

TRANSIT in the NEWS



PORTLAND, ORE. (pTc) — More frequent cleaning of the streets of wet leaves has been suggested to city officials by Gordon Steele, Portland Traction Co. president, as an accident prevention measure.

OKLAHOMA CITY, OKLA. (pTc) — Twenty new 37-passenger buses were delivered recently to Oklahoma Transportation Co. and already have been placed in service.

NEW ORLEANS. — Buses will be substituted for streetcars on all but three lines here after the war, officials of New Orleans Public Service, Inc., announced recently.

ALBANY, N. Y. — Albany Transit Co. is now selling seven tokens instead of eight for 50 cents, the PSC having recently approved the increase in fares. It was granted because the company, last Spring, in changing its rate from 13 tokens for a dollar to eight for 50 cents, underestimated the number of riders who would switch from the 10-cent cash fare to tokens. The loss in revenue amounted to \$52,000 on an annual basis, compared with a \$29,000 decrease the company had predicted.

CHICAGO. — Nine buses were destroyed recently in a fire which gutted the Suburban Transit Bus Line's garage. Total damage was estimated as high as \$200,000.

CLEVELAND, (pTc) — City Transit System is planning construction of two motor coach stations, to cost \$387,000 and \$334,000, respectively.

COLUMBUS, (pTc) — Shortage of manpower, among other things, makes extension of both tripper and regular bus service "out of the question" at the present time, according to Harold Potts, transportation superintendent of Columbus and Southern Ohio Electric Co. The company normally operates 120 units of equipment regularly and 120 units as extras, but the number of extras on the road during rush hours depends on the manpower situation from day to day, he declared.

EDMONTON, ALTA. (pTc) — In spite of repeated pleas from residents of suburban areas, City Council is refusing to consider any extension of bus service at this time. Civic authorities have pointed out that the entire question of transportation is tied in with the city's post-war reconstruction program, and that nothing should be done until details of the program are completed next Spring.

ALLENTOWN, PA. (pTc) — Royal Blue Coach Lines has leased a building at the Allentown Bus Terminal, where it plans eventually to service buses of all lines that use the terminal, as well as its own fleet.

NEW YORK. — A reduction of \$60,000 annually in bus fares of Westchester Street Transportation Co., Inc., a

subsidiary of Third Avenue Transit Corp., has been ordered by the PSC. Specifically, the order requires cuts of five and ten cents on five of the company's routes in suburban Westchester County.

10,000 Jamaicans Available For Essential Employment

HEADQUARTERS, ATA. — Approximately 10,000 Jamaicans, brought to this country by WFA for agricultural work, soon will be available for employment in essential industries, including transportation, according to an announcement by WMC.

Located in the Northeast and Great Lakes areas, these workers speak English, and are said to be adaptable to many forms of labor. They must be employed in groups of 10 or more, guaranteed at least 480 hours of work within each 90-day period at prevailing rates of pay and their employment must be consistent with labor agreements and approvable to unions involved.

They must be employed for at least 90 days and housing and group feeding facilities provided for which they will pay. In addition, transportation and subsistence enroute to the place of employment and to port of departure after termination of contract must be provided. They may be recruited through USES.

Further details are contained in a letter to member operating companies from Guy C. Hecker, ATA general secretary, which was sent out recently.

Tie Pricing Regulations Are Clarified By The OPA

WASHINGTON. — Two clarifications have been made in the OPA regulations covering pricing of eastern railroad ties. One makes it clear that trucking charges may be added to the maximum prices only when delivery is made by the seller to a destination that is not a loading-out point for railroad ties and from which there is no further movement. In other words, the trucking addition may be made only when delivery is made to a point of final use.

The other change specifies that a tie contractor's addition applies only to cross ties. Some had interpreted the provision to include switch ties as well.

Mack Official, Educator To Address N. Y. Ass'n

ALBANY, N. Y. — Charles F. Kenney, secretary of the New York State Motorbus Association, has announced that Walter L. Rodgers, bus engineer and assistant chief engineer of Mack Truck Co., and W. D. Weitz of the State Education Department will be among the principal speakers at the association's annual meeting here Nov. 15 and 16. (PT 10/20/44)

Kenney, who will speak on the 15th, will discuss "The Postwar Bus," and Weitz, scheduled to address the group on the 16th, will have "Driver Selection and Training—Its Improved Effect on Conservation" as his topic.

Ten or more copies For Effective Coverage

● By now, most top-flight executives in the transit industry have formed the Monday morning habit of reading PT's eight, newsworthy pages—and reading them first thing.

● But there are others down the line who should be reading PT regularly too. In many companies, management sees to it that these men get their copies through the bulk subscription plan.

● And then, there are the local government officials and civic-leaders—all interested in transit—who are just now beginning to know and like PT. These influential people are learning because certain progressive managements have seen to it that their names were placed on PT's paid subscription list.

● There must be a few such people in your community. Why not supply them under the bulk subscription plan?

● The following companies—who have subscribed to ten or more copies of Passenger Transport—are making good use of the bulk subscription plan:

ACF—Brill Motors Co.....	11
Alexandria, Barcroft & Washington Transit Co.....	11
Baltimore Transit Co.....	17
Boston Elevated Railway Co.....	25
Capital Transit Co.....	22
Chicago Rapid Transit Co.....	21
Chicago Surface Lines.....	18
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New Orleans Public Service Inc.....	18
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Okonite Co.....	13
Omaha & Council Bluffs Street Railway Co.....	10
Philadelphia Suburban Transportation Co.....	12
Philadelphia Transportation Co.....	26
Pittsburgh Railways Co.....	51
Public Service Coordinated Transport.....	23
Reo Motors, Inc.....	11
St. Louis Public Service Co.....	10
Schuylkill Valley Lines, Inc.....	15
Third Avenue Transit Corp.....	13
Toronto Transportation Commission.....	35
United Electric Railways Co.....	12
Virginia Electric & Power Co.....	12
Washington, Virginia & Maryland Coach Co.....	12
Westinghouse Electric & Manufacturing Co.....	21
White Motor Co.....	10
Winnipeg Electric Co.....	11

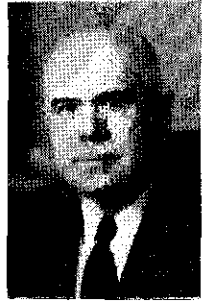
PASSENGER TRANSPORT

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More Plans

(Continued from Page 1)

sioner of Public Roads, Thomas H. MacDonald brought to bear his wide experience in the important matter behind all basic planning, the *Analysis of Urban Travel by the Survey Technique*. His treatment of the subject was exhaustive, covering every phase of the problem and emphasizing over and over again the need by insisting that, "We must get down to the basic measures of the travel of individuals themselves, whether it be by private vehicle, bus, street car, taxi or rapid transit. In the city, effective planning calls for a detailed knowledge of the daily movements of masses of people, and the provision of facilities for that movement by whatever type of vehicle is indicated as most appropriate. And of course to supplement that knowledge is required an equally detailed knowledge of the daily movements of goods and a provision of equally appropriate facilities."



T. H. MacDonald

Freeways

The Location and Function of Freeways, by Frank H. Malley, planning director of the Buffalo City Planning Commission, naturally tied in with Commissioner MacDonald's regard for adequate facilities. In stating his case, Mr. Malley described the freeway as follows, "The proper location and design of urban freeways is the greatest single element in the cure of cities' ills and in the directing of their proper and adequate growth. By freeway is meant a highway having entrances limited to certain designated points, and over which abutters have no right of light, air and access. In other words, it is a right of way, like a railroad."



Frank H. Malley

E. W. Ford, Executive, Memphis St. Ry., Dies

MEMPHIS, TENN. (PTC)—Edward W. Ford, 78, vice president and general manager of Memphis Street Railway Co., died Oct. 31 at his home in Hein Park. He had been in poor health for a year.

A native of Bridge Hampton, Long Island, N. Y., Mr. Ford spent his early years in Louisville, Ky. He worked for Birmingham Street Railway Co. before joining the staff of Memphis Street Railway in 1905 as superintendent of transportation.

He served on the membership committee of ATA from 1929 to 1932.

His son, Walter N. Ford, is vice president and assistant general manager of the Memphis system.

The Parking Problem

That a balanced transportation program is needed to solve the modern parking problem, was beautifully presented by H. H. Allen, consulting engineer and vice president of J. E. Greiner & Company when he argued that, *Everyone Can't Ride in Automobiles*. In the introduction to his "remarks," Mr. Allen summarized his case by saying, "Down-town' of American cities was made more accessible in terms of time by the advent of the automobile,



H. H. Allen

but continually increased usage of motor vehicles in greater numbers for private transportation has reduced the accessibility of central business districts. Public authorities have exercised their right to regulate the movement . . . but the owner of business property cannot be deprived of his right of access, no matter how pressing the street traffic problem may become."

Future Traffic Prospects

The whole problem of urban public transportation in its relation to the future was then projected by Charles Stephenson, ATA research associate, in a remarkable study, *Transit's Prospects for Postwar Traffic*. This is a *must* for management's study, and should be followed closely as future plans are propounded. In introducing Mr. Stephenson, Charles Gordon said, "The observations made in this article are based on analyses similar to those used as a basis for the prediction made in February 1942, at the Emergency Conference of the Association in Chicago, that the industry would carry a total of 18 billion passengers in 1942. This prediction was characterized by *Time* magazine as a 'horrendous estimate'. The industry knows the answer."



Charles A. Stephenson

The second and last session of ATA's 1944 *Convention-in-Print* wound up with a series of articles covering the postwar plans of the ATA Divisions.

OBITUARIES

Frank A. Merrick, 75, vice chairman of Westinghouse Electric & Manufacturing Co., died Oct. 26 at his home in Hamilton, Ont.

H. Parke Thornton, 48, vice president and controller of White Motor Co., died last week at Cleveland.

Frank A. Teach, 52, engineer for Columbus and Southern Ohio Electric Co., died Oct. 25.

SEPTEMBER PASSENGER TRAFFIC

By Edmund J. Murphy

The final summary of traffic reports for the month of September showed an increase of 4.3 per cent in the number of passengers carried on the transit lines of the United States in comparison with September 1943. The increase is substantially less than was indicated in the preliminary summary which appeared in the October 20 number of PT, based upon reports received earlier in the month. The estimate of the total number of passengers carried in September, therefore, has been reduced to 1,881,609,000. The index for September stands at 181.74 which compares with the index of 184.16 for August.

