commission it was intimated that a 6-cent fare would be authorized. The city contends that business and financial conditions at the present time do not justify increased prices in any commodities. It also holds that under a 6-cent fare the company would accumulate a surplus of \$500,000. H. Z. Osborne, Jr., chief engineer of the Los Angeles Department of Public Utilities, has presented a report to the commission favoring 6-cent fares on Los Angeles lines. Mr. Osborne maintains that the fare increase is necessary to permit the company to obtain additional equipment to give adequate service.

Interurban Rise Approved.—The Public Utilities Commission of Utah

has granted an increase in passenger fares to the Salt Lake, Garfield & Western Railway, Salt Lake City, the electric railway known as the "Saltair Route." The company is granted permission to increase one-way passenger rates between Salt Lake City and Saltair Beach from 30 cents to 35 cents, or on a fare basis of slightly less than 2½ cents a mile. Petition for the increase was heard on Oct. 20, at which time the petitioner alleged that during the winter months the line was operated at a loss, and that traffic in the summer season was not sufficient to make up the excess of expense over cost of operation. The petitioner stated that the increase would not affect regular patrons of the road, provided they desire to avail themselves of the commutation rates, in which no increase was sought. The sale of coupon books will be continued at the price of \$2.50 for ten one-way trips.

Six Cents Not Enough.—Richard Meriwether, vice-president and general manager of the Dallas (Texas) Railway, has announced that the company may be compelled to apply to the city authorities for a further increase in fare. The railway raised its fare from 5 cents to 6 cents several months ago. The financial results of the fare advance have not been satisfactory. Mr. Meriwether states that a 7-cent fare would be inadequate and that to meet operating expenses and to make needed improvements an 8-cent fare with two tickets for 15 cents would be required. The company's financial report for the month of September shows that the rate on the property valuation for that month was 3.4 per cent. The authorized monthly return is 7 per cent. Nine months ago, under a 5-cent fare, an average of 4.5 per cent was being earned. Gross earnings for the month of September amounted to \$279,057, with operating expenses of \$210,973. The operating income, after caring for authorized reserve funds, is given at \$25,853.

Fare Increase Hearing Held.—A hearing was held by the Railroad Commission of Wisconsin on Oct. 18 at Kenosha, Wis., to consider the recommendation of the State Board of Conciliation that the wages of trainmen employed on the lines of the Wisconsin Gas & Electric Company in Kenosha be advanced to the same scale that is now being paid in Racine and Milwaukee. The company indicated that an increase in fare of 1 cent would have to be granted in order to meet the proposed increase in wages. The fare which is at present 6 cents would thus be increased to 7 cents. Reduced rate tickets might, however, be sold. The case was taken under advisement by the commission. At the hearing it is reported to have been brought out that for the first time in three or four years it was now possible to get abundant help in Kenosha and that men were willing to go to work as trainmen at the present wage schedule. Representatives of the company therefore opposed the proposed wage schedule.

Personal Mention

I. L. Ward Leaves P. E.

General Purchasing Agent Joins Manufacturing Concern—Messrs. Thorburn and Fenimore Step Up

I. L. Ward resigned on Nov. 1 as general purchasing agent of the Pacific Electric Railway, Los Angeles, Cal., to accept a position as general manager of the Steel Mill & Foundry Supply Company, a newly organized corporation doing business in Los Angeles.

C. Thorburn, general storekeeper of the Pacific Electric, has been appointed purchasing agent to succeed Mr. Ward.

C. C. Fenimore, who has been serving as chief clerk to the purchasing agent, has been advanced to the position of general storekeeper, to succeed Mr. Thorburn. Mr. Fenimore has been con-

department accountant in the office of the auditor. Like Mr. Ward, he had previously been connected with the stores department of the Southern Pacific. In December, 1909, he was made chief clerk to the general storekeeper of the Pacific Electric, and three months thereafter was promoted to general storekeeper, continuing in that position until receiving his new appointment.

Donald F. Hine has joined the staff of the *ELECTRIC RAILWAY JOURNAL* as an editorial representative and will devote his attention to the preparation of articles of an engineering nature. Mr. Hine is a native of Fisher's Island, N. Y. After completing the regular course in electrical engineering at the Sheffield Scientific School of Yale University he spent a year at the same institution doing special engineering work in the graduate school.

