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BEATING CHICAGO'S TRAFFIC BOGEY

By M. L. ALLEN, '31

The traffic situation throughout the country is something that should be viewed with apprehension. Since the war there has been a prodigious growth of motor traffic on our highways and this condition is well on the way to the point of satiation.

Investigation shows that our traffic problem is mainly due to the overproduction of automobiles. Properly speaking, there is no such thing as overproduction: our industries continue to produce as long as there is a demand. Therefore, the general cause may be laid at the door of general wealth. It is now possible, because of higher wages, for almost every person to own a car. It is possible and it is being done. When one considers that there is a motor vehicle for every four persons in the United States, it is apparent that our roads are going to be crowded.

Then too, motor trucks must be considered. Motor trucks, however, have a reasonable excuse for existence. The beast of burden of the modern commercial world, the heavy-duty truck supplies a demand that nowadays cannot be met by any other type of conveyance, within a certain limit.

Last but not least, consider the huge motor-bus. These conveyances are doing much to fill our highways with traffic that could be diverted into other channels. These machines are running all over the land. One may travel from New York City to Los Angeles in a deluxe cabin bus that is equipped with berths, running water, and food in small quantities. There is room for twelve passengers. Think of these Big Berthas of the Road, as well as their smaller brethren. Is it a wonder that we have a traffic problem?

Traffic experts and so-called "traffic engineers" have done much to supply relief to the situation. The decade's most notable achievement—and as is usually the case with the most notable, the most simple—is the innovation of the traffic light. Many cities are credited with the honor of evolving this device but there remains the fact that they were introduced almost simultaneously throughout the country. The light supplies authority where it is needed without cluttering up the streets with white-gloved policemen. Although a light costs \$250, it is obviously cheaper to buy

a complete installation than to increase the police force by as many new recruits.

The larger and older cities have in many instances widened certain of their streets. This is a boon for the motorist but hard on the pedestrian. As is always the case, the pedestrian is the under-dog and his complaints, although listened to, are disregarded. Widening streets is at best an expensive job and messes up a thoroughfare a great deal.

Congestion and heavy traffic bring a number of evils with them. First, we have increased accidents. The under-dog pedestrian is usually the victim, but occasionally motorists damage each other. Besides these accidents we have automobile damages, bent fenders (more numerous than the sands of the desert), broken head-lights, etc., not to say anything of disrupted tempers.

Second, there is dirt. The dirt and heavy dust spread by passing trucks laden with coal, ashes, excavated materials, to say nothing of attendant odors, costs the American public a staggering sum each year.

The third member of this trio is noise. We get used to noise but its harmful effects, though momentarily unnoticeable, are surprising. For example, a typist working in a noisy office burns up her energy 20 per cent faster than one working in a quiet one. Experiments at the University of Michigan show that our blood pressure increases appreciably with an attendant noise. Noise increases our muscular tension, the harmful effects of which are noticeable to all.

The mile-square district in Chicago known as the "Loop" is notorious as being a lot crammed into a comparatively small space. Its population during an ordinary business day is the greatest per square mile found anywhere in the United States. It is the center of business of the city but the surprising thing about this locality is that the heavy commercial traffic usually found in such a center is practically absent. We see light delivery trucks only. At first it might be thought that the heavy-duty conveyance is barred from the streets of the "Loop," but such is not the case. The conspicuous absence of these monsters brings the thought to mind that perhaps Chicago, in spite of her rampant banditti, has found a solution to this traffic problem.

Inquiry shows that all of the large commercial establishments in this locality use the underground freight system. This system is a miniature subway, consisting of a series of main trunk lines of two-foot gauge track at a depth of approximately forty feet below the surface. Closer inquiry into this system discloses a marvelous organization.

In 1899 the Illinois Telephone and Telegraph Company was granted a franchise by the city of Chicago to build a series of concrete lined tubes for the purpose of carrying telephone and telegraph conduit. Within the short span of twelve years the funds of the company were exhausted



A "Universal" Station for General Public Use

and the stockholders were forced to declare a state of bankruptcy. The properties were conveyed to a new company who succeeded in getting a new franchise. This new document enabled them to build tunnels for the express purpose of carrying merchandise. Work on the new undertaking, including the installation of the telephone conduits, continued up until the year 1909. Again the holdings were turned over to a different group because, as before, of bankruptcy.