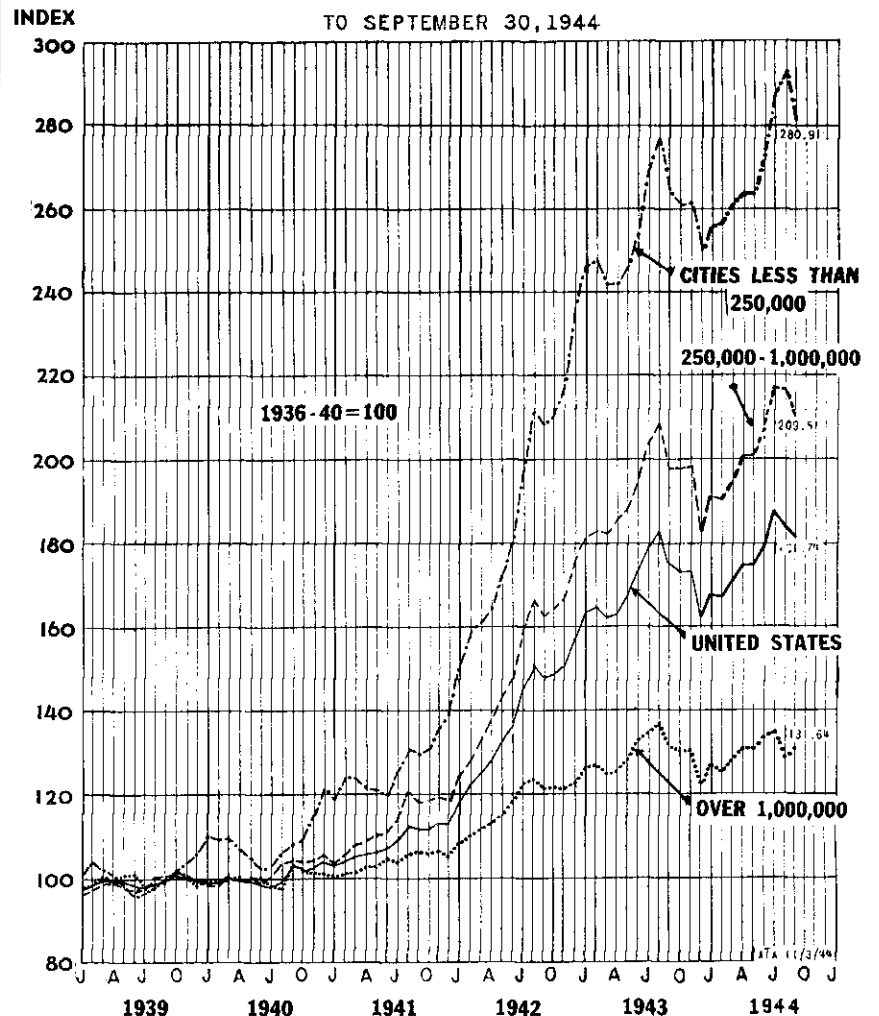
The companies in the smallest cit-

ies continue to show the greatest increases in traffic, although the increases which they are now reporting are greatly reduced as compared with the increases shown a year ago or in 1942. Next in the rate of increase now being maintained are the companies in the suburban areas. Both of these groups report increases in September greater than their average increase for the nine months of 1944 to date, indicating that they are now increasing faster than they were earlier in the year. This is true of only one other group—the companies operating in cities between 100,000 and 250,000 population.

Total Passengers Carried on Transit Lines of the United States in September 1944 and during the nine months ended Sept. 30, 1944.

Population Group	September		9 Months Ended 9/30/44	
	1944 (Add 000)	% Change	1944 (Add 000)	% Change
Cities over 1,000,000	667,706	+ 0.4	6,145,027	+ 0.5
500,000 — 1,000,000	287,134	+ 3.9	2,611,157	+ 4.3
250,000 — 500,000	319,478	+ 7.7	2,881,753	+ 8.9
100,000 — 250,000	236,765	+ 3.7	2,121,554	+ 3.1
50,000 — 100,000	174,484	+ 7.3	1,571,285	+ 9.8
Less than 50,000	78,612	+13.4	697,914	+11.1
TOTAL ALL CITIES	1,764,179	+ 3.9	16,028,690	+ 4.2
SUBURBAN AND UNCLASSIFIED	117,430	+11.4	998,278	+ 7.5
GRAND TOTAL	1,881,609	+ 4.3	17,026,968	+ 4.4

TREND OF TRANSIT TRAFFIC, 1939-1944



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TRANSIT'S POSITION TODAY

In a few words, the theme of the first "session" of C-in-P — *Transit's Push to Victory* — epitomizes the thinking of management as the industry approaches the end of a long and difficult war haul.

Actually in these war years the transit industry has met its huge responsibilities, licked its seemingly insurmountable problems with a sureness and despatch that has astounded thinking people. We have had so few tools, human and mechanical with which to work, that the peak live loads carried—18 billion in 1942, 22 billion in 1943—have represented a very considerable contribution to the war effort.

Now, in 1944, the national transit industry is transporting people at a rate which may well establish another new record—better than 23 billion. And doing it with little more equipment than was available at the start of hostilities. That in itself is another record.

But the end is in sight. Restrictions on the production of new vehicles, replacement parts and maintenance materials, accessories and the like are being eased. That means a chance for management to plan; to plan for the future and to dig into its proper place in the peacetime public welfare.

Therein lies the greatest opportunity the industry has ever faced; the opportunity to share in a dual victory—the world-wide victory of our arms and the national recognition of the need for modern, efficient, low-cost transportation in urban living.

Again, the theme of the second "session of C-in-P—*Transit's Part in Postwar Plans*—projects the opportunity which lies ahead and is a fitting complement of the first "session".

In this enterprise, the national

transit industry will need all of the competent help it can get—all of the advice and sound planning experience available to it through the professional services and sympathetic attitude of established planning officials everywhere.

For as has been so forcefully presented in the record of the second "session", enclosed with this make-up, the future provides no prospect that all of our urban dwellers can expect to ride in automobiles. And it may be—with this war experience under their respective belts — that many more will not care to be longer dependent upon private transportation when adequate, low-cost public transportation is available.

Therein lies our second possible victory.

With help and understanding from the communities we serve; with the professional aid of all those who dream and design and idealize; with the cooperation of those who man our platforms and contact our public, the opportunity is ours to achieve that victory too.

And now, a word about functions.

In the first "session" — *Transit's Push to Victory*—you find concentration on the line or operating function, the active function necessary to transit's future welfare. That is plain. Here you find hard-bitten practical operators facing the daily problems of transporting unprecedented numbers of people—and doing it well, the hard way.

In the second "session"—*Transit's Part in Postwar Planning*—you find concentration on the staff or planning function, the advisory function if you will, which visualizes the best or ideal pattern for that company, that community, that industry with which it is identified.

The two outlooks, if brought together, can do much for the welfare of those committed to urban living—and they will prosper through their respective contributions to a common cause. But should they impinge on each other's sphere of responsibility, much can be lost.

Let us keep that in mind too—in our planning and doing.

TRANSIT HEADLINES 25 YEARS AGO

November, 1919

1. Bus Facts vs. Bus Fancies.
2. Car Storage Yards Should Be Protected Against Fire.
3. American Electric Railway Assn. Gives Publicity Men Definite Organization.
4. New York City Transit Lines Discharge Women Employees In Accordance With New Law.
5. Commission Refuses To Reduce Chicago Surface Lines' Seven-Cent Fare.

1944 Convention-in-Print Follows 1943 Lead In Inviting Planning Officials To Address Annual Meeting ATA

PUBLICATION OFFICE, PT. — In the first "session" of last year's *Convention-in-Print* enclosed in PT 10/15/44, ATA departed from its conventional procedure to bring in outside experts to address its annual meeting. The Association did so in behalf of its belief that transit was in fact, *An Essential Part of Community Planning*, and that that belief should find crystallization in the postwar planning of the national transit industry.

Not only was this departure well received by the industry at large, but the demand from city planners, municipal officials and civic leaders for copies of these "speeches" was so great, that ATA reprinted the entire series in a booklet, *Tomorrow's Cities*. To

date, more than 20,000 copies of *Tomorrow's Cities* have found their way into the hands of influential people throughout the United States and Canada.

Last Year's Planners

This wide distribution can be readily understood when the names of the "speakers" and the titles of their addresses are reviewed. Here they are:

Harold Bartholomew, consultant and past president of American City Planning Institute and the National Conference on City Planning, who addressed the "Convention" on *Modern Transit—Key to Community Planning*.

Walter H. Blucher, executive director, American Society of Planning Officials, who "spoke on *Stability and Orderly Development, The Goals of City Planning*."

Jacob Crane, director of urban studies, National Housing Agency and Winters Haydock, chief urban planner of the same agency, who collaborated in "discussing" *Housing and Transportation—After the War*.

Ralph Walker, eminent architect and member of the firm of Voorhees, Walker, Foley & Smith who "presented" *An Architect's Concept of Postwar City Needs*.

This Year's Planners

In this year's *Convention-in-Print*, enclosed with this issue of *Passenger Transport*, ATA's program committee chose to follow the forward step of last year, with the result that other outstanding experts, this time in the fields of planning more closely associated with the design and projection of traffic facilities, have been invited to address our membership. The Pages of the second "session" of ATA's 1944 *Convention-in-Print* which follow, bring the thinking of these leading planners to you.

Mack In A New Allentown Plant

NEW YORK. — In reporting the fact of Mack's resumption of bus production (PT 10/27/44) it was erroneously stated that production would be resumed "following the release of its Allentown, Pa., plant, which has been used for the last 21 months for the production of aircraft." The fact is that the original Mack bus plant is not to be returned at this time, and that Mack-International Motor Truck Corporation is therefore planning on building its new buses in an another plant in Allentown.

CCL Backs Montreal Employees

QUEBEC, CAN. (pTc) — The Canadian Congress of Labor adopted a resolution recently, supporting employees of Montreal Tramways Co. in their demand for a union shop clause in their projected collective agreement with the company (PT 10/20/44).

East. Massachusetts Refunding Program**New Issue Retires \$5,950,900 Refunding Mortgage Bonds**

BOSTON. — Eastern Massachusetts Street Railway Co. has sold \$5,950,000 general mortgage bonds, four per cent, dated Sept. 1, 1944 and due March 1, 1962 to the public at 102½ through a syndicate headed by F. S. Moseley & Co., the First Boston Corp. and Kidder Peabody & Co. in order to provide for retirement of \$5,950,900 outstanding refunding mortgage bonds due Jan. 1, 1948.

Details Of Plan

Series A 4½ per cent bonds in the amount of \$4,535,000 have been called for payment on Jan. 1, 1945 at 103 and accrued interest with the company giving present holders the right of immediate payment of the full redemption price and interest to the redemption date. Sufficient money also has been deposited with the trustee under the refunding mortgage to retire \$1,415,900 non-callable 6's due Jan. 1, 1948, and the company has offered the holders thereof a price of 115 plus accrued interest through Nov. 30, 1944 for bonds surrendered on or before Dec. 1, 1944.

The new indenture provides a sinking fund for the complete retirement of the general mortgage bonds during their life, the first seven annual payments amounting to \$250,000 each, but increasing thereafter. The company has thus provided for the balance of its debt which at the end of 1919 amounted to \$29,857,000.