A. L. Gibson has been appointed superintendent of the Lawrence District of the Eastern Massachusetts Street Railway, Boston, Mass. Mr. Gibson has been connected with the railway for a number of years, starting in the Chelsea District as a platform man. Later he became car house foreman in Revere and for the last several years has served as superintendent of the district including Woburn, Reading, Wakefield and contiguous towns.

Charles Gordon has been appointed engineer of equipment of the Chicago Surface Lines, reporting to H. H. Adams, superintendent of equipment. Mr. Gordon was connected with the Surface Lines from the time of his graduation from the railway electrical engineering department of the University of Illinois in 1912 until December, 1917, when he resigned to enter the United States Army as air service engineer officer of the 276th Aero Squadron with the rank of second lieutenant. Since his discharge from military service in April, 1919, he has been with the sales and service department of the Vacuum Oil Company.

G. Dieden, managing director of the street railways of Gothenburg, Sweden, is spending a few weeks in this country, studying the operation of safety and other modern types of cars. Mr. Dieden was an observing attendant at the recent Atlantic City convention, where he laid plans for visits to Montreal, Buffalo, Philadelphia, Baltimore, Newark and a few other cities with railway conditions comparable with those in Gothenburg, which although of smaller population than any of those mentioned is the second city in Sweden in population. Mr. Dieden also hoped to spend a couple of weeks in Florida, by way of a vacation before sailing for home.



I. L. WARD

nected with the company since 1909, his work for the most part having to do with the stores department.

Mr. Ward became general purchasing agent of the system in 1917. He was previously connected with the Southern Pacific Company, with headquarters in San Francisco. As purchasing agent of the P. E. lines he succeeded F. W. Taylor, who left the Pacific Electric to become purchasing agent of the Southern Pacific's System in the territory from El Paso to Portland.

Mr. Ward gained his early railroad experience with the Chicago, Rock Island & Pacific Railway, in the maintenance of way, mechanical and stores departments. Ten years ago he joined the Southern Pacific Company, serving first as chief clerk to the general storekeeper and later as storekeeper, general stores, and chief clerk of the purchasing department.

Mr. Thorburn, by taking over the purchasing department of the Pacific Electric, becomes one of the largest purchasers of materials in southern California. He entered the service of the company in May, 1909, as stores

Dual Receivership in Kansas City

Col. Frederick Fleming and Francis M. Wilson Appointed Permanent Receivers—Aim to Secure Good Will of Public

Col. Frederick Fleming and Francis M. Wilson, long active in the business and professional life of Kansas City, Mo., were appointed on Oct. 26 the permanent receivers of the Kansas City Railways. The appointments were made by Judge Kimbrough Stone of the United States District Court, before whom the receivership proceedings were brought last August. Judge Stone on Oct. 30 designated James E. Goodrich counsel for the permanent receivers. Messrs. Fleming and Wilson have announced that they will devote their entire attention to their new duties. Colonel Fleming several years ago retired from direct participation in the affairs of the various corporations in which he is interested. Mr. Wilson resigned as Federal District Attorney immediately after his appointment to the receivership board, his resignation being accepted by Attorney General Palmer on the same day.

THE receivers have spent most of their time since appointment in making themselves familiar with all phases of the operation of the property. They have not yet established offices, but will do so shortly in the railways building. They are also painstakingly studying the problem of building up public good will. This they consider one of their most important

chairman of the board and business manager of the Kansas City Life Insurance Company.

COLONEL FLEMING A CANADIAN

Colonel Fleming was born in New Brunswick, Canada, on Aug. 9, 1866. He was graduated from Ricker Classical Institute, Houlton, Maine. In 1885 he went to Atchison, Kans., where he taught school for two years. He then entered business in Kansas City, where he has since resided. Joining a real estate, insurance and investment concern as a clerk, he later opened his own office. He subsequently established and operated a printing office. This plant was later bought by Col. Cusil Lechtman, and is now one of the largest in the West.

