

# TOPICS—The Traffic Engineer's Latest Tool

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## HISTORY OF TRANSPORTATION AND TRAFFIC ENGINEERING

Many are well acquainted with the history of traffic engineering. However, as an introduction, briefly reflect on the progress of the traffic engineering profession. Since the advent of the wheel, the basic means of transportation, there has been involved in community life, traffic engineering. However, as people become more mobile, and where the demands of services and goods have exceeded the existing conveyances, changes and improvements in basic transportation have occurred.

### *Advances in Sea and Land Transportation*

Even centuries ago congestion occurred in the Roman Empire. The chariots, pedestrians and concentrated land use resulted in congestion within the City of Rome.

We recognize that development of major cities has been closely associated with transportation. Certainly the discovery of America brought about great advances in several areas of transportation. First were advances in sea transportation. The vastness of this country brought about new methods of traveling by land. Then with the advent of the railroad tremendous growth occurred.

### *Modern Transportation and Urban Development*

Also, as transportation has been a major contributor to the location and development of cities, we find that a majority of our cities have been located and orientated to sea transportation, to railroads and highways. Today, we find the airplane has affected our urban development and in the future its effects may be staggering. As this country began to take on major developments after the transcontinental railroad was completed and with the development of the frontier, the importance of streets began to become even more apparent. Finally, at the turn of this century and with the invention of

the automobile, this country had within its grasp a means of economical, convenient transportation that would shrink our vastness transportation-wise. Thus the automobile gave us the ability to become the world's most mobile civilization and our cities and urbanized areas were quick to foresee its impact. Additional streets were paved and we found the city becoming the focal point of our civilization.

### *Development of Streets, Highways and Congestion*

In order to provide farm-to-market roads, the federal government created the Bureau of Public Roads and embarked upon a federal-aid highway system. From time to time since the beginning of this system, it has been reviewed, carefully analyzed and expanded to take upon a more important role in the development of a streets and highways network. We have seen this culminate in the enactment of interstate highway systems. During the hearings and early development of the interstate system much discussion was heard about this system and we were assured after its completion we would have the most modern, convenient, safe and congestion-free highway facilities in the world. Much of these statements are true. However, the fallacy was in thinking this would rid us of congestion. This we recognize will not occur.

The population and economic growth of this nation continue to result in tremendous increases in transportation demands. From the highway standpoint, the interstate system is handling about 27 percent of this increase. However, as has been, is now and, in my opinion, will continue to be the case, the majority of this vehicle transportation increase must be accommodated on existing streets and highways.

### *Traffic Engineers Appear in 1920's and 1930's*

We also recognize that in the late twenties and early thirties, amid the congestion and turmoil of our major metropolitan areas, there came to the fore-front a new profession — the traffic engineer. The Institute of Traffic Engineers was founded in 1930 and since that time more and more men have chosen this profession to apply their technical ability and competence in bringing about a safer and more convenient highway transportation network.

## THE TOPICS PROGRAM

In 1967 the Bureau of Public Roads announced a traffic operational program to increase capacity and safety. Since that time pilot studies were conducted and in 1968 this program was incorporated in the Federal Highways Act. Two hundred million dollars were earmarked for expenditures in each of two fiscal years starting July 1, 1969.

For the traffic engineer this may be the most important legislation that could be enacted. We continue to find it difficult to program sufficient monies for operations and operational improvements rather than earmarking all funds for construction and relocation. I do not believe our nation can continue to answer its highway deficiency always through new construction. We do not have sufficient economic resources for such an extravagant program and must begin to answer these needs through the utilization of the tools of the traffic engineer to effectively raise the level of service of all street networks.

### *Objectives of TOPICS Program*

The TOPICS program was developed to accomplish this:

1. Channelization of intersections to reduce accidents and create a more orderly flow of traffic.
2. Marking of lane lines, stop lines, turn lanes, parking spaces.
3. A delineation of center continuous left-turn lanes.
4. Restrictions of parking to increase capacity and safety and the level of service.
5. The upgrading of inadequate traffic control signs.
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7. The installation of a more sophisticated traffic control system.
8. The construction of bus space.
9. The establishment of one-way streets.
10. Construction of reversible lanes.
11. Separations and channelizations of intersections.
12. Construction of pedestrian overpasses and highway and railroad grade separations.

### *TOPICS Monies Make Big Advancements Possible*

As one reviews these various elements of the TOPICS program, it becomes apparent that this program embraces the known tools of the traffic engineer and provides funds to be expended on these improvements.

Insufficient funds is one of the major problems that has faced the traffic engineer. In my opinion, in many instances the traffic engineer has been required to operate on peanuts. Peanuts may be wonderful for monkeys but they purchase few traffic control devices. Therefore proper funding is essential. Since the TOPICS program has been funded, I think the traffic engineer now has the greatest opportunity to make advancements in the history of our country.

*Traffic Engineers Should "Turn On"*

However for the program to succeed, the traffic engineer must have a better understanding of his community, its people and their motivation. I believe very strongly that the traffic engineer must be an active participant in his community, in civic affairs, political affairs and business affairs. We certainly cannot stop presenting our community with answers to problems. We must follow through until accepted. No solution is any better than your ability to sell it.

As we embark upon the TOPICS program there will be many instances where recommendations will bring controversy. As a practicing traffic engineer, I know that most of our recommendations are controversial. If one expects to be a candidate for the Nobel Peace Prize, he should seek some other profession — certainly not traffic engineering. It is extremely important that the traffic engineer, his boss, the city council, the state highway commission and other involved citizens understand that traffic engineering programs and improvements are of a controversial nature. Money alone can not answer all of these problems but money with a well defined plan of action and good public relations can get amazing results. Through the TOPICS program we have been given a new source of money. Through our own abilities and initiative we must augment this with technical know-how and salesmanship to accomplish our program. It is my own personal conviction that we will succeed so that a major part of our future transportation will be the automobile. The highway is a major component to our transportation system and it shall continue to perform an extremely important role in transportation in this nation.