Baltimore Transit Traffic Showing A Small Decline

BALTIMORE, MD. (pTc) — Baltimore Transit Company's revenue passengers during the first nine months of this year totaled 195,326,680, a decrease of 2.7 per cent compared with the corresponding period last year. There was a decrease of 2.2 per cent in streetcar passengers and a drop of six per cent in bus passengers.

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SECOND SESSION ATA CONVENTION-IN-PRINT "TRANSIT'S PART IN POSTWAR PLANS"—BRINGS PLANNING OFFICIALS BEFORE NATIONAL INDUSTRY

It Is The People Who Count

Keynote Addresses by ATA Managing Director Charles Gordon and U. S. Chamber of Commerce President Eric Johnston, Pave The Way For Discussions Pointing To The Greatest Good For the Greatest Number—Transportationwise

HEADQUARTERS, ATA, Nov. 3—In opening the second session of ATA's 1944 *Convention-in-Print*, Charles Gordon projects the end result of all of the national transit industry's thinking for the future when he titles his remarks, "*The Greatest Good For The Greatest Number.*"

Mr. Gordon makes his position particularly clear when he says, "It is becoming increasingly clear to all of



Charles Gordon

those dealing with the problems of modern cities, that the economic and social life of these communities is not dependent upon the movement of vehicles; it is the people in these vehicles with whom we should be primarily concerned.

The vehicles are merely a means to an end. Thus the social value of all urban transportation improvements, including urban highways, must be measured in terms of the number of people who are served."

Deliberate Planning Needed

This idealistic opening leads, quite naturally into the sound call of Eric Johnston, president, Chamber of Commerce of the United States, who again displayed his great qualities of leadership in his presentation of the key idea that *Transportation Policies Will Profoundly Affect Tomorrow's Cities.*

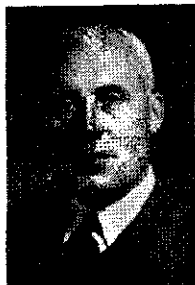


Eric Johnston

Speaking of the fact that new forms of transportation are constantly being developed, while older forms are being greatly improved to meet the new forms of competition, Mr. Johnston said, "Following this war there is reason to believe that this rate of change will be as great as it was in the decade following the last war. Unlike this previous period, however, we are now more generally conscious of the need of deliberately planning the community's future development with a view to making effective use of the more modern means of rapid movement."

Should Champion Rider

To button up the whole broad gauge view of this national program, R. N.



R. N. Watt

Watt, president of the Montreal Tramways Company points to the fact that *The Transit Rider Needs A Champion.* Again, the emphasis is placed on people when Mr. Watt calls upon the transit industry itself to provide ade-

(See Page 4, Column 2)

Plans and More Plans

Prominent Experts Discuss Ways and Means of Promoting "The Master Plan," Integrating Transit With Highways, Surveying Urban Travel, The Location and Function of Freeways, The Parking of Automobiles and the Projection of Postwar Transit Traffic Loads

HEADQUARTERS, ATA, Nov. 3—With the call for the second session of ATA's 1944 *Convention-in-Print* so well founded by Charles Gordon and Eric Johnston, it was an easy matter for the visiting experts to pick up the cue and carry it through their several specialties. In fact, the treatment was so complete that scarcely a phase of the problem was neglected.

The Master Plan



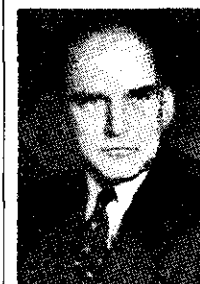
Harold M. Lewis

In leading off for the professionals, Harold M. Lewis, president of the American Institute of Planners, undertook to "discuss" *Transit and the Master Plan.* His point, "The city is a living organism" is one that will live long in the memory of transit management, for

it jelled much of the unorganized thinking which the industry has done recently on the subject. Here is how Mr. Lewis stated the idea, "The Master Plan of a modern City must be based on the general concept that it is to provide a guide and a pattern for the development of a better community in which to live and to work. It must visualize the city as a dynamic mechanism, not as a mere static grouping of streets and buildings. This mechanism can function smoothly and effectively only as the daily flow of people and materials can take place with minimum effort and delay."

Integration

The theme was then taken up by Charles E. DeLeuw, consulting engineer and member of the firm of DeLeuw, Cather & Company, when he spoke on the subject, *Integrating Postwar Transit and Highway Plans.*



Chas. E. DeLeuw

This "talk" was particularly timely in view of the recent Congressional action which included urban highways in the postwar Federal Aid plan. Mr. DeLeuw made a powerful case against small plans when he said, "It is logical to assume that the over-all objective of transit planning will be to provide faster and more frequent service on main traffic arteries, rather than merely to reach out into thinner territory with small vehicles. To some extent both types of development may be expected, but improvement of main trunk line service offers by far the most important immediate opportunity and need."

Analizing Urban Travel

At this point, our great Commis-
(See Page 8, Column 1)

RWLB At Boston Conducts Hearings On Establishment Of Wage Brackets

ATA's Simpson Presents Industry's Position; Oliver Speaks For Amalgamated; Tentative Brackets Announced

BOSTON, (PTC). — Hearings before the War Labor Board in Region I, Boston, Mass., were held on Wednesday, October 25, at which labor and management expressed their views with respect to tentative wage brackets for transit operations in that region. The hearing was called at the request of labor.

Proposed Brackets

Eli Oliver of the Labor Bureau of the Middle West represented the Amalgamated Association and Hawley S. Simpson of American Transit Association spoke for industry. Representatives of a number of local unions and individual companies also appeared and presented statements on behalf of their own groups.

On the basis of population served, the brackets of top one-man and bus operators' rates tentatively proposed by the Board follow: Under 50,000, 65 cents; 50,000 to 100,000, 85 cents; 100,000 to 1,000,000, 95 cents; over 1,000,000, one dollar.

Mr. Oliver, speaking for the Amal-

gamated, urged an upward adjustment of the bracket rates for cities of less than 50,000 and asked the Board to reconsider the population classifications of a number of individual companies.

The Industry's Stand

The spokesman for ATA commented particularly upon the method used by the Board in establishing rates for secondary companies in the several metropolitan areas in the region. Mr. Simpson urged that the Board reconsider its ceiling rates for these secondary companies and establish ceilings based upon the weighted average of the secondary companies' rates alone, rather than upon a weighted average of the rates of the secondary and dominant companies combined. In Region I the dominant companies in the metropolitan area, which pay the highest rates, have such a large number of employes as to completely distort the rate pattern and establish ceilings for the secondary companies either at the same level or only slightly below those of the dominant companies.

THE TRANSIT RIDER NEEDS A CHAMPION

by R. N. WATT
(Continued from Page 4)

the enactment and the strict enforcement of by-laws for traffic improvement. It will therefore, be necessary to seek to have such by-laws enacted and enforced by the competent authorities. There is no question that if the public trans-

portation rider makes up his mind that he wants certain improvements, he will get them, since in every community he constitutes the majority of the voters. What then can we, as public transportation operators, reasonably ask our passengers to do and by what method should we do this? To my mind, this is a serious question and one which should receive a major place among the post-war problems of our industry.

Need A Champion

We are all well aware that the method of solving the problem in one city will not necessarily be the same method to be followed in other cities. There is no doubt, however, that an enlightened public opinion in one city is helpful to all others. As I said at the beginning, I am firmly convinced that general users of public transportation services are more alive to the difficulties which companies have to face and

are more inclined to be helpful in reaching some solution of these difficulties. If this is correct, the companies must take the lead—it can not come from any other source.

I suggest, therefore, that each company should carefully reconsider its public relationship policy and methods in the light of this new situation; that this problem be placed high in the list of post-war plans; and, that every effort be made to strengthen the more friendly ties which the war has created between passengers and operators.

Diesel has proved that it is the Modern, Economical Coach Power in nearly

9,000,000 MILES OF OPERATION

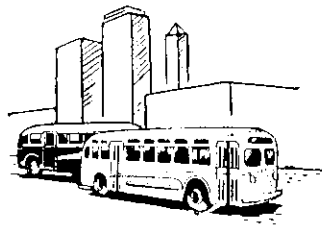


GREATER ECONOMY

Often giving upwards of 50% more miles per gallon of fuel . . . with lower maintenance costs.

FASTER ON THE GETAWAY

The torque curve climbs faster . . . result, faster acceleration and steadier engine pulling.

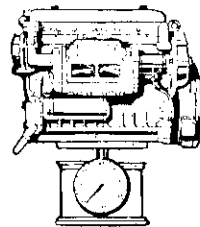


BETTER ACCESSIBILITY

All engine accessories are mounted within easy reach . . . with no spark plugs and wiring to bother with.

COMPACT, LOW IN WEIGHT

The high output per cubic inch permits use of a motor of less cubic inch displacement for same amount of work, and therefore a lighter, more compact engine.

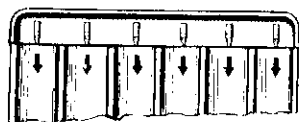
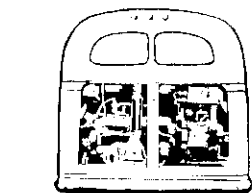
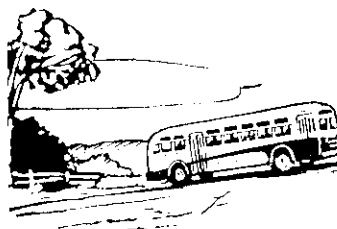


DIRECT INJECTION OF FUEL

Each cylinder has its own injector . . . no high pressure fuel lines to clog or give insufficient fuel.

BETTER HILL CLIMBING ABILITY

Diesel engines have a more constant torque at lower speeds.



GMC TRUCK & COACH DIVISION
GENERAL MOTORS CORPORATION

ANALYSIS OF URBAN TRAVEL

by THOMAS MacDONALD
(Continued from Page 33)

5. Trends in travel may be gauged to some degree at least by trends in other factors such as social, economic, and occupational status. By measuring travel of residents in areas such as census tracts for which trends in other factors are regularly recorded, it will be possible to forecast the amount of travel by various modes that should be anticipated and appropriate provision made for it.

6. Travel requirements may be measured in relation to proposed urban development. If a new area should, for example, provide within its confines, shopping, social and recreational facilities, travel on arterial streets for expressways from that area for these purposes will be unnecessary. The amount of movement that will be thus subtracted from the major thoroughfares can be estimated, and due allowance made in design, not only for the artery but also for the circulatory system of the area.

Discussion of these surveys has been primarily from the viewpoint of the highway official, but the results should be of equal importance in the transit field. With the advent and growth of free wheel public transportation, the interests and responsibilities of the street and highway officials on one hand and transit officials on the other have been necessarily drawn more and more closely together.