In 1904 Colonel Fleming and his associates bought the Kansas City Life Insurance Company, Colonel Fleming personally holding the controlling interest. He was secretary and general manager of the company for several years, and was then made chairman of the board. He retired from the company in 1918 because of impaired health. He is now fully recovered and seems as vigorous as ever. He was one of the leading figures in the various "drives" staged in Kansas City during the war. He served as director for the Middle Western Division in the War Savings Certificate campaign.

The title of "Colonel" resulted from his war and National Guard service. He was one of the organizers and major of the "Marmaduke Guards," which served as a unit of the Third Regiment from Kansas City in the Spanish-American War. At the end of the war he reorganized the regiment and became its colonel. Colonel Fleming was formerly active in local and state politics.

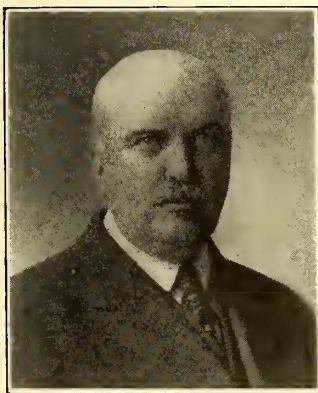
MR. WILSON A MISSOURIAN

Mr. Wilson, co-receiver with Colonel Fleming, is an avowed friend of the railway. Shortly after his appointment he stated that ever since coming to Kansas City he had patronized the trolleys as a matter of principle. "I use my motor car for other purposes," he said; "but I have felt that a citizen should use the utilities provided for specific purposes, as in the case of the street railway, so I ride to and from work on the cars."

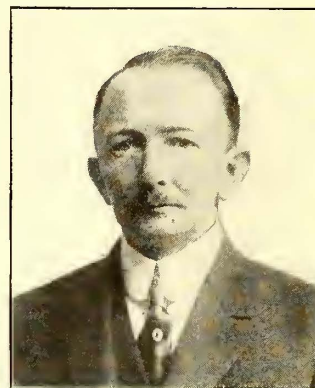
Mr. Wilson is a native Missourian.

He was born on June 13, 1867, in Platte City, in the county adjoining Kansas City, Kans., on the north. He has always lived in Platte County and in Kansas City, Mo. He was educated at Vanderbilt University, Nashville, Tenn., and Centre College, Danville, Ky. In 1889 he was married to a daughter of Senator Francis M. Cockrell. He was prosecuting attorney of Platte County for two terms; member of the Missouri State Senate in 1899, and chairman of the Senate and House joint committee on revision of statutes. He was again a member of the Senate in 1911 and in 1913, being president pro tem. in the latter year. He resigned from the Senate in August, 1913, to accept from President Wilson the appointment of United States District Attorney for the Western District of Missouri. He was reappointed on July 23, 1917, for a term ending Aug. 4, 1921.

James E. Goodrich, appointed counsel for the receivers, was born at Cameron, Mo., on Sept. 20, 1871. He re-



COL. FRED W. FLEMING



F. M. WILSON

duties. Just what this work of "building good will" implies may be differently explained by different factions in Kansas City.

The most commonly heard explanation of the company's financial predicament is the jitney. The jitney began to flourish and seriously to detract from the railway's revenues after the strike of 1918. It is asserted by some critics that the public was unfavorable to the company, and therefore patronized the jitneys operated by former employees. That much of the propaganda favoring patronage of jitneys, and encouraging to the operation of jitneys, sprang from opposition to the company is well known.

Colonel Fleming will serve as the "business man" on the receivership board. He is pre-eminently qualified for his new work both by training and experience. He was appointed to the directorate of the Federal Reserve Bank of the Tenth District, shortly after the bank was established, to represent large financial and business interests of the district. At that time he was

moved to Kansas City twenty years ago. He sat on the Circuit bench in Jackson County, Mo., for six years, retiring to private practice in 1913. He has been attorney for the Federal Reserve Bank of the Tenth District since the bank's organization, and is also attorney for the National Bank of Commerce. He represents many other banks and corporations as special counsel. He is a Republican in politics, and was a delegate to the Republican National Convention in 1900. However, he has been employed as counsel irrespective of his political affiliations, having represented a Democratic police board, for instance, in proceedings to compel the granting of an appropriation for the city's police department. His present appointment was made by Judge Stone with the approval of the receivers.

