

## PROFITABLE MOTOR BUS OPERATION IS DEPENDENT ON PROPER COST ANALYSIS; IS CERTAIN TO SUPERSEDE STREET CAR

Experience of Transportation Companies in Lawrence, New York, Plainfield and Chicago Prove Railways Unable to Compete With Bus Lines—Estimates of Expense for Municipal System Show Large Paper Profits.

By D. C. FENNER  
(International Motor Company.)  
Out of the problems of increasing traffic congestion in large cities has come a new understanding of the convenience and economies offered by the motor bus. Its acceptance has doomed other forms of transportation, just as the surface cars, in their turn, succeeded the horse cars and stage coaches.

In Boston the Eastern Massachusetts Street Railway company, operating in the Lawrence district, is charging a 10-cent fare, while buses in competition transport passengers on the same route for 5 cents. The street railway company notified public officials that unless measures were adopted to restrict motor bus competition their services would be discontinued. Their statement says that the time has come when the public must choose between street railway and motor bus service. Although the bus licenses were revoked by the city council the public's choice is indicated by the increasing monthly loss this competition was causing the traction company, which reached \$25,000 in October.

**TRACKLESS STREETS SOON**  
Several cross-town surface car lines in New York city shut down because they could not operate profitably on a 5-cent fare basis. Buses under municipal control took their place, gave the public quicker and more satisfactory service for the same fare, and did it profitably. The buses of the Fifth Avenue Coach company have met with phenomenal success, having already traveled a distance of more than 40,000,000 miles. In the words of Mayor Hylan: "The day of the street surface cars has gone forever and it will not be long before New Yorkers will have trackless streets."

In one year, ending Oct. 31, 1919, the Chicago Motor Bus company carried in its buses of 51 passenger capacity 4,106,298 persons on 58,027 round trips. This represents an increase from a daily average of 29 passengers in 1917 to 73,955 in 1919. This company has recently introduced a new type of bus with inclosed seats on top that will accommodate 60 passengers.

### LESSON FROM JITNEYS

Although the universal use of motor buses for passenger transportation is apparently inevitable their success depends entirely upon certain elements of organization and operating methods. Bus operators of the present and of the future may well profit by the experience of the so-called jitney lines that have failed through loose organization and cut-throat methods of competition. The majority of these lines were operated by ex-chauffeurs and teamsters who because of the liberal credit extended by truck dealers could do business with very little capital. Although their equipment was in most cases inferior they assumed that it could be operated for as little as the high-grade and more expensive vehicles that are found in the fleets of successful bus line operators. The unsuccessful operator estimated the cost of gasoline, oil, tires and driver's wages and added to this his garage rent and interest on notes. On a basis of what this cost him, plus his profit, he found that he could charge a lower rate than his competitors. Successful operators know that expenses involving the following items must be taken into consideration:

### EXPENSE CLASSIFIED

Fixed Charges—Amortization (reserve for depreciation); interest on investment; insurance; fire, transportation and theft; public liability and property damage; collision; overhead; administration requirements; taxes; licenses.

Maintenance Charges—Garage, rent,

heat, light, power, etc.; repairs, material and labor; overhauling; painting; wrecking crew and equipment; mechanics and inspectors; battery renewal and charging.

Running Costs—Gasoline; oil; tires; wages of drivers, dispatchers, superintendents, etc.; grease, kerosene and waste.

### DATA FOR UNIT COSTS

To calculate unit costs on which rates may be based it is necessary to secure a report from each driver at regular intervals covering the above items. A simple yet flexible form of monthly report is used by the Suburban Transit company of Plainfield, N. J. This company operates a fleet of 12 Mack buses in the vicinity of Plainfield and maintains a thoroughly up-to-date garage with storage and repair facilities.

The low rates charged by uninformed operators imperil the business of those who know their costs. Although the informed operator knows that his competitors are losing money and will sooner or later be forced to give up their business because they have no reserve to repair or replace worn out buses he is helpless to obtain business in the face of their competition, as he knows that he cannot lower his own rates. For this reason franchises should be given only when there is assurance that the operator has made a careful study of the undertaking.