The officials responsible for the improvement of streets and highways must provide facilities as nearly as possible adequate for traffic of the volume and character expected during the life of the improvements. Obviously both the volume and character are dependent on many factors, among which policies of public transportation and city and regional planning officials are of paramount importance. Plans for street or highway improvement in urban areas will never be effectively drawn or executed without the full cooperation of all interests involved. The interests of public transportation and of over-all street and highway transportation can never be divergent. They must always be parallel. Indeed in many cases they are coincident.

and time-consuming analysis of the probable travel needs of the future as influenced by the changes in the city structure and other factors to the extent that they can be forecast.

The methods employed in these surveys are advantageous in many respects. From an administrative viewpoint some of the favorable features are the following:

1. They can be conducted with personnel now readily obtainable.

2. Their cost, both in value of returns and in comparison with other types of surveys, is low. A survey of an area including as many as 1,000,000 residents may be conducted for \$50,000, smaller areas for much less.

3. They are beneficial from the standpoint of public relations. Interviewers have been very favorably received, and the opportunity to carry a message into as many as 10 percent of the homes in the area, to show that officials are making studied efforts to provide transportation services of greatest utility to the individuals themselves can be expected to gain public support for the measures proposed as a result of the survey. The people will know that they have had a part in the solution.

Other Advantages

4. They provide information that can be kept current with a minimum of effort and cost. Trends in factors influencing travel needs may be kept up by regular sampling of the sample, and checked by occasional repetition of the entire work when it is thought that conditions have changed sufficiently to require a resurvey. A small group steadily employed at interviewing and a minimum of analytical work will keep data constantly current.

5. They provide the basis for a complete study of travel needs by all agencies concerned and give opportunity for a cooperative approach to the solution that is best for all interests. Conflicting proposals advanced by a variety of agencies in a metropolitan area may be compared against the facts, rather than against one another.

From the viewpoint of the analyst who must interpret the figures obtained and forecast what may be expected a good many years hence, these surveys also offer many important advantages.

1. They show all travel within the city, whether it be by residents or nonresidents. Furthermore, they show travel by all modes of transportation and are not merely an independent survey of passenger vehicles, of transit riders, or other segment of the problem. The position of each can thus be analyzed and provision made for facilities appropriate for the most likely distribution of travel by the various modes.

2. They measure the travel needs of the community from area to area, even from block to block if such detail is desirable, without re-

gard to distortion in present travel practices by existing street patterns, relative degree of street improvement, or relative degree of transit service between such areas. The results of these surveys when considered in light of existing practices will show at once where the latter are distorted because of inadequate planning or operational deficiencies.

3. Analysis of present travel needs is simple. Volumes of movement between various areas by va-

rious modes of transport are obtained directly from the basic tabulations first completed. General locations for necessary improvements are shown at once, and as soon as tentative specific locations for improvement are chosen, detailed analysis of the figures, block by block, will permit a close estimate of the probable volumes that may be expected under present conditions.

4. Allowances may be readily made for changes that will come

with conversion from war to peace. Travel to and from given plants or areas may be eliminated, decreased, or increased in accordance with the best judgment as to the future activity there, and moreover, the effect of the change may be traced throughout all parts of the city. Similarly, the effect may be evaluated of slackening in group riding or of the return to private vehicle from the use of public transportation enforced by war necessities.

(See Page 34, Column 4)

LOOK FOR THIS SYMBOL

IT MEANS MEMBERSHIP IN THE NATIONAL ASSOCIATION OF
TRANSPORTATION ADVERTISING.

And here's what it means to the agency and advertiser:

High Standards—

NATA members, like members of other media organizations, are committed to high standards of business conduct. The progress made in the last several years in re-establishing Transportation Advertising as a major advertising medium has been due in large measure to the forward-looking steps taken by NATA and its members. Some of those activities are:

Uniform Circulation Methods—

Transportation Advertising circulation utilizes the audited passenger traffic figures reported by the transit companies to Utility Commissions, stock-holders and direct to Transportation Advertising operators. To avoid duplication of count sometimes brought about by zone riding and to clarify the method of evaluating transfers, NATA has adopted the following definition for Transportation Advertising circulation: "The basis of count to be one person riding one carded vehicle continuously."

To conform to established advertising practice, all members will report on the same period—average first and last six months of each calendar year and hereafter changing the reports simultaneously in April and October.

Figures in Standard Rate and Data designated "circulation NATA" mean that the reports have been examined and approved by NATA, using the method described above.

"Continuing Study of Transportation Advertising"—

This research study, being conducted by the Advertising Research Foundation and under the technical direction of Dr. D. B. Lucas, is sponsored and financed by the NATA. By the end of 1944 studies will have been completed in Newark and New Haven with Cleveland and Milwaukee to be researched in early 1945. Full information may be had from the Foundation or NATA.

Other Association Projects—

include a Standard Transportation Advertising contract now under study by the 4A's, the War Campaigns Pool operating in conjunction with OWI, a pictorial publication which contains the best local advertising appearing throughout the country and various other activities intended to facilitate the presentation of Transportation Advertising campaigns to the 60 million daily users of this country's mass transportation systems.

The twenty-nine firms below are united to make Transportation Advertising one of the most progressive and respected mediums in advertising

CAR CARDS, INC.
CHICAGO CAR ADVERTISING COMPANY
CRESCENT MOTORS, INC.
FIELDER, SORENSEN & DAVIS
HARWOOD HOYT FAWCETT TRANSIT ADVERTISING
LOOMIS ADVERTISING COMPANY
MAYNARD BOYCE, INC.
MILWAUKEE TRANSPORTATION ADVERTISING
MITCHELL, McCANDLESS & KLAUS
MOTOR COACH ADVERTISING, INC.
MURRAY & MALONE COMPANY
NATIONAL BUS ADVERTISING COMPANY
NATION-WIDE BUS ADVERTISING, INC.
NEW YORK SUBWAYS ADVERTISING CO., INC.

PACIFIC NORTHWEST TRANSIT ADVERTISING
PHILBIN, WRANGELL & COINE, INC.
PUBLIC SERVICE COORDINATED TRANSPORT
REID AND FABER
ROSCOE TRANSIT ADVERTISING COMPANY
R. RUSSELL ROOP CO.
SOUTHWEST TRANSPORTATION ADVERTISING CO.
SURFACE TRANSPORTATION ADVERTISING, INC.
TRACTION ADVERTISING COMPANY—SALT LAKE CITY
TRANSIT ADVERTISERS, INC.
TRANSPORTATION ADVERTISERS, INC.
TRANSPORTATION ADVERTISING COMPANY
TRANSPORTATION ADVERTISING CO. OF MICHIGAN
TRANSPORTATION DISPLAYS, INC.

TRACTION ADVERTISING CO.—PEORIA

30 ROCKEFELLER PLAZA • NEW YORK 20, N.Y.

(Continued from Page 31)

through Friday only. It is this travel that is important in the daily flow of traffic in the city and it is this travel that has been least affected by wartime conditions. Weekend travel is so abnormal now as to make its determination of little value. With the resumption of more nearly normal conditions, sampling of weekend travel by this same means will be desirable.

Information thus obtained will show the travel of residents of the city on a typical day of the season in which the survey is conducted. This residential survey, however, leaves gaps in the total internal

movement that must be filled in by other, but similar means.

Truck travel is ignored in the residence interviews. It is obtained by recording a selected day's travel, including all stops, for a representative sample of all trucks garaged in the city. Where the information cannot readily be obtained for the previous day, drivers have not objected to keeping a log of the following day's trips on a form provided. Similarly, information on taxi travel is obtained, using the manifest sheets in cities where such records are required, and elsewhere by requesting a representative sample of drivers to log a day's

travel. Bus and streetcar trips (the vehicles, not the passengers) are determined from transit company records.

Total Travel Covered

By such means all internal travel is accounted for. Added to this internal movement is the travel of nonresidents entering or leaving the area, determined by actual road interviews. The area included in the internal survey lies within a cordon which is cut by various radiating routes. At each point where an usuch route carrying a significant volume of travel cuts the cordon, traffic is stopped and its travel

within the city determined in detail as to purpose and stops, as in the internal survey.

Added altogether these several components provide a measure of the total travel, its origin and destination, and its purpose. How accurately is this measured?

There are two checks that are readily applied. The first is to test the adequacy of the sample as to size, which may be done by interviewing for an area, such as a census tract, not only the particular selected sample, but other samples, of the same size or even the entire area. Each sample is checked against the other or each, expanded, is checked against the total. Such checks in the early surveys showed such a remarkable accuracy that they are no longer considered necessary.

Other Tests of Results

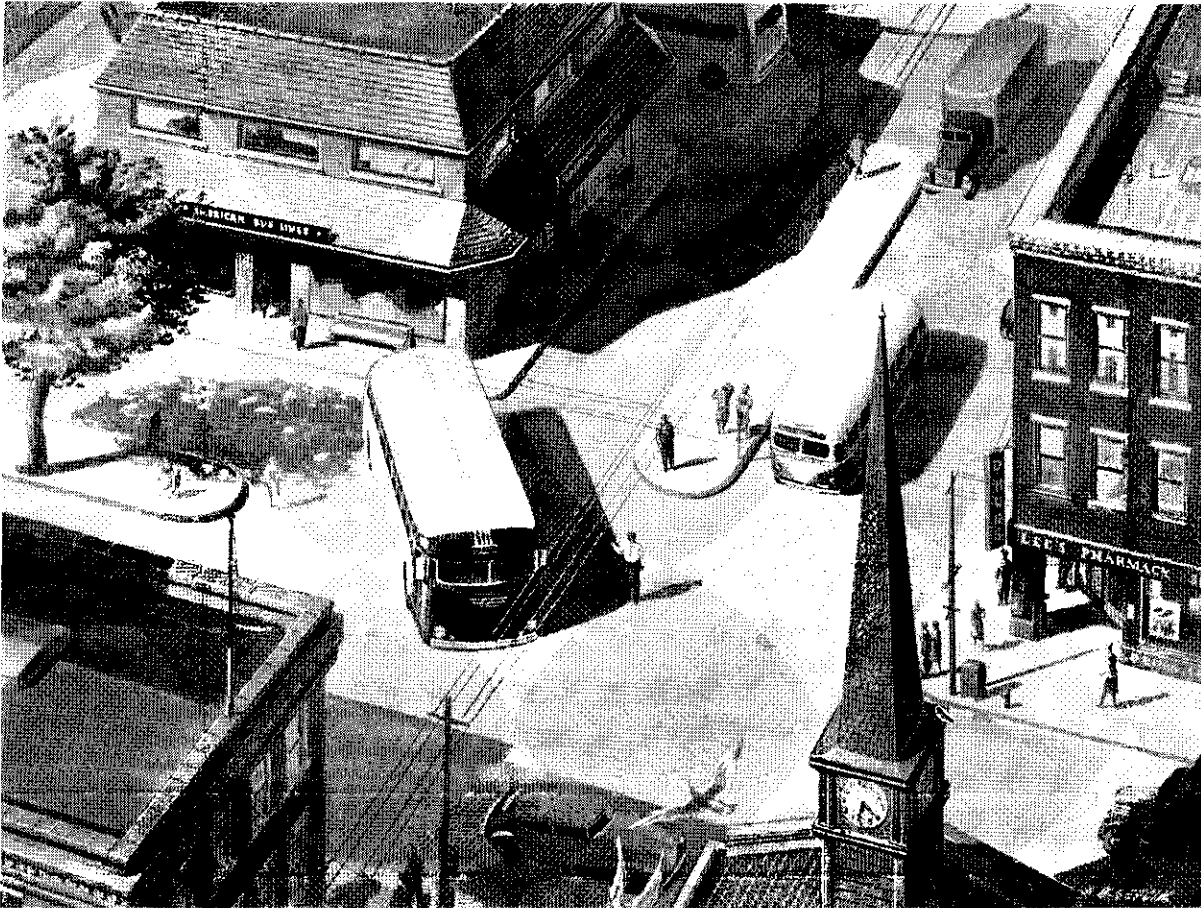
The other test is not only a test of the adequacy of the sample in a statistical sense, but a measure of the completeness with which the travel is determined by the interview method. This test simply determines from the home interviews and the external survey the number of vehicles reported to have passed the various control points mentioned earlier. The figures thus determined can be checked by a volume count taken during the course of the survey. A check of this nature will also show immediately whether there is a reluctance to report or an inability to recall all travel. There has been speculation, for example, as to whether a driver might recall all of an evenings recreational travel, either because of a real or fancied misuse of his gasoline ration or for other reasons.