Judge Goodrich is a member of the board of curators of the University of Missouri and is a member of the executive committee. He is one of the few local attorneys who have been active for several years in the Kansas City Chamber of Commerce.

Manufactures and the Markets

DISCUSSIONS OF MARKET AND TRADE CONDITIONS FOR THE MANUFACTURER,

SALESMAN AND PURCHASING AGENT

ROLLING STOCK PURCHASES

BUSINESS ANNOUNCEMENTS

Transformer Market Steady Prices Hold Firm, as Production Continues from Stocks of High-Priced Raw Materials

Power and distribution transformers continue in good demand. A leading manufacturer is considering increasing his facilities, so great is the faith of the sales force in the future market. Inquiries and orders show little evidence of the business recession apparent in some fields. A representative of the *ELECTRIC RAILWAY JOURNAL* found one of the largest plants in the country working full time a few days ago, with several months' orders on the books. Deliveries are quoted around five months on medium-sized power transformers and three months or less on distribution transformers. Both classes of transformers are in about the same demand.

Prices hold firm and raw material is in good supply, barring a shortage of tank iron and some scarcity in Egyptian cotton. It is doubtful if the shortage of cotton experienced earlier in the year can be made up before January. Large stocks of copper and sheet steel must be worked up by the manufacturers before the buying of raw material at reduced prices can be reflected in factory costs, it is said. Wages have not been reduced to any extent as yet, nor layoff of men required; in fact, employees are still being taken on in one of the large eastern factories.

The importance of purchasing transformers with more regard to all-day efficiency is being emphasized in some circles. The high price of coal and the continuous core and line losses involved in scattered installations especially are leading the progressive buyer of transformers to study more carefully than hitherto the engineering characteristics of this class of equipment. In some cases, it is pointed out, the purchaser can afford to pay 15 to 25 per cent more in transformer first cost for higher all-day efficiency.

Winding Tape Slightly Lower in Price

Cost of Yarn Still High Despite Lower Cotton—Deliveries Improving, with Raw Material Plentiful

A reduction averaging about 15 per cent in the price of the high-grade cotton tapes used in generator and motor windings went into effect in several recent readjustments of quotations by leading producers. Delivery conditions are now considerably improved. Shipments can be made in from six to ten weeks, compared with about twelve to fourteen weeks in the early summer.

The supply of raw material in the hands of the tape manufacturers is on the whole excellent, but the cost of yarn continues high, notwithstanding the slump of cheap grades of cotton in the open market. Leading grades of yarn cost the tape manufacturer around \$1.50 to \$1.75 per pound today. Wages are not being reduced as yet, and the amount of business on the books of some concerns bids fair to keep the plants going on substantially full time for many weeks. A fair average cost for sizes commonly used would be from \$2 to \$3 per gross yard, and it is said on good authority that prices will prob-

ably not change much until the end of the year, at least. One of the leading manufacturers points out that should prices fall materially before 1921, buyers would be fairly treated as to readjustment.

Cotton sleeving is in heavy demand now, and in order to fill orders night work is being done. One concern is running three daily shifts on this class of production. Eight to ten weeks' delivery is offered. Prices average about \$2 per pound, net, with 50 cents per pound extra for colors. Raw material is in good supply and the outlook for the rest of the year is excellent.

Trolley Wheels in Good Demand

Stocks in General Are Not Large, but Deliveries Are Improving—
Price Peak Thought Reached, Though Producers Say They Expect No Reduction Soon

Most manufacturers of trolley wheels report a good volume of sales the past year and are finding demand holding up well. In fact, more than one company is booked ahead with a volume of business that will tax capacity for some time to come, it is stated. According to one of the leading interests there has been a trend toward the use of trolley shoes on the part of small lines during the past two years in some parts of the country, notably in the central district. This tendency has not as yet made itself felt appreciably in the trolley wheel business, however, it is stated. On the other hand there are a few manufacturers who claim that electric railways are making their wheels run a longer time without replacements and that buying has consequently not been heavy. Sales in these cases, however, are expected to be larger this month, on behalf of winter equipment.