### INTERESTING ESTIMATES

An interesting analysis of the costs of motor bus operation was made recently in New York city by the commissioner of plant and structures to the board of estimate. The proposal was for a permanent municipally-operated system of bus lines and shows that 100 buses operating on a 5-cent fare basis can be made to pay a profit of \$376.80 a day. The cost of 100 buses is \$150,000, spare parts at \$10,000 and garage equipment at \$10,000, a total investment of \$170,000. For maintenance the estimate provides \$635,000 yearly, covering liability at \$500 per bus, garage cost at \$250 per bus and chauffeurs at \$1800 a year. Depreciation is figured at 30 per cent a year on buses and 10 per cent a year on other equipment. These items, together with provisions for a superintendent, starters and checkers, totals \$1740 per day for each bus.

For running cost 4 cents a mile is allowed for gasoline and oil, 4 1/2 cents for tires and 1 1/2 cents for repairs, a total of 12 cents per mile. The plan contemplates the operation of 92 buses, eight being kept for break-down service. At an average of 80 miles a day per bus the total "bus miles per day" will be 7360, which, with the fixed charges, brings the total cost of operation to \$2,623.20. At the conservative estimate of 60,000 5-cent fares, or a total revenue of \$3000 a day, the net daily profits are figured at \$376.80. The estimate does not include interest on the investment, insurance, other than liability, or state motor vehicle license fees.

### M. A. M. A. FIELD SECRETARY

Because of the rapidly expanding work of the Motor and Accessory Manufacturers' association it has been found necessary to appoint a field secretary to travel about the country and keep in direct personal touch with the various members.

M. L. Hemingway, general manager of the association, has announced that Alexander W. Barber, formerly connected with the credit department of the Irving National bank of New York city, has been selected for this important work. Mr. Barber has already started on his first western trip.



Automobiles are still restricted in Bermuda.

Street traffic in Buenos Aires goes to the left.

The average motor truck has a displacement of five horses.

The Detroit Automobile club has a membership of more than 7000.

American-made automobiles are exported to 81 different countries.

Citizens of Cleveland, Ohio, have bought 16,000 automobiles during 1919.

Prices of the latest French passenger automobiles range from \$2000 to \$30,000.

Automobile tourists will find the longest mile in Norway. It contains 12,182 yards.

Buses on Fifth avenue, New York city, have had a continuous service of 13 years.

There has been an increase of 22 per cent in the sale of motor cars during the past year.

The average consumption of gasoline per automobile is from 10 to 14 barrels per annum.

The College of the City of New York has added two automobile courses to its list of studies.

A magnet industry in Hapton, Eng., was established entirely by the labor of women.

It is estimated that there will be no less than 25,000 automobiles in North Carolina in 1920.

There were 214 passenger cars and 15 motor trucks exported to the Dutch East Indies during August, 1919.

Eighty-seven different makes of passenger cars and 70 of motor trucks are produced in the United States.

England, France and Italy are planning to ship cars to America with prices ranging from \$10,000 to \$20,000 apiece.

The amount of capital invested in the manufacturing of complete passenger cars and trucks now exceeds \$1,500,000,000.

In the registration for automobiles and trucks for 1919 Ohio has taken the lead from New York of 3416 more motor vehicles operated.

During 1918 Great Britain imported 193,000,000 gallons of motor spirits, 70 per cent of which came from the United States.

The 6,500,000 motor cars in use in the United States by the end of 1919 will have displaced no less than 30,000,000 horses.

Through the enforcement of the so-called blue laws of the state of Maryland the sale of gasoline is forbidden on Sunday.

Of the 42,000 motor trucks made during the third quarter of 1919 there were more of the three-quarter-ton type sold than of any other kind.

The number of motor cars stolen each year in the United States is far greater than the combined output of five big manufacturing plants.

Servant girls in the exclusive residential section of St. Paul, Mo., have the use of their mistresses' automobiles "one or two" times a week.

More than 75,000 licenses have been issued this year in Cleveland, Ohio, at the branch license bureau conducted by the Cleveland Automobile club.

