

The City Engineer as Traffic Engineer

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“Should the City Engineer be the Traffic Engineer?” It is the feeling of the author that there is definitely a condition where the city engineer should not be the traffic engineer. This, of course, is when a city is of such a size that its transportation network becomes so complex that it requires the full time of one or more persons to cope with the constantly arising problems.

This was recognized by the President’s Highway Safety Conference Committee on Engineering when they recommended that the following be established:

- (a) “In cities having more than 100,000 population, a traffic engineering unit comparable in authority and influence to other major divisions of the department of public works or a corresponding organization.
- (b) “In cities having between 50,000 and 100,000 population, at least one full-time traffic engineer vested with sufficient authority to insure the adoption of appropriate engineering measures for traffic operation and safety.”

How does it work out if these criteria are applied to Indiana where we have a size distribution as follows:

- 1 1st class city—over 250,000
- 15 2nd class cities—over 35,000
- 6 3rd class cities—over 20,000
- 20 4th class cities—over 10,000
- 66 5th class cities—between 2,000 and 10,000

Of these 108 cities and towns, only ten have a population of 50,000 or more and 98 have a population of less than 50,000. This means that 90 per cent of Indiana’s towns and cities are not in the categories mentioned above. However, the committee made a third recommendation covering this 90 per cent. The committee recommended that there should be available:

- (c) “In cities having less than 50,000 population, an engineer, preferably the director of the department of public works, the

city engineer, or some member of his staff, with qualifications and experience necessary to perform the functions of traffic engineer.”

This statement says, in effect, that an engineer should be made responsible for performing the functions of traffic engineer in these smaller cities and towns. In most of these cities and towns, this can only mean the city engineer. But, why should it be the city engineer, or any engineer, for that matter? There are several departments that have a major interest in a community's traffic problems. In addition to the engineering department, the street department, the police department, and, in some communities, the electrical department spend much time and money on traffic problems.

Consider for a minute what the state statutes say with respect to the duties of the city engineer. They simply state that he shall be responsible for all phases of engineering within the city. Now consider the duties of the traffic engineer. Traffic engineer as defined in “Traffic Engineering Guide for Cities Under 50,000 Population,” prepared by the National Safety Council, which is a paraphrase of the official definition of the Institute of Traffic Engineers, is as follows: “Traffic engineering is the phase of engineering that deals with the planning and geometric design of streets, highways, and abutting lands, and use of streets and highways for safe, convenient, and economical transportation.”

So we might say that traffic engineering deals with streets—their planning, geometric design, and use. Since this coincides completely with the duties of the city engineer, it should be agreed that traffic engineering logically becomes an integral part of the total responsibility of the engineering department of the smaller community with the other departments mentioned playing a vital part in developing a safe, convenient, and economical transportation system for the community.

When a city engineer assumes the responsibility of traffic engineering, he acts as the coordinator of the four phases of the street operations carried on by the city—street development, street construction, street operation, and street maintenance.

In street development, the engineer is responsible for the collection of traffic data, programming of plans, developing a thoroughfare plan, developing and carrying out street improvement programs, supervising record keeping of physical condition and history of street, inventory of traffic control devices, and parking.

In street construction, the engineer must be responsible for street design, both geometric and structural. He must be responsible for con-

struction standards and design criteria. He must be responsible for obtaining data for street construction (topographic information and cross sections). The actual street construction is also his responsibility. This is one of the most important functions of all because if streets are not properly constructed, all other plans for that street go out the window.

Consider street operations. The engineer is responsible for all functions of street use, including the installation of traffic control devices, location and timing of parking areas, design and location of information signs, issuance of construction permits, approval of parade routes, and in some cities, the design and location of street lighting facilities.

The fourth and final area of responsibility for the engineer is street maintenance. This includes all street repair, both minor and major. If other work is done properly, minor street repair should be held to a minimum. Major street repair is a somewhat different matter, because it may consist of the complete rebuilding of a street or perhaps a major program of street improvement.

Although the engineer may be responsible for these areas of the total street picture, much of this work is actually done by the various other departments previously mentioned. However, for the street system to function to the best advantage of all the many facets of the community, the work of these departments must be coordinated. There are probably numerous ways to do this, but I will try to tell you how it is done in our city. The first thing that is necessary is to begin by adopting the model traffic ordinance or an equivalent ordinance. This provides the two basic tools that make it possible for the city engineer to function as traffic engineer in an efficient manner. First, it sets up by ordinance the office of City and Traffic Engineer and second, by ordinance it sets up a Traffic Commission. It is through this traffic commission that the interdepartmental coordination really develops.

The commission usually meets once each month and is made up of the various department heads, plus seven or eight qualified citizens. At these meetings traffic difficulties and problems are discussed together with any anticipated traffic problems or changes. These problems are usually referred to the traffic engineer for study and recommendation. Any citizen having a traffic problem is welcome at these meetings to discuss his problem. As a result of such meetings all department heads become familiar with the problems and are more willing to cooperate with the traffic engineer when they understand the reason they are asked to do a job. When they understand the situation they become more interested and are more likely to present their ideas and make their feelings known.

In West Lafayette the traffic commission meetings have been instrumental in bringing all department heads closer together and have made for better cooperation in other city functions.

We do not have an elaborate system of inter-office communication, but hardly a day goes by that the street commissioner or traffic captain and I do not go to inspect a situation. From these meetings and discussions, our observations and decisions are taken to the traffic commission meeting where they are considered, if time permits, and a final decision reached. If an ordinance is required, the commission forwards its recommendation to the council for action. In all of these proceedings the city and traffic engineer is available to present the case for the traffic improvement.

This brings us to some of the advantages of the city engineer acting as traffic engineer in the smaller communities.

He is a member of the Board of Works. His ideas and feelings, by the position he holds, at least get a hearing; whereas a traffic officer who might have just as good or even better ideas would never be heard if his superior was indifferent to traffic engineering or hostile toward the individual. Also, the board is responsible for the issuance of most permits. This gives the engineer a voice in controlling curb cuts, pavement cuts, etc.

The city engineer is also responsible for the issuing of building permits by the building inspector. This gives traffic engineering principles another opportunity to be incorporated in construction. As a member of the Plan Commission, the city and traffic engineer is in a position to do much toward seeing that good traffic engineering practices are carried out in all future planning.

One last point is that the city engineer seems to be the only real friend of residential street design. Traffic engineers are often too busy with the major arteries, free-ways, expressways, and toll roads to give much thought to the residential streets. Some basic standards have been adopted, but little thought is given to residential streets by any traffic official when a subdivision is presented to a plan commission for adoption, except to relate it to the thoroughfare systems. For example, the traffic engineer and FHA think cul-de-sac streets are the answer to a prayer. But ask your street commissioner or fire chief how he feels about them. Another example is the location of utilities in the street. You say this is not a traffic matter. It becomes one awfully fast when a street must be closed to fix a water line or gas line leak.

A city engineer as traffic engineer is aware of these problems and should welcome the opportunity to use his influence to see that good traffic engineering principles are followed at all times.