Conditions vary considerably with regard to the ability of manufacturers to supply the demand. Some producers have been unable to accumulate any surplus supplies of the finished product and are being retarded in their production by non-delivery of raw material which, though plentiful, is not always obtainable when needed. Recently a large maker received a car of metal which had been en route six months. Other trolley wheel producers report favorable stocks on hand, however, and are finding no especial trouble with their raw material supply. One company is short of high class labor, but in general this condition is very greatly improved. More work per man is also being accomplished in some instances.

Deliveries in several representative instances are ranging from about one

to three months. In some quarters the time in which orders can be filled is lessening and hope is expressed of eventually cutting it down to two weeks. In rare instances deliveries can be made in normal time. Production in general appears to be favorable. One large maker of trolley wheels increased production 100 per cent last year over 1918, and expects the output to show a further increase during 1920. No recent change in prices is reported. On all sides the opinion is expressed that prices in this line have reached their peak, yet most producers say they expect no reduction in the near future. One company, however, states that as prices are largely governed by the metal market and copper is now at a comparatively low level, the tendency seems to be toward a decline. Others point to the non-ferrous metal prices as comparing favorably with the pre-war level and do not look for any further reductions on that account.

Renewal of Assigned Car Privilege Refused

Despite the lifting of the lake priority order on coal the gas and electric public utilities continue to be very uneasy concerning their coal supply. This is a general condition as indicated by the communications reaching the National Committee on Gas and Electric Service at Washington. In view of the widespread difficulties in obtaining fuel the Interstate Commerce Commission again has been asked to allow the utilities the use of assigned cars. The commission has declined to take that action at present on the ground that the situation throughout the country is not such as to warrant it so doing.

Since the utilities were denied assigned cars the tendency on the part of some of the coal operators has been to give preference to the loading of coal which is to be sold at spot prices rather than delivered on low-priced contracts. With 80 or 90 per cent of their coal requirements under contract, the public utilities are receiving less than 50 per cent of their daily requirements.

Electric Lines Using More Fire Extinguishers

Complete Installations Made on Cars of Some Roads—Deliveries Improved and Production Increasing

More and more are electric railways coming to regard fire extinguishers as a necessary part of their rolling stock equipment, according to large manufacturers of this equipment. Demand from traction companies has been steadily picking up and at present is said to be better than ever before. Recent large orders reported by one manufacturer included the equipping of cars on important electric lines in Albany, Boston and Chicago.

The types most generally used by electric railways are said to be those employing tetrachloride, as this chemical rapidly evaporates and will not harm electrical machinery. One company has recently developed an automatic extinguisher charged with this agent under 120 pounds of air pressure, which it is claimed is meeting with considerable favor. In some instances manufacturers have been behind on filling orders but this condition is now improving. The labor supply is better though some complaint is still heard of insufficiency of skilled workmen. Difficulty in getting brass was

formerly experienced but no trouble is now met, it is stated, in securing plenty of brass, copper and chemicals. No cancellations have apparently been received but on the contrary some producers are increasing production. One representative company was recently three months behind in filling orders, but is now caught up to within three or four weeks. Rush orders in this instance can be filled in about two or three days, though in general the time ranges from two to three weeks at present. Another manufacturer is able to make deliveries of extinguishers varying from stock up to one week.

Prices, it is felt, have probably reached their peak, but no reductions may be expected for some time, it is stated, especially while labor costs remain at their present level. Some producers sell on a yearly contract basis, thus further preventing any fluctuation. Prices quoted by one manufacturer of a pump-action refillable fire extinguisher quite largely carried on street cars are \$10 for the 1 qt. size, \$12 for 1½ qt., and \$14 for the 1½ qt. size, with special discounts from these prices to railways.

The Pacific Electric Railway, Los Angeles, Cal., owing to the amount of freight now being handled, has had to secure two more electric locomotives, according to F. L. Annable, general superintendent. The new locomotives, which make a total of seventeen now operated by the company, are of the 1601 class and are expected to arrive from the shops some time this month.

Pittsburgh (Pa.) Railways, mentioned in the Oct. 23 issue as petitioning the United States District Court through its receivers for permission to purchase 150 double-truck steel cars among other equipment, has been granted permission by the court to purchase a first installment of twenty-five new double-truck, low-floor cars at a cost of \$375,000, it is reported. The court order stipulates that the receivers are to pay for the new cars "out of the income of the system."