There is little question, however, that all home to work and work to home travel will be recalled, and that travel accounts for 85 to 90 percent of all morning and evening peak traffic. Thus, if the "interview" volume checked the actual count at the control points during morning and evening peaks but showed a deficiency during evening hours, it could be assumed that the business travel was completely reported and that other travel was not, and appropriate adjustments made in interpretation of the figures. To date no analyses have progressed to the stage of control point checks, but preliminary information gives reason for confidence that substantially all travel is properly reported.

Favorable Features of Methods

Analytical work required in the summarization of the results is straightforward and rapid, using punch card processes. Questionnaire forms are designed to be largely self coding. Punching, sorting, and basic tabulations of origin, destination, and trip purpose are completed easily and quickly. The cards are then available for the more comprehensive

(See Next Page)



STATIONS THE IRON HORSE PASSED IN A GALLOP

Thanks to the inherent flexibility of the modern motor coach, the geography of hometown America is no longer confined to the strict limitations of rail right of ways. Today, thousands of boroughs, towns, hamlets, have found a new opulence which the pattern for postwar bus service promises to further enhance. The result . . . a greater America
★ In view of the prominent part genuine Bendix-Westinghouse Air Brakes and Pneumatic Controls have been privileged to play in guaranteeing the safety, efficiency, and economy of modern, motorized mass transportation, we of Bendix-Westinghouse pledge ourselves to the continuation of that tradition which has made the

principle of this power-to-stop the "Safety Standard of the World" for more than a half century. To insure this, a thoroughly seasoned force of Bendix-Westinghouse field engineers and the world's most competent organization of authorized distributors will be at your service. Without obligation, the complete facilities and knowledge of this dual representation, which is available in every city strategic to commercial motor transportation, is yours for the asking.

BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE COMPANY . . . ELYRIA, OHIO



IT IS SIGNIFICANT THAT AMERICA'S FINEST MOTOR COACH FLEETS ARE EQUIPPED WITH BENDIX-WESTINGHOUSE AIR BRAKES

States Cooperating with P.R.A.

In nearly all of the surveys thus far conducted the responsibility for the work has been assumed by the State highway department, and the immediate direction of the work has been assigned to the highway planning surveys, where personnel well qualified by experience and training are available to organize and supervise the study. Generally, also, various city and local agencies have cooperated, principally through the provision of office space and some personnel assistance. In substantially all cases the Public Roads Administration has assigned one or more men to assist in the organizational and training phases where the experience they have obtained in previous surveys is most valuable.

Capable interviewers have been obtained without difficulty through the employment services for all surveys thus far undertaken. Women have been found to make the most effective interviewers, and they are also more easily obtainable than men. Wives of service men, school teachers during their vacations, or local housewives desirous of augmenting their family income represent the largest sources of interviewers. In some surveys high school boys have been employed, but they are not believed to be as satisfactory as women of more maturity.

Publicity Helps

The job of obtaining the desired information can be greatly facilitated by good advance publicity. Newspaper and radio releases properly timed have been very helpful, but of even greater value are post cards signed by the mayor or other official and mailed to the prospective interviewee two or three days in advance of the scheduled date of the interview. Cooperation in publicity has invariably been of the highest order, indicating not only a desire on the part of the local agencies to assist in the work, but also a recognition of the need for a realistic appraisal of the area's transportation needs.

With the organization to obtain the needed data established and trained, and with the public encouraged to be ready with the answers, what then are the questions that we ask? The questions are designed to elicit information principally on the number of trips by various modes of transport and their definition by place of origin and destination, the purpose of the travel, and the place and purpose of all stops.

Details of Interview

The interviewer first ascertains necessary information for the control and expansion of the interview data, such as the number of persons regularly living at the address and the occupation and place of employment of each. Then for each individual of five years of age or older, details of each of his or her trips

for the previous day are recorded. A trip for this purpose is considered to be a one-way trip from origin to destination, such as from home to work or to school, or vice versa.

The origin and destination to the nearest block or street address, the time of starting and arrival, the type of transportation, whether as a car driver, a rider in a car, or as a public transportation passenger, and the purpose of the travel are recorded for all individ-

uals questioned. For those who drive cars, further questions show when and where the car was parked, in some cases the major streets traversed, and in all cases whether or not the driver passed one or all of a few well known points such as bridges or viaducts, referred to as control points. The place of each stop en route and its reason, such as for shopping, to get gasoline, or to pick up a passenger, also are recorded. These questions are considered to be the minimum by which

a reasonable analysis of the travel can be made. In some cities additional data have been obtained, such as more detail on parking where that is an important factor.

Analysis for Typical Day

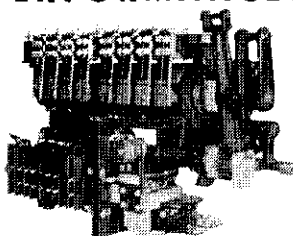
It will be seen that the information is requested for the "previous" day. All interviews are scheduled from Tuesdays to Saturdays so that the travel data obtained are representative of weekdays, Monday
(See Next Page)

Seven years operation with 2,031 P.C.C. cars on 15 properties show:

Average revenue per car per year increased **13.6%**



WHAT'S BEHIND THIS P.C.C. CAR PERFORMANCE?



In both accelerating and dynamic braking of P.C.C. cars, immediate response is effected through the **WESTINGHOUSE CONTROLLER**.

Quick reaction to the operator's commands makes possible added speed and safety in traffic. A limit relay built integral with the controller provides a spotting action that permits immediate re-application of power or application of dynamic braking regardless of car speed.

This responsiveness is another of the technical contributions of Westinghouse to make the P.C.C. car a safer, more efficient, more profitable unit. Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.

P.C.C. cars are ideal "silent salesmen" for the transit industry. Wherever they have had a chance to demonstrate their possibilities, the traffic curve has shown a steady increase.

This fact is borne out in the seven-year performance survey just published by Westinghouse, "OPERATING RESULTS WITH P.C.C. CARS" covering operation of 2,031 P.C.C. cars on 15 properties. Where P.C.C. cars have replaced other equipment, average revenue per car per year increased 13.6 per cent. For a 40 car route in Los Angeles, the actual cash increase amounted to \$4,000 per car per year. Other properties report substantial increases varying from 6 per cent to 46.5 per cent. The new P.C.C. car presentation portfolio mentioned above includes important facts on car operations . . . data available without obligation to interested municipal and transit executives. J-90505A

Westinghouse
PLANTS IN 25 CITIES . . . OFFICES EVERY WHERE

Serving the Transit Industry



(Continued from Page 29)

group are given a weight equivalent to the proportion that group is of the total population. The difficult feature is not so much the questioning or the mathematical work of expansion of the sample. It is rather the determination of the proper factors by which to weight the results of the questioning.

Bureau of Census Helped

To aid in development of the method of sample selection the Pub-

lic Roads Administration was fortunate in having the cooperation of the Bureau of the Census. That bureau, through the Division of Special Surveys, regularly conducts surveys to collect widely varying types of data, generally using some sampling technique. Their recommendation was to select a sample purely on a geographical basis, on the theory that in a sample so selected all other factors would be automatically included in proper proportion.

Thus, for a travel habit survey by this means, the first requisite is the selection of a sample inflexibly chosen as to geographical distribution, and adhered to in the interviewing without the slightest deviation. The natural tendency of an interviewer, on finding the occupants of a designated house absent, to call on a neighbor must be strictly avoided. It should be obvious of course that the travel habits of a person easily found at home must be quite different from those of a

person seldom there, but this distinction is frequently overlooked unless its importance is stressed.

Various Size Samples

The size of the sample varies with the size of the city. In the smaller cities in which surveys have been conducted, those with populations up to about 150,000, a ten-percent sample has been used. As the size of the city increases, and as the volumes of travel with which we must deal also increase, a smaller sample is adequate. In cities around 500,000 population a five-percent sample has been found to be sufficient, and for larger cities in which studies are now contemplated, it is probable that the sample will consist only of one address in forty.

The manner of selecting the particular addresses to include in the sample varies with the city and with the material there available that is useful for the purpose. Generally the Sanborn maps have proved most helpful. Where coverage by these maps is complete and they are reasonably up to date, the street and number of each unit to be interviewed may be listed directly from the maps. These listings may be checked by a variety of means such as city directories, Census statistics, water or other utility company records, assessors' records, and other sources. No single method of sample selection is arbitrarily determined in advance. Instead the sources in each city are reviewed and the most complete and accurate used as a base, with other less detailed records used as a check. In newly developed or outlying areas it is sometimes necessary actually to list all addresses from a ground survey, and to select those for interviewing from the list.

Trained Interviewers Important

Whatever method is used, a sample is selected generally by working entirely around each block and advancing block by block throughout each census tract. The census tract is used as a basic unit of area because it is usually of a suitable size to serve as a useful zone of origin or destination of travel for analysis purposes, and also because of the large amount of data on population, housing, and other trends that are available for all cities by census tracts. These data can obviously be of material value in estimating the trends of travel in the various sections of the city.

Of equal importance with the selection of the sample is the selection and training of interviewers, for the success of the survey depends on the ability of the interviewers to obtain full and accurate information. This in turn is dependent on the manner in which the interviewer presents himself or herself to the residents of the selected addresses, and the thoroughness with which he or she understands the purposes and needs of the survey.

