

# OHIO, THE “START” OF IT ALL

by Fred Kaiser, P.E.

Did you ever wonder where Traffic Engineering got its start? It seems that ever since the beginning of time, people have been trying to solve the “traffic problem”. But Ohio was the first to put it on an engineering basis. Traffic Engineering is defined as that phase of engineering dealing with the safe and efficient movement of persons and goods on our streets and highways.

It all started back in 1904 when a State Highway Department was created by the Ohio Legislature. At the time, there were less than 10,000 vehicles in the State and the design, operation and maintenance of the Ohio’s rural roads was a local responsibility. At first the Department was just an advisory group. Then, in 1911 it took over the direct responsibility for construction of rural roads. At the time, about two thirds of Ohio’s roads were unpaved. Any traffic control or directional signing was supplied and erected by the local Automobile Clubs.

The first state highway map was published in 1912 showing a system of inter-county highways. Then, in 1921, Ohio was the first governmental agency in the United States to establish a Traffic Engineering Bureau. And to organize it and get it going, they selected a 37 year old man from Lancaster, Ohio, named Harry E. Neal to be it’s first Chief Engineer. Harry was a good Buckeye, receiving both his engineering education and a law degree from Ohio State. He was the first person in the United States to be appointed as a Traffic Engineer for either a city or a state. So, there is no doubt that OHIO WAS THE “START” OF IT ALL!

The purpose of the new bureau was to develop a system for marking the established state highways so that the constantly growing number of motorists could find their way around the state. This was accomplished by numbering the highways and designing the symbols, markers and directional signs needed to accomplish this goal. Later, warning and informational signs were added.

But that’s not all that was done by the new Bureau. In 1922, the state adopted Harry’s plan to paint a centerline along each State highway. This required the development of machines to apply the paint. Here again, the new Bureau pioneered, first with hand machines that could paint two or three miles a day, later with truck mounted machines that could paint ten to fifteen miles per hour.

In 1924, the Bureau was expanded to become the first Division of Traffic and Safety and the first Ohio Manual of Uniform Traffic Control Devices was issued. By then there were over one million registered vehicles in Ohio. The new manual was immediately accepted all over the nation and many of it’s designs were used as a model in other states.

How did our system of speed limits get started? Harry gets the credit for that, too. They date back to the late 1940’s when the Bureau came up with the idea of determining a speed limit by measuring the number of buildings fronting on a highway. This led to the 25mph speed limit in business areas where buildings were close together, and 35mph in more sparsely developed residential areas along a state highway. This took speed limits out of politics and gave some validity and consistency to them.

Harry was not the only one in Ohio who was in on the birth of traffic engineering. He had plenty of help from others such as Harold Eckerdt his assistant, Oakes Dudit who headed up the signing and marking operation, and other young fellows (at the time) such as Russell Dietz, George Fisher and Fred Tarbox. (Incidentally, Fred Tarbox is 93 years old and I had lunch with him in Florida in 2004.)

But, how about city traffic engineering? How did it get started in Ohio? Toledo was probably the first city in Ohio to have a traffic engineering organization. That city established a traffic engineering function in 1938 in its police department and hired Paul Robinette, an architect from Bluffton, Indiana to fill the job. He is believed to be the first traffic engineer registered in Ohio. Others were George Howie, who became traffic engineer of Cincinnati in 1949, and Herbert W. Woodling an Akron boy who became traffic engineer of Akron in the 1940's. A fellow from Detroit, Michigan, A.J. (Tony) Corrothers started Dayton's traffic engineering function in 1951. It was about that time that Jim Musick became City Traffic Engineer in Columbus.

The primary efforts of these early city traffic engineers were directed toward modernizing and interconnecting their signal systems to provide for progressive traffic flow. Motorists, used to stopping at most signals, were thrilled to be able to get successive green lights as they traveled along a city arterial. Previously, a signalized intersection was controlled by a single four-way head mounted on a span wire over the center of the intersection. These early traffic engineers upgraded signal visibility by installing dual signal heads on each approach to the intersection.

Another valuable contribution of these early city traffic engineers was the creation of one-way street systems in their communities. This was before the development and use of left turn lanes and turning phases. By making a pair of parallel streets one way, the capacity and safety of the system was increased substantially at very little cost to the community.

These were the people who, along with their successors, devised most of the traffic control devices that we use today. School flashers, center left turn lanes, twelve inch signal heads actuated signals, left turn phases and arrows, edge lines, stop bars, etc. They were the innovators, always looking for