Track and Roadway

Los Angeles (Cal.) Railway.—The Los Angeles Railway expects to reconstruct its track and improve its pavement at a cost of \$1,600,000. Renewal of overhead equipment will cost \$300,000.

American Public Service Company, Chicago, Ill.—The property of the Abilene (Tex.) Street Railway, recently purchased by the American Public Service Company, will be completely rehabilitated, including new transmission lines, extensions of existing lines, ballasting of all roadbed and new equipment.

South Covington & Cincinnati Street Railway, Covington, Ky.—The City Commissioners of Newport, Ky., have been notified that a check for \$6,718

Rolling Stock

Muskegon (Mich.) Traction & Lighting Company expected shipment of the safety cars ordered by the company several months ago for service on the Ottawa and Pine Street lines around the first of this month.

Columbus (Ga.) Railroad has received the nine new safety cars mentioned in the issue of May 22, it is announced. They will be put in operation on the Rose Hill line in place of some of the older two-man cars.

NEW YORK METAL MARKET PRICES

	Oct. 1, 1920	Nov. 3, 1920
Copper ingots, cents per lb.	18.50 to 18.75	15.00
Copper wire base, cents per lb.	21.50 to 22.00	17.50 to 18.00
Lead, cents per lb.	7.75	7.25
Nickel, cents per lb.	43.00	43.00
Zinc, cents per lb.	7.70 to 7.80	7.40
Tin, cents per lb.	42.75	39.50
Aluminum, 98 to 99 per cent, cents per lb.	35.10	33.10

OLD METAL PRICES—NEW YORK

	Oct. 1, 1920	Nov. 3, 1920
Heavy copper, cents per lb.	15.25 to 15.50	12.00 to 13.00
Light copper, cents per lb.	13.00 to 13.25	10.00 to 10.50
Heavy brass, cents per lb.	8.50 to 9.00	6.50 to 7.00
Zinc, cents per lb.	4.50 to 5.00	4.00 to 4.50
Yellow brass, cents per lb.	6.50 to 7.00	5.00 to 5.50
Lead, heavy, cents per lb.	6.50 to 6.75	5.25 to 5.50
Steel car axles, Chicago, per net ton	33.00 to 34.00	31.00 to 32.00
Old carwheels, Chicago, per gross ton	37.00 to 38.00	33.00 to 34.00
Steel rails (scrap) Chicago, per gross ton	27.50 to 28.00	22.50 to 23.50
Steel rails (relaying), Chicago, gross ton	37.50 to 38.50	30.00 to 31.00
Machine shop turnings, Chicago, net ton	9.00 to 9.50	8.00 to 8.50

ELECTRIC RAILWAY MATERIAL PRICES

	Oct. 1, 1920	Nov. 3, 1920
Rubber-covered wire base, New York, cents per lb.	28.00	23.00
Weatherproof wire (100 lb. lots), cents per lb.	29.00	23.00
Standard Bessemer Steel Rails, per gross ton	45.00 to 63.00	45.00 to 63.00
Standard open hearth rails, per gross ton	47.00 to 65.00	47.00 to 65.00
T-rail, high (Shanghai), per gross ton, f.o.b. mill	Nominal	73.00
Rails, girder (grooved), per gross ton, f.o.b. mill	Nominal	88.00
Wire nails, Pittsburgh, cents per lb.	4.25	3.25 to 4.50
Railroad spikes, drive, Pittsburgh base, cents per lb.	4.50 to 6.00	4.25 to 5.25
Tie plates (flat type), cents per lb.	4.00	4.00 to 5.00
Tie plates (brace type), cents per lb.	4.00	4.00 to 5.00
Tie rods, Pittsburgh base, cents per lb.	7.00	6.50 to 7.00
Fish plates, cents per lb.	4.00 to 5.00	4.00 to 5.00
Angle bars, cents per lb.	4.00 to 5.00	4.00 to 5.00
Rail bolts and nuts, Pittsburgh base, cents per lb.	6.00 to 7.00	6.00 to 7.00
Steel bars, Pittsburgh, cents per lb.	2.35 to 4.00	2.35 to 3.25
Sheet iron, black (24 gage), Pittsburgh, cents per lb.	4.20 to 7.35	4.20 to 6.85
Sheet iron, galvanized (24 gage), Pittsburgh, cents per lb.	5.25 to 8.30	5.25 to 8.05
Galvanized barbed wire, Pittsburgh, cents per lb.	4.45	4.45
Galvanized wire, ordinary, Pittsburgh, cents per lb.	3.70 to 4.70	3.95 to 4.70
Car window glass (single strength), first three brackets, A quality, New York, discount*	77%	77%
Car window glass (single strength), first three brackets, B quality, New York, discount	77%	77%
Car window glass (double strength, all sizes, AA quality) New York, discount	79%	79%
Waste, wool (according to grade), cents per lb.	17 to 23	15 to 21
Waste, cotton (100 lb. bale), cents per lb.	15 to 17½	15 to 17½
Asphalt, hot (150 tons minimum), per ton delivered	40.00	40.00
Asphalt, cold (150 tons minimum, pkgs. weighed in), per ton	42.50	42.50
Asphalt, filler, per ton	40.00	40.00
Cement, New York, per bbl.	5.10	5.10
Linseed oil (raw, 5 bbl lots), New York, per gal.	1.22	1.05 to 1.07
Linseed oil (boiled, 5 bbl. lots), New York, per gal.	1.24	1.07 to 1.09
White lead (100 lb. keg), New York, cents per lb.	15½	15½
Turpentine (bbl. lots), New York, per gal.	1.46	1.17