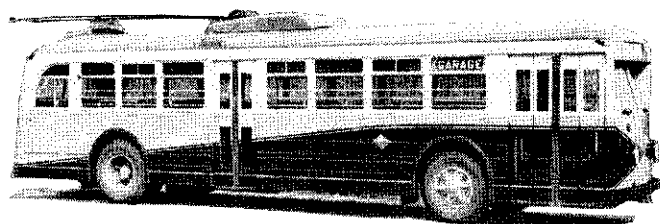
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Pullman-Standard builds for the Transit Industry



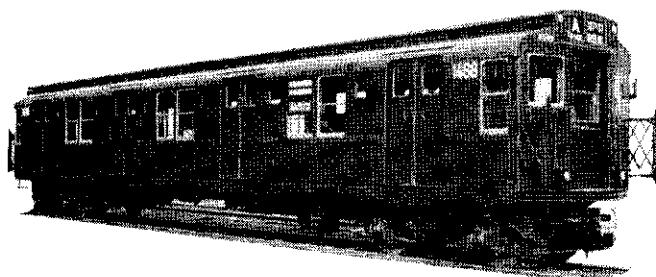
STREET CARS

For over a half a century Pullman-Standard plants have been turning out street cars... from the simple four-wheel, open job to the modern P. C. C. car.



TROLLEY COACHES

Among the first "trackless trolleys" were those built by this Company in 1922. Since that time the increasing popularity of the Pullman-Standard trolley coach has led to its widespread use. Today a large percentage of modern trolley coaches are "Built by Pullman."



SUBWAY CARS

The latest subway and elevated cars, built by Pullman-Standard, include the use of modern lightweight metals, which permit decreased weight with its resultant savings. They represent the most modern design in this type of service.

Whatever the type of electric transit equipment, Pullman-Standard builds into it fine workmanship.

Pullman-Standard CAR MANUFACTURING CO.

CHICAGO • NEW YORK • CLEVELAND • WASHINGTON, D. C. • PITTSBURGH • BALTIMORE • BIRMINGHAM • WORCESTER, MASS.

San Francisco - Sales Representative

the first time continuing appropriations in significant amount earmarked for expenditure solely within urban areas.

Because the problem of urban travel is common to State and urban agencies, a separation of the responsibilities for the solution of its component parts is difficult and probably undesirable. A satisfactory solution requires a truly cooperative approach.

Must Know City Travel Needs

An improvement on a main through route even if designed primarily to aid rural traffic approaching or passing through the city will inevitably work to the benefit of the city travel. The new facility, undoubtedly superior to the parallel streets, will attract to it substantial volumes of purely intracity traffic. Studies show that on present routes through cities, improved only by widening and modern traffic control techniques, traffic volumes increase from figures such as 4,000 to 6,000 vehicles per day at the city limits to as high as 30,000 near the center, even in medium sized cities of 200,000 to 300,000 population. That the volumes in the larger cities are not greater on such streets probably means that this figure represents approximately their reasonable capacity.

To gauge the extent that city traffic will be attracted to a superior facility requires a knowledge of the entire city's travel needs, now and in the future, and of how the facility itself may serve to remold the city travel pattern. A facility well located and adequately designed can aid in the orderly development of the community along sound planned lines; one improperly placed or inadequately designed can retard if not prevent this desirable urban development.

During the course of the rural highway planning surveys, techniques for studying rural needs had been worked out in detail. Volumes of traffic had been recorded both manually and by various mechanical or electronic devices designed for the purpose. Origins and destinations too had been determined in rural areas and on roads approaching cities of various sizes, in the latter cases generally to find the amount of "bypassable" traffic. A variety of procedures were developed to fit various conditions involved.

Must Know People's Habits

But none of the procedures developed for such areas was entirely applicable to urban travel studies, not so much because the particular techniques could not be applied to the more intensive problem, but

more because of a difference in fundamental concept of the different studies.

In both rural and urban areas the end result desired is the same—a measure of the movement of persons and goods for which provision must be made. In rural areas this movement can be measured with reasonable accuracy in terms of vehicles. In urban areas, on the contrary, a study of the movement of passenger cars, trucks, and busses is not enough. We must get down to the basic measures of the travel of individuals themselves, whether it be by private vehicle, bus, street-car, taxi, or rapid transit. In the city, effective planning calls for a detailed knowledge of the daily movements of masses of people, and the provision of facilities for that movement by whatever type of vehicle is indicated as most appropriate. And of course to supplement that knowledge is required an equally detailed knowledge of the daily movement of goods and a provision of equally appropriate facilities.

We come then to the reason for asking the question: "Can the public's travel habits be adequately analyzed by 'opinion surveys'?" The reason is that travel habits must be determined, and there seems to be no other feasible way to do it. The answer to this question is

"yes." And the results of surveys of this type already completed in a number of cities back up this affirmative and positive answer.

Must Have Representative Sample

In the surveys now being conducted all travel for a specified day is determined for a representative sample of the city's residents, a sample so carefully controlled that the results can be expanded to show in detail the total internal movement in the city for a typical day. Along with the travel are determined a number of items of important corollary interest. The success of this or any other sampling technique depends on the selection of a truly representative sample, of a known proportion of the universe in size, or if the sample is not truly representative of the entire universe, the degree to which it is biased must be known with great accuracy. In selecting persons at random for questioning about a certain issue, for example, care must be taken to determine such factors as their occupation or income group if it is expected that persons in different occupations or income groups might think differently on the issue. Then to determine the thinking representative of the entire population, the results of the questioning of each

(See Next Page)

1904

1944

When Teddy Roosevelt was President...

NP supplied the first Door Control to the transit industry and ever since we have developed and built Door Control *exclusively!*

For nearly forty years prior to the outbreak of the present conflict, we designed and built Door Control and Safety equipment exclusively—and for all of that time, we alone, devoted all of our attention, skill and resources to the continuing development and improvement of this important and highly specialized line.

In recent years, we have of necessity, been extensively engaged in war production. But even the war has not halted our research and development work. And throughout this trying period, we have continued to serve the transit industry by furnishing all permissible equipment, by maintaining our high standards

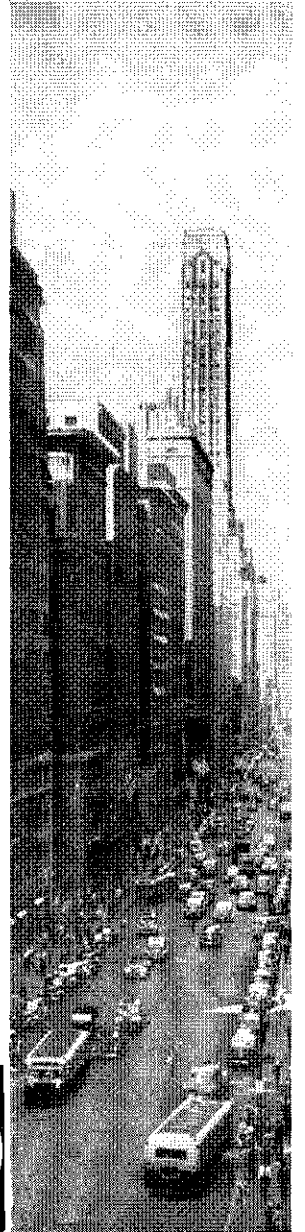
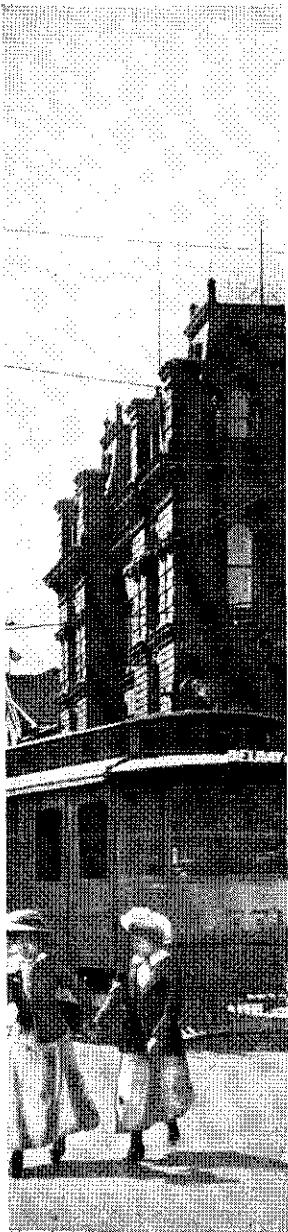
of service and by providing adequate replacement parts to help you "keep 'em rolling."

The experience we have acquired through our long and close association with the transit industry has given us an incomparable knowledge of your door control problems. This knowledge is the essential factor that enables us to design and build Door Control and Safety equipment which is more economical from every angle—air consumption . . . maintenance . . . efficiency . . . etc.—and which is as light as this equipment can be built and still give you the years of faithful service you have a right to expect from any equipment that bears our trade mark.

NATIONAL PNEUMATIC COMPANY

GRAYBAR BLDG., NEW YORK
MITTEN BLDG., PHILADELPHIA
McCORMICK BLDG., CHICAGO

Door Control **PLUS** *Dependable Service*



ANALYSIS OF URBAN TRAVEL BY SURVEY TECHNIQUE

by THOMAS MACDONALD

(Continued from Page 9)

road system up to its full utility by greater efforts at its extremities. We must free the main routes through and into the cities of their increasing congestion, and we must build the essential feeders in rural areas. Products must move from farm to market, from industry to consumer, and people must move from home to work and in their social and recreational pursuits freely and efficiently if we are to develop effectively the resources of the Nation. Restrictions to movement at the ends of the journeys, with which we shall be faced soon after the war, will be as intolerable as the resistance of the main line mud of the early twenties.

Both in magnitude and complexity the city problem stands as a challenge. Approximately half of the total vehicle miles of travel are performed within the limits of municipalities. Almost exactly half of the motor vehicles registered in 1941 were owned in cities having a population of 10,000 or more. The importance of the city to rural highway traffic is seen in figures that

show that over 85 percent of all trips on the rural highway have either their origin or destination, or both, within municipalities. Undoubtedly many of the remaining 15 percent of the trips that have both rural origin and destination pass through one or more incorporated places. The influence of the city extends outward from its limits along the rural highways, an influence that is reflected in rural highway traffic for distances up to 35 miles from the largest cities.

Urban Problem Pressing

Even cities as small as 10,000 population have an effect on traffic for distances of 5 to 6 miles beyond their boundaries. The magnitude of the problem is thus the result of the combination of the internal movement within the city itself and the volume of traffic attracted to the city from its outlying suburban and rural areas.