The new owners were a New York coterie of financiers who managed to put the company on its feet and operate with some profit. This group, calling themselves the Chicago Tunnel Terminal Corporation, abandoned the automatic telephone system which the second organization had tried to foist upon the citizenry of Chicago and which had really caused the failure of that group.

The Chicago Tunnel Terminal Corporation is still operating today and with renewed vigor, because of the great aid it is giving to the merchants and industries of that city.

As mentioned before, the tubes are located at a mean depth of forty feet below the surface. They were drilled through a stratum of heavy blue clay, and after the initial excavation, no more streets were disturbed, further construction progressing in the same manner as new levels are opened up in a coal mine. The surprising depth was agreed upon because of the possibility of the city's constructing subways. Forty feet place the system far below any possible subway routes and any existing sewer mains.

The tubes are shaped like a horseshoe, being six feet in width and seven and one-half feet high. The walls are faced with concrete, one foot thick. Generally speaking, the trunk lines are one-way, with switches at each street intersection. A typical intersection is shown in the above illustration.

Power is supplied by a 250-volt D. C. line as shown in the same illustration. This is furnished from one main station and four sub-stations. Besides being illuminated by the large headlights on the trains, the tunnels themselves are lighted by 3800 lights.

Seepage from the sewers is practically negligible. However, such water as is bound to seep into any subterranean excavation is drained into sumps, of which there are 540. The water draining into these sumps is raised to the sewers by pumps, the entire pump installation consisting of 63, electrically-driven.

The rolling stock consists of the following items:

Electric locomotives	150
Total cars	3304

The cars are distributed under the following heads:

Merchandise	2693
Coal	151
Excavation and cinders.....	400
Company service	60

The ordinary freight car used for the transportation of merchandise is four feet wide by twelve feet long. It is of open construction and fitted with bands to protect the load. These cars carry from one to six tons, depending on the bulk of the commodity. The cars used for the transportation of coal are similar in construction to the large railway cars regularly used for that pur-

pose. The coal car holds four tons and is designed for side dumping. The other type of car, used for excavating material and for cinders is like the coal car and holds 3½ yards of material.

Twenty-four of the larger commercial houses have direct, individual connections with the tunnels. These connections consist of tunnel approaches, switches, tracks, shafts, and elevators for lifting the cars to the level of the street floor.

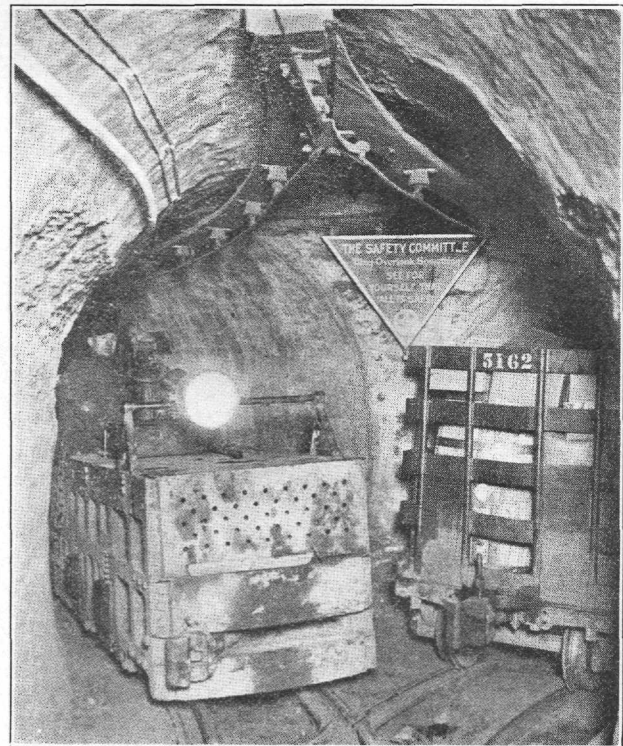
The company maintains four "universal" stations for the use of those people who have no private connections with the system. These stations are strategically located and provide nearly as good service to their users as the private connections.

