



COMPREHENSIVE SERVICES

*Hubbell,
Roth & Clark, Inc.*

is a professional organization providing comprehensive engineering services. Our Transportation and Traffic Engineering expertise allow us to address problems of urban traffic congestion, traffic safety, and highway design. We provide assistance in transportation planning, design and operations. Other services of the firm include:

- ◆ *Municipal Engineering*
- ◆ *Civil & Site Engineering*
- ◆ *Wastewater Treatment*
- ◆ *Underground Storage Tank Replacement Engineering*
- ◆ *Water Treatment & Distribution*
- ◆ *Industrial Waste Treatment*
- ◆ *Industrial Engineering*
- ◆ *Storm Water Control*
- ◆ *Surveying & Mapping*
- ◆ *Electrical Engineering*
- ◆ *Street & Parking Lot Lighting*

What is a Traffic Engineer and why should I hire one?

The classical definition of traffic engineering is "the safe and efficient movement of people and goods from one place to another." This may be the basis of the profession, but in this day of public participation, road rage and more lawyers than good tort cases, it hardly is all encompassing.

Traffic engineering really is the customer service portion of the street and highway system. The traffic engineer is the one who performs most of the customer contact, many times one on one with an individual, or one on many while attending various public meetings. He or she is in a unique position to understand what the traveler desires and how to translate that desire into reality.

The traffic engineer is the person who provides the link between the public (the users of the highway system) and the owner (usually a government agency). He is the one who has the education, training and experience to be able to estimate what traffic volumes may be in the future, given certain types of development. These estimates are based upon experience in other places along with the aid of some assorted computer models. He is the one who is able to take these growth projections and determine what kind of transportation

system will be needed. Will a highway system work? If it will, how many lanes will be needed? How many traffic signals will it tolerate before a free flow system is needed? Will the demand become so dense that some other type of transportation system will be needed, one that is capable of moving large amounts of people and/or freight?

The traffic engineer is the one who has seen traffic jams on the streets throughout his entire career, and has a good intuitive sense on how to take care of them. Sometimes it is a simple matter of a little bit of pavement here and there, reworking a signal or reworking the pavement markings, or adjusting the use of on-street parking. Sometimes he applies some flow theory and computer modeling to the problem. Sometimes he applies some of the experience and judgement that one picks up from working in the streets for a while. Sometimes the solutions are not so minor. A major infrastructure modification or extension is needed, and it will cost the owner a considerable sum of money.

The traffic engineer is also the person who deals with traffic accidents on a regular basis along with safety on the road. He deals with the abstract data



when working with the overall system, and identifying troublesome areas. Beyond that, he occasionally gets called to a scene to take care of some damaged equipment or set up temporary traffic controls. He also gets called by relatives and friends of those involved in traffic crashes, and by the media as the result of a high profile crash. In these instances, any accident, especially the results of a design compromise, can become a significant emotional experience.

The traffic engineer is the person who has experience and background with the theory behind traffic flow and human behavior. He knows how many vehicles can get through an intersection and how many lanes it takes to carry the demand. He has an understanding of how drivers think, what they are looking for, why they make some of the decisions they do, and why they exhibit some of the behaviors that they do. Undesirable behaviors can be the result of a misinterpretation of a traffic control device, the lack of credibility of the traffic control device, or in some cases, just plain arrogance on the part of the

traveler. In most instances, these undesirable behaviors are only a nuisance, but occasionally they cause accidents, injuries and death. This can create a substantial liability for the owner and/or the agency that is not aware of their influence upon the way people drive, walk and bike within their jurisdictions.

The traffic engineer is the person who gets the transportation system to work. He is the one who enables people to get from home to work, from home to school, from home to shopping and back again. He has the ability and the duty to keep the streets flowing smoothly and fairly safely for use by the public. When there is a problem, he has the ability to maintain the best level of service possible, and look at the system to see if some practical correction would be applicable.

Why hire a traffic engineer? The profession goes beyond merely reading a manual to determine the appropriate signs, signals, and pavement markings. It requires a specific type of engineering judgment. Any-

body can do that. The traffic engineer establishes the link between the traveler and the highway owner. He will make sure the facility fits the traveler's needs. He does indeed see that people and goods are moved safely and efficiently, but it takes more than just looking up some standards in the book or punching some numbers in the computer. It takes an understanding of efficient traffic controls, effective infrastructure and two way communications with the driver. It takes a traffic engineer, an advocate for the traveler.



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