The complexity of the problem is obvious to any who drive in city traffic. Narrow streets are expected to serve traffic of all charac-

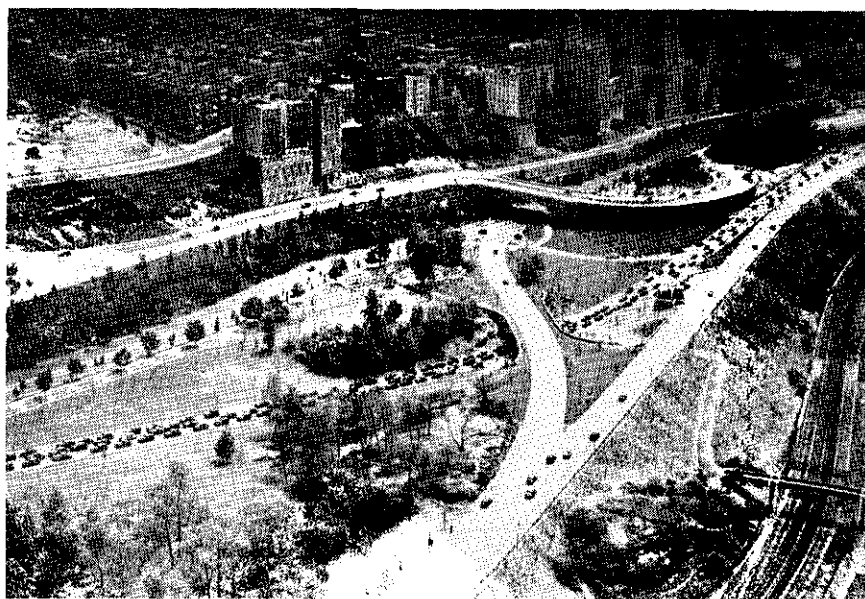


Photo by Patricia Gallaway, N. Y.

teristics. Improvements in the form of new routes or widening of existing streets are hampered or prevented by highly developed and consequently high-valued property. All classes of vehicles—passenger cars, taxis, trucks, busses, and sometimes streetcars—must be accommodated. Pedestrians are difficult or impossible of control. And generally the streets are expected to serve as terminal facilities for private passenger cars and for trucks, busses, and streetcars as they stop to load or discharge cargo or passengers.

Highway administrators have long been aware of the existence and importance of this condition. The urgency of the urban problem was emphasized particularly in the report "Interregional Highways" prepared by the National Interre-

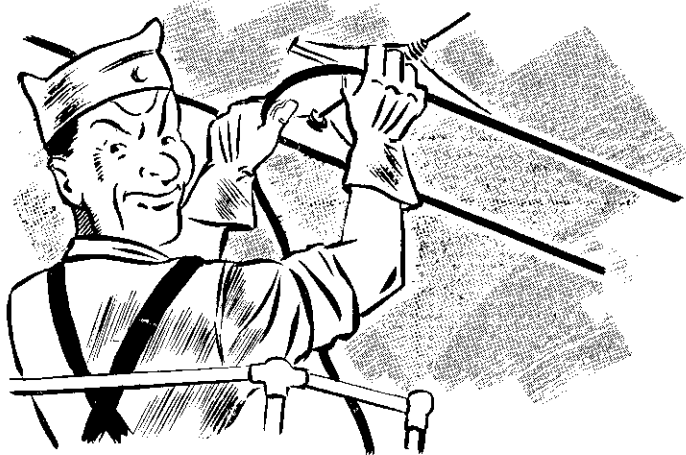
gional Highway Committee and transmitted to Congress by the President on January 12, 1944.

Years of Research

The material on which this report was based had been developed as a result of years of study and research by the State highway departments through the highway planning surveys. In a number of States, city and State officials have been actively collaborating for many years in the joint solution of this common problem. And it is probably largely because of the mass of factual information on the whole street and highway problem that has been assembled by these planning surveys that legislation now before the Congress proposes for

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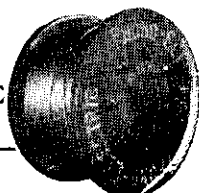
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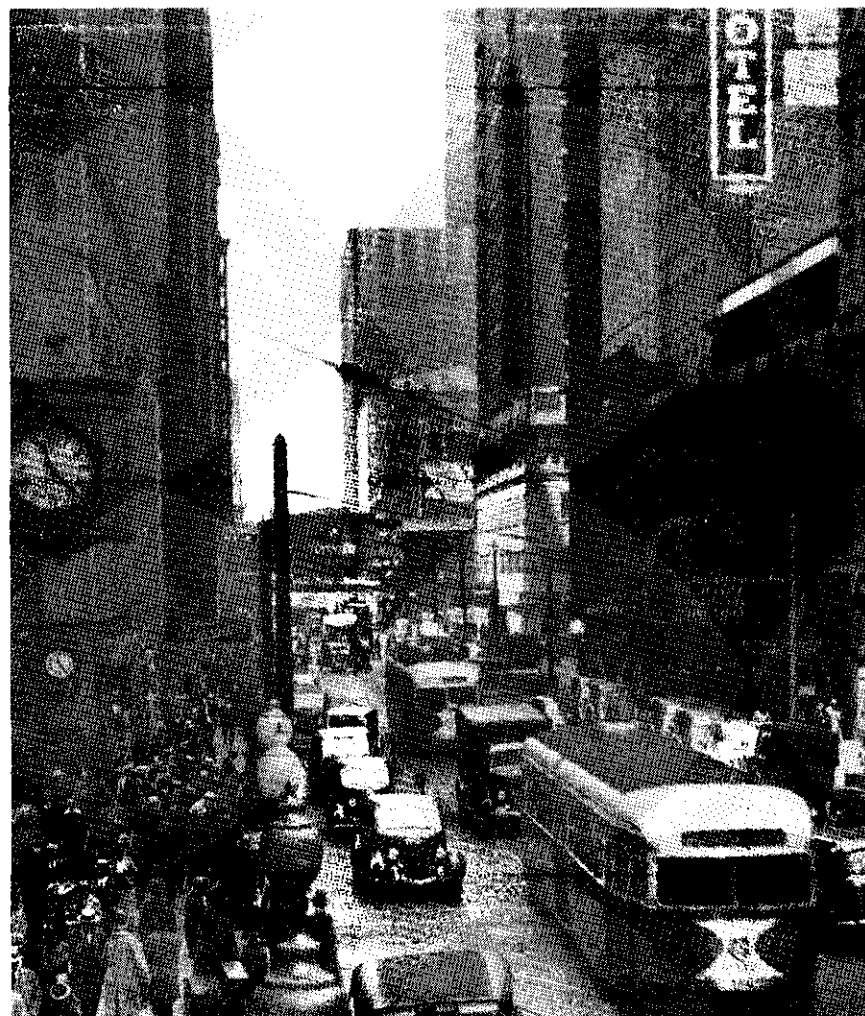
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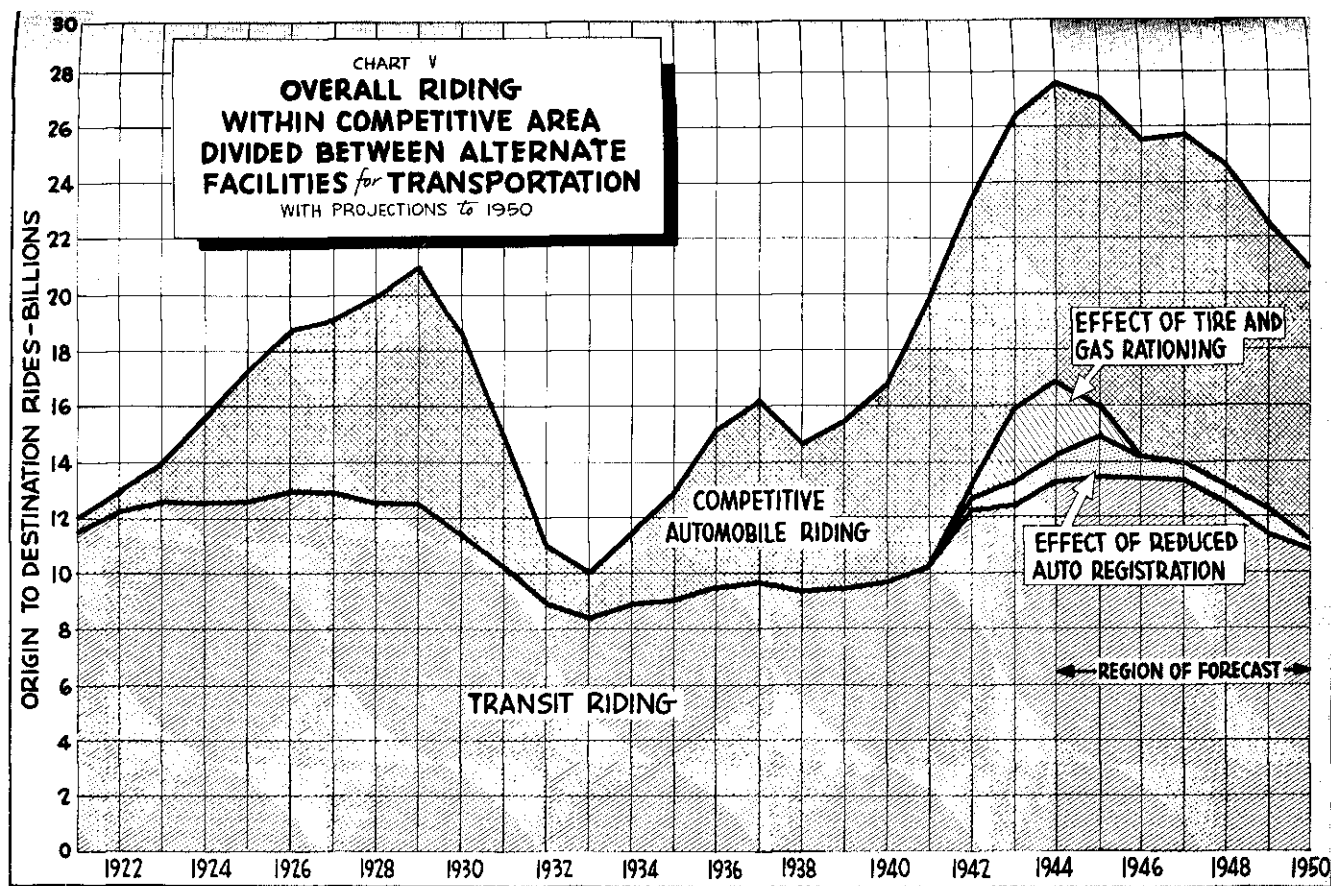
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TRANSIT'S FOR POSTWAR TRAFFIC

by **CHARLES STEPHENSON**

Research Assistant
American Transit Association



THE Fall of 1944 finds the world at the threshold of a new epoch. The immediate postwar years will be characterized as a period of reconstruction and reorientation of economic and social values. In the United States, the transition from war to peace will inevitably produce an environment in which each industry will struggle to maintain or to achieve a strong relative position.