Many commercial houses and office buildings have tunnel connections only for coal and cinder service. Underground delivery of coal offers no obstruction to street traffic which, in the case of coal trucks, is particularly obtrusive. Backed into the curb for unloading, large coal trucks displace much street area, and alley delivery is even more annoying. Tunnel delivery of coal is without noise or dirt. One large coal concern in Chicago has the tunnel service in its yard and makes its Loop deliveries through the tunnels. Others have their coal cars placed at the tunnel chutes, unload into the chutes whence coal is delivered to the tunnel cars and from these to the boiler rooms of buildings—all without being touched by a shovel.

Disposal of ashes is carried on in a similar manner. All of the ash dust is kept from the street and proper disposal of this waste is quickly and properly made.

Hauling of excavated materials is obviously a boon to the contractor. Besides keeping the street free from trucks, the speed accompanying this method of disposal amply repays the contractor. The daily average haul from new building excava-

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A Typical Trunk Line Intersection. Note Overhead Trolley

CHICAGO TRAFFIC BOGEY

(Continued from Page 7)

tion and furnaces is between 200 and 300 cars. This varies with the seasons and with the quantity of building going on in the neighborhood. The tunnels average 75,000 cars of these materials per year.

Tunnel service aids the post office in the rapid distribution of mail to its substations. Many cities use the pneumatic tube system but this system is not considered good for bulky quantities.

Statistics, compiled over a number of months, show that the tunnels provide some 300 train movements per day. A train consists of between 10 and 15 cars. This line of cars, if put together, would extend over ten miles. The work done by these 300 train movements is equivalent to 5000 truck movements. The number of trucks doing this work would extend thirty miles, if placed end to end.

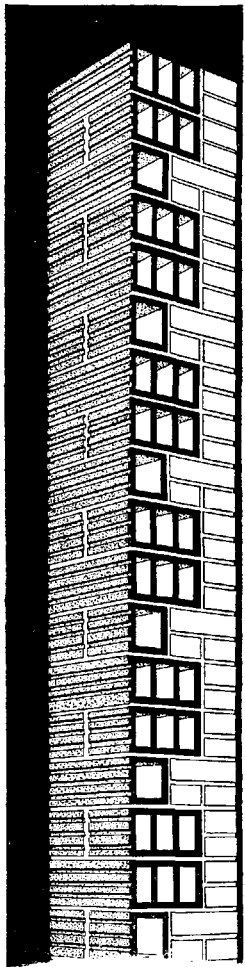
Facts like this bring home the conclusion that the sole hope for relieving the traffic congestion in our large cities lies with the underground system of transporting freight. Such methods, if employed extensively, will remove the truck from our streets, and make for more rapid, cleaner, and safer hauling.

The initial cost of construction will cause many a city council to balk at employing this method. Far-seeing individuals will perceive, in spite of this fact, that continued congestion will cost as much, if not more.

When we remove the truck, it would be wise to consider what Will Rogers suggests for alleviating the passenger car situation. Will says to allow no car on the public roads until it has been fully paid for. Would this cause the extinction of the species *carrus Americanus*?

EVIL PLANS

He was an engineering student and left blue prints on her neck.

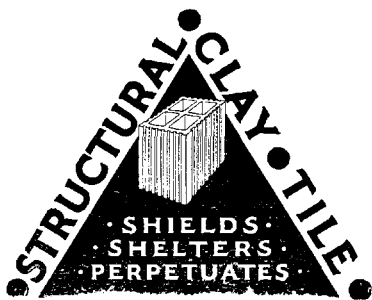


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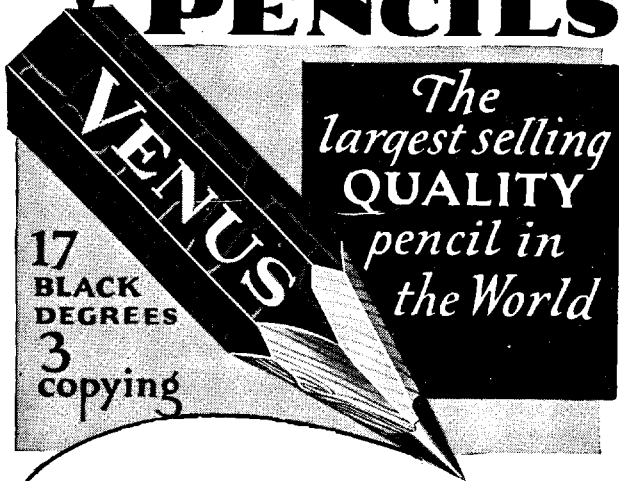
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