*These prices are f.o.b. works, with boxing charges extra.

has been drawn by the South Covington & Cincinnati Street Railway as the company's portion of the improvements made on Tenth Avenue. An agreement as to the amount was reached between the commissioners and the representatives of the railway company two weeks ago.

Blue Ridge Development Company, Hickory, N. C.—The engineers of the Blue Ridge Development Company, a recent incorporation, have recently made a report of their survey for an electric railway between Mount Holly and Blowing Rock. W. T. Shipp, general manager of the company, tells the stockholders that the project is well under way and that the possibilities for the road are very promising.

City Electric Company, Albuquerque, N. M.—The City Electric Company plans to construct an interurban electric railway from Albuquerque north along the Albuquerque-Alameda road. The company was incorporated under the laws of Arizona, but having recently filed a foreign corporation statement, it will be permitted to operate in New Mexico.

Public Service Railway, Trenton, N. J.—The Public Service Railway has been requested by the Board of Freeholders of Middlesex County to remove all the trolley poles at Fords, N. J., so that the main street can be paved.

Trenton & Mercer County Traction Corporation, Trenton, N. J.—The City Commission of Trenton, N. J., will request the Trenton & Mercer County Traction Corporation to build a spur on North Broad Street, near the Battle Monument, to switch suburban cars for the return trip instead of using the streets in the centre of the city. This action was taken because of the street congestion.

Hamilton (Ont.) Street Railway.—There will be no further railway improvements in the city of Hamilton, Ont., this year, according to the railway commission. It is said there is no chance that the Wentworth Street tracks will be relaid because the municipality is not ready to go ahead with the work of new paving.

Seattle (Wash.) Municipal Railway.—Mayor Caldwell recently vetoed a second Council ordinance on the extension of the Ravenna car line, charging that the change in plan, adding \$9,500 to the expense of the extension, was "throwing away so much of the railway bond money." The Mayor vetoed an ordinance recently voting \$3,500 to complete the extension on 30th Avenue Northeast to 35th Avenue Northeast, instead of along East 55th Street to 35th Avenue Northeast, but the Council passed the measure over his veto. The bill last vetoed amends the ordinance under which the work originally was taken up, being intended to remove legal difficulties accompanying the change of plan. The Mayor's action has little effect on the general controversy as the work is being halted by litigation on the part of residents along the line.

Power Houses, Shops and Buildings

Los Angeles (Cal.) Railway.—The Los Angeles Railway is planning an extensive construction program. Four new substations will be erected at a cost of \$500,000 and one new carhouse which will cost \$500,000.

Niagara, St. Catharines & Toronto Railway, St. Catharines, Ont.—The Niagara, St. Catharines & Toronto Railway is building an addition to its car houses and shops in Welland Avenue. The addition is 100 ft. x 200 ft. The whole carhouse when complete will be 200 ft. x 400 ft. It is of brick and steel with concrete flooring. The machine shop will be in the center of the building.