Transportation, performing a basic and indispensable function in our economic and social structure, will also experience a period of adjustment between the components of which it is comprised, as each type of carrier seeks to exploit its competitive position by increasing its social value and its relative efficiency.

Historical Record Significant

All forms of transportation are faced with postwar problems. Our interest here, however, is the field of local passenger travel; particularly the extent to which public transit carriers may expect to hold their own against the competition of the private automobile, and the postwar outlook for transit riding volume when present restrictions on the use of automobiles are removed.

At the beginning of this century, when the automobile was introduced as a new mode of transportation, public transit enjoyed an almost complete monopoly of local passenger travel. Manufacture and sale of automobiles grew swiftly to gigantic proportions over a forty

The observations in this article are based on analyses similar to those used as the basis for the prediction made by Charles Gordon in February 1942, at the Emergency Conference of the Association in Chicago, that the industry would carry a total of 18 billion passengers in 1942. This prediction was characterized by TIME Magazine as a "horrendous estimate." Chart III, included in this article, was constructed in 1942. The projections made at that time entered into the determination of the 18 billion estimate. Actual automobile registrations in 1944 agree with the estimated figure to within less than one per cent.

Mr. Gordon has personally supervised the preparation, and assisted in writing the accompanying article.

year period. At the start of World War II, some 30,000,000 units were in the hands of individual owners—a large part of them in urban areas served by transit companies.

For a time the transit industry seemed destined to be entirely engulfed by the rapidly mounting competition of the individual vehicle and the street congestion which it created. All companies suffered severely as the mounting tide cut deeper and deeper into transit riding. Contemplating the tremendous magnitude of this new form of transportation, and the encouragement of its expanding use through rapid improvements in design and performance and through the building of new roads and other facilities with public funds, many people, both outside and inside the industry, seriously questioned the destiny of transit as an important factor in the field of local travel. In reviewing the past three decades it is significant that the transit industry was able to survive under such handicaps and to rebound in a great war emergency to demonstrate its inherent social value and utility.

Despite this demonstration, there are many who are convinced that war traffic has merely given the industry a temporary lease on life and that it is destined in the postwar period, with the resurgence of the automobile, to resume its downward trend to oblivion. There is little justification for this view. To the extent that it is based on any factual analyses the factors used are cursory and not fundamental. For when basic considerations are examined one is forced to the conclusion that the dark predictions and the defeatist attitude toward the future of the transit industry, so frequently encountered, have their origin in emotional rather than factual thinking.

Great Opportunity Ahead

Quite a contrary outlook results from a careful study of the underlying factors bearing upon the future of public transit in cities. The inevitable conclusion from such a study is that the transit industry stands on the threshold of the greatest opportunity for development and expansion in its history—awaiting only the impetus of progressive



Charles Stephenson

and courageous management to exploit its potential possibilities. Under such leadership the transit industry may look forward to greatly increased social and economic usefulness in the postwar period.

Three Fundamental Factors

Any examination of the future outlook for this industry must take into consideration three fundamental factors that bear upon its destiny. These are: (1) the long term trend of population; (2) changes in general business activity; and (3) the number and use of private automobiles. Analysis of the time tracks of these factors affords a key to the determination of
(See Next Page)

OPERATING DIVISIONS OUTLINING POSTWAR JOBS

by W. R. POLLARD

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return to normalcy, including probable revenues, expenses and capital and replacement expenditures, and the retention or rejection of all of the wartime expedients such as staggered hours and skip stops; also the salvaging of the better parts of all T. W. I. programs, and the development of sound training and retraining programs.

Concentrate on Fundamentals

It is planned to break each of the broader items into its many aspects in such a way as to stimulate the thought of the planner and to supply a complete reference to the various factors involved so that he will be assisted in organizing his plans and will omit none of the important phases.

The report cannot, in the limited time available, answer the problems it suggests, nor could any committee report hope to give more than generalized information, where so many local factors are evident.

Therefore, the committee in endeavoring to be of some service will offer a general outline of the problems involved in postwar planning for transportation, in the hope that the work will be carried forward by the individual companies.

POWER AND ROADWAY MEN

by W. T. MYERS

(Continued from Page 26)

resulted can best be shown by the fact that in 1925 the total wire and fittings breaks from all causes by all companies reporting was 4,757, while in 1940 the corresponding figure was 1,622, which included 297 failures on trackless trolley lines not covered in the earlier analyses.

There is no doubt that all dis-

tribution engineers know how to keep trolley breaks to a minimum, but this can be accomplished only if their managements will permit them to set up the proper renewal and maintenance schedules.

The Structures, Roadway and Power Division also is making a study of car derailments, which has been responsible for large decreases in derailments. It should be emphasized again that derailments can be kept to a minimum only if the way engineers are permitted

to set up proper renewal and maintenance schedules.

c. Study of ways and means of reducing construction and maintenance costs.

This subject, too, has been given a great deal of study in the past, and numerous reports and articles have been presented with a view to decreasing the cost at all times, and not just during the postwar period. However, with the present scarcity of men and materials, deferred maintenance undoubtedly

has occurred to some extent on all properties. In the postwar period, even with decreased revenue, it will not be the time to look for any decrease in renewal or maintenance costs in the Structures, Roadway and Power Departments, for if it is desired to increase schedule speeds and to minimize service delays, all managements must be prepared to spend the necessary monies to restore track, overhead and power facilities to first-class operating condition.

POST-WAR PROSPERITY

under wraps



Machines for making passenger cars were stored away when America went to war. Soon they will produce civilian automobiles and jobs again—and here's why they will be better automobiles than ever before!

► Producing 6,000,000 automobiles a year will provide many a postwar job.

The metals, rubber, fabrics, glass, ceramics, plastics, electrical parts and other materials consumed by such production will help to stimulate many industries.

Every car manufacturer will produce to the limit at first—and for some months after “the wraps” are taken off. All cars will be “easy to sell.” But after

most of the essential replacements are made—what then?

Early in the post-war period, cars will undoubtedly become better looking, more comfortable, easier to handle and drive. But the most significant progress in motorcar design will

depend—in the future, as in the past—upon the development of engines that get more work out of each gallon of gasoline.

A big step in this direction has already been taken. Immediately after the war the petroleum industry will be able to supply gasoline of far higher quality . . . gasoline that in engines designed to utilize it will give more power, more mileage, better performance. Thus, the foundation for more efficient engines is already laid.


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Wartime progress by America's petroleum industry has paved the way for fundamental progress in post-war automobile engine design.



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OF URBAN TRAVEL BY SURVEY TECHNIQUE

by **THOMAS MACDONALD**
Commissioner of Public Roads

THE past few years have seen a striking growth in the so-called "public opinion surveys." Automobile manufacturers have attempted to get a jump ahead of their competitors by questioning drivers as to the details of appearance, operation, and performance of the vehicles they would like to be driving. Processors of food have, for example, that the size, shape, and future usefulness of the container sometimes have as great an appeal to the customer as the product it encloses, and accordingly have directed their packaging policies with due regard to the results of opinion surveys. Government agencies have by a sampling technique determined the

probable consumer demands for many products once peace releases our war machine for the production of civilian goods. The best known users of this survey technique are, of course, those who conduct the public opinion polls that reveal with such startling clarity the political thinking of the country.

Planned System of Highways

If such a wide variety of items in our daily lives can be precisely analyzed by a sampling process, why cannot the American public's travel habits and needs be similarly analyzed? Before answering this question let us look briefly at the reason for asking it.

At the time of passage of the

original Federal Aid Road Act in 1916 very little highway improvement had been completed. Although city streets were generally paved, the mileage of improved rural highway was small indeed. What mileage was improved extended from the cities in more or less groping fashion into the nearby rural areas to provide some measure of relief from the confinement of the city to the urban motorist who wished to extend his travel horizons, and to induce a greater volume of trade to the mutual benefit of the city merchant and the rural consumer. By the time of enactment of the Federal Highway Act of 1921, however, a number of States had recognized that orderly development of highway transportation required the establishment of a system of roads of the first order of importance on which expenditures for improvement should be concentrated. This first Federal Highway Act endorsed this principle, and substituted for the haphazard improvement characteristic of the early days of the automobile the construction of a connected system of highways known then and now as the Federal-aid highway system.

Progress on Rural Roads

Over the course of a quarter century, by a consistent adherence to the sound policies of the Federal Aid Highway Act as it has been

amended from time to time as conditions demanded, improvement has been extended to all of the more important rural highways. Today we find it possible to travel with comfort and generally at nearly any reasonable desired speed between virtually any two communities in the country.

These many miles of highway barely suffice for the present traffic volumes, and will have to be increased in capacity and improved in safety features to meet postwar traffic demands. Moreover, many miles have suffered from the concentration of wartime loads and the inability to provide needed replacement because of wartime shortages. Much still remains to be done to our rural system merely to keep abreast of the necessary demands of travel.

Congestion in Cities

But by contrast, from the standpoint of moving traffic, the main rural highways have attained a degree of improvement far beyond that now found on the city street. Here surface condition may still be adequate, but in often repeated instances traffic has become almost hopelessly snarled and internal movement is experiencing a slow stagnation. Our major problem of tomorrow is to bring the main rural

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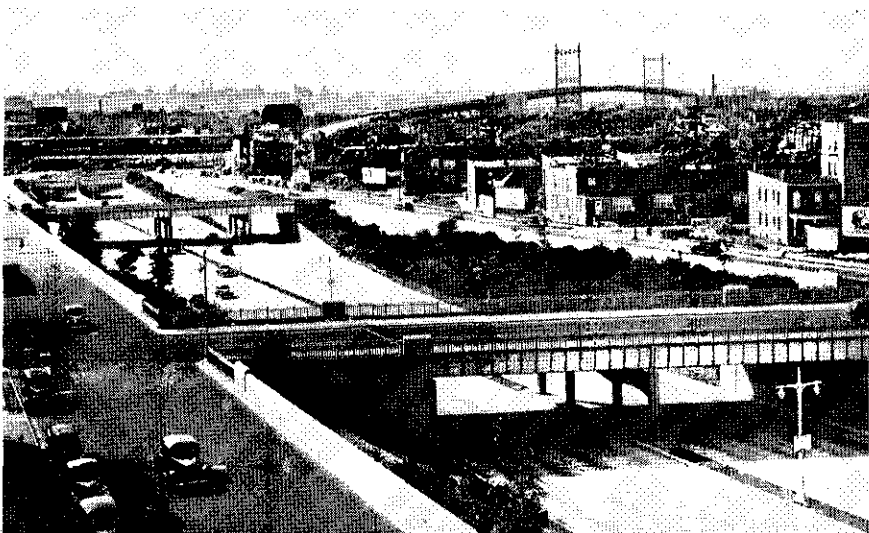


Photo by Department of Parks, N.Y.C.