A mammoth automobile garage is to be constructed at Atlanta, Ga., with capacity of 2000 cars and containing 175,000 square feet of floor space.

The estimated cost of a Roosevelt Memorial highway across Long Island is \$2,000,000. The proposed route will connect New York with Montauk point.

Four million dollars for the construction of roads during 1920 will be available in Maine. It is expected that 150 miles of new state highway will be constructed.

As a result of demands for a more expensive automobile than is manufactured in the United States a large plant is to be erected for the production of a British car at Springfield, Mass.

The president of the United Business Men's association of Philadelphia is in favor of a large corps of motorcycle policemen. A resolution will be passed requesting the city to place such po-

licemen on the streets to combat automobile thieves.

Automobiles in North Carolina will have only one license plate for each car in 1920. The one-plate law originated in the senate at the last session of the general assembly and was urged as an economic measure.

Before securing a motor license to operate a car in Brazil a chauffeur must pass severe examinations. The applicant must undergo road trials, register fingerprints and photograph and license number, which is recorded by the police authorities.

Private chauffeurs in New York city are demanding higher wages and shorter working hours. The petition calls for a minimum wage of \$40 a week, a 10-hour working day and two hours off for lunch and recreation, \$1 an hour for overtime, free uniforms and one day and night off a week.

France is making systematic plans to attract the automobile tourist. Under a new order all the villages in the country are to have their names shown in eight-inch letters at the municipal offices. National roads will have red-painted milestones, while the old-fashioned sign-posts are to be replaced by large blue enamel plates, with the direction of the next town and its distance displayed in big white letters, so as to be easily read from the passing cars.

## PRESENT USES BUT TAP POSSIBILITIES OF MOTOR TRUCKS

Sum to Be Spent on Roads in 1920 Four Times as Great as This Year—Advantage to Farmers Tremendous.

Probably the announcement that the proposed expenditures in the United States for the next year for hard surfaced highways will be \$633,000,000 as compared with the \$125,000,000 of the closing year for the same purpose should mean more to the farmers of this country than to nearly any other class.

It is a significant fact that nearly 60 per cent of the trucks of the United States work in the country, though a large percentage of them may be housed in the city. Though about 20 per cent of them are actually owned by farmers, which represents 10,000 more than are used by any other class of producers, the manufacturers come next in line in the use of trucks.

A simple study of these figures will bring home to the residents of the rural communities, declares M. L. Pulcher, vice president and general manager of the Federal Motor Truck company, Detroit, Mich., "the tremendous advantage that will accrue to them through the large appropriation for new roads the next year."

"Thirty per cent of the people for whom 60 per cent of the trucks of this country work will certainly receive their share of new highways. It means that their 60 per cent of the trucks will have just that many more and better road facilities for the transportation of the goods they are accustomed to transport."

"But it means even more than that. It means that new roadways, the forerunner of the truck and civilization, will enable them to use the trucks for transporting an even greater variety of commodities with a consequent saving of money and time."

"The possibilities of the truck for carrying commodities between farms and cities have only been touched. The newer and better roads will give the impetus needed to bring out all its possibilities."

## MILLIONS OF TONS OF FREIGHT TO BE "SHIPPED ON AIR"

Coming Development in Truck and Good Roads Movements in Next Two Years Credited Largely to Pneumatics.

"Within the next two years millions of tons of freight will be shipped on air."

This prediction, made by John M. Maguire, president of the Mid-West Rubber association, is not a reference to airplane transportation of freight, but to the development of the air-filled or pneumatic tire to truck capacity.

"Nothing the tire industry has accomplished in recent years," said Mr. Maguire, "is more important than this development. When a truck is equipped with pneumatic tires both the truck and its load are literally transported on compressed air. And there is nothing better to haul loads on. The truck, the load and the road are saved countless jars and jolts, for air is the best of shock-absorbers. With pneumatic tires the life of the truck is greatly prolonged, roads receive but a minimum amount of wear and loads are carried with greater safety and economy."