Trade Notes

American Steam Conveyor Corporation, Chicago, Ill., manufacturer of equipment for handling ashes, soot, coal siftings, etc., announces that C. C. Brinley has joined the company as eastern manager of the trolley carrier department, attached to the New York office.

J. F. Ohmer, president of the Ohmer Fare Register Company of Dayton, Ohio, announces that he has purchased the U. S. Navy Arsenal plant at Dayton, which will eventually be taken over to increase the output of Ohmer registers. The plant covers approximately three acres of ground and includes a power plant of 600-hp. capacity. The main building is of brick construction, five stories high, and 335 x 110 ft.

The Van Dorn Electric Tool Company, Cleveland, Ohio, is marketing in Ohio a new issue of 8 per cent cumulative preferred stock. This company, which makes portable electrically driven tools, was organized in 1913 to take over the tool-making department of the Van Dorn & Dutton Company. Its sales for the last four years ended June 30 were: 1917, \$445,997; 1918, \$714,705; 1919, \$1,031,513; 1920, \$1,190,815.

Ford, Bacon & Davis, engineers, at 115 Broadway, New York City, has added to the organization Page Golson, formerly assistant to the president of the Great Western Power Company, and consulting engineer for the Fleishacker interests and of the western office of C. B. Peters Company, Inc., it is announced. G. R. Kenny, until recently statistician and valuation engineer for the San Joaquin Light & Power Corporation, has also joined the firm in valuation and report and special investigation work. Mr. Kenny was formerly assistant engineer for the Railroad Commission of California.

The Roller-Smith Company, New York City, announces the appointment of L. Brandenburger, 59 West Broadway, Salt Lake City, Utah, as its representative in Utah and parts of Idaho, Wyoming and Montana. Mr. Brandenburger will handle the company's en-

tire line of instruments, meters and circuit breakers in that territory in addition to representing the Wagner Electric Manufacturing Company, the Cutler-Hammer Manufacturing Company, the Delta Star Electric Company, the American Insulated Wire & Cable Company and the Esterline Company. Mr. Brandenburger was formerly with the Telluride Power Company and later its successor; the Utah Power & Light Company. Since 1916 he has been located in Salt Lake City as a manufacturers' agent specializing in electrical apparatus.

Page & Hill Company, Minneapolis, Minn., producer of Northern white and Western red cedar poles, posts, etc., announces that E. C. Stockdale has returned to the company as general sales manager with headquarters in Chicago. Mr. Stockdale previously came to the company in 1914 from Stone & Webster, with whom he was associated as purchasing agent in the construction of power stations and distributing systems for the Minneapolis General Electric Company, and the hydro-electric development at Keokuk, Iowa, for the Mississippi River Power Company. During the war he attained the rank of lieutenant-colonel, being engaged first in the construction division of the army and later in the purchase and supply division. Since the armistice Colonel Stockdale has been representing the army in deliberations with the War Industry Board and the Department of Labor on suspensions and cancellations of existing contracts.

New Advertising Literature

Insulated Wire and Cable.—The Okonite Company, Passaic, N. J., has just published an attractive 104-page illustrated handbook, covering insulated wire and cable.

Splicing Material.—The Okonite Company, Passaic, N. J., has issued a folder entitled "Spliced for Life," on insulating tape, cement and Manson friction tape.

Power Plant.—Dwight P. Robinson & Company, Inc., New York City, have prepared a poster circular containing excellent halftone reproductions of typical power plants designed and constructed by the organization.

Lamp Guards.—Electric Service Supplies Company, Philadelphia, Pa., has issued a new eleven-page bulletin, No. 169, on its portable and stationary types of Keystone lamp guards suitable for railway service.

Commutator Stones.—The Martindale Electric Company, Cleveland, Ohio, has issued a folder describing its "Handy" natural stones and new "Imperial" artificial stones for grinding commutators.

Engineering Service.—Ford, Bacon & Davis, engineers at 115 Broadway, New York City, is distributing pamphlet No. 28 dated Oct. 1, 1920, dealing with the "Service at Cost Plan" for electric railways and offering the services of the company for valuation work.