Mr. Maguire, who is vice-president of the Fortage Rubber company of Akron and Garbenton, believes that the development of the pneumatic tire to truck capacity is to have important results in converting thousands to the "shin-by-truck idea" and in promoting better roads.

### SOLID TIRES STILL NEEDED

"The communities that must bear the cost of creating better highways," he pointed out, "are going to pay this cost much more cheerfully than in the past when they see the advantages of the pneumatic tire for trucks. It will bring quicker and better transportation for the merchants and industries and trucks will not be the road-destroying factors they have been."

The entire "transformation of the rubber tire, of course, has not been achieved, and, in Mr. Maguire's opin-

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## PROMOTIONS MADE IN REPUBLIC ORGANIZATION

The Republic Motor Truck company, Inc., of Alma, Mich., announces the appointment, effective Dec. 1, of O. W. Hayes as general manager and Thomas M. House as general sales manager. Both these men have been connected with the Republic company almost from its beginning. Mr. Hayes having formerly been in charge of the purchasing department, designing, engineering and latterly factory manager. Mr. House was formerly eastern division sales manager with headquarters in New York City, and latterly Pacific coast sales manager.

The promotion of these men from within the ranks of the Republic organization was prompted by their thorough understanding of the business and their appreciation of the problems which confront the largest motor truck sales organization in the industry.

### LONG TOW ROPE

When it becomes necessary to employ a team of horses to pull a car out of the mud or sand the ultimate utilization in any event, be careful to use as long a tow rope as possible. Not only does this permit the team to get a better footing, but it allows the engine to be used to help the animals without fear of suddenly lunging forward into the team.

## Prudent Automobile Owner Can Save Many Large Repair Bills by Catching Little Bothers in Weekly Once-Over

The weekly overhauling of the car seems like a tedious and useless task. But it means freedom from trouble in days to come when trouble will follow you "constantly" as Bert Williams used to say, "if you neglect the little things now."

See that the grease cups are filled and turned down. Each has its little part in making the car last longer. A worn spring bolt, for lack of grease, may mean a broken spring some day. One point neglected on the steering assembly may mean a worn part and a wreck by the roadside as a result.

Examine the tires for cuts and have the little cuts vulcanized before they grow into big ones filled with dirt and loosen rubber from fabric.

See that there is oil in the engine and water in the radiator. Of course, this is more than a weekly rite. It is a first essential to caring for a car.

Notice if the fan belt is tight enough. A slipping belt, a fan falling short of its full duty and a hot day combine to cause an overheated engine. And it's all unnecessary.

Tighten up lugs. Lugs ever so slightly loose may let a rim creep around and pull out a valve stem, making a good tube go bad. When the lugs get old and the rim creeps in spite of your effort get new ones. You'll enjoy your ride more if you don't have to worry about creeping tires.

Now and then get under and see that spring clips are bolted tightly and that the bottom of the crank case has no loose nuts.

Be sure that the brakes are holding all right, and if they fall of their full duty, take up the slack.

Test the various points of the steering assembly for wear and tighten up loose joints.

Like bad teeth an automobile neglected in piling up labor and trouble manifold for the future.

The earliest exports of cotton from America were made in 1785, in which year one bag was sent from Charleston to Liverpool, while twelve were sent from Philadelphia and one from New York.

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It is wonderfully easy riding because these new springs ward off the bumps of the road. Riding seems like floating.

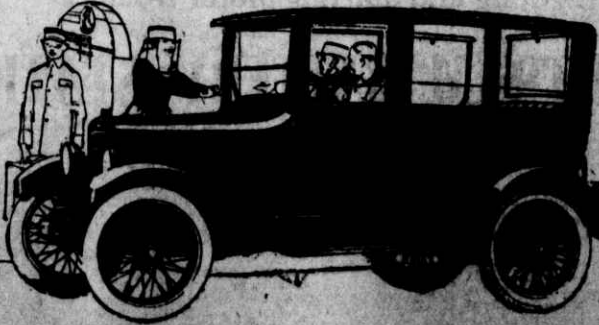
It is light in weight and therefore economical of tires and fuel. Economical also in upkeep because the springs protect car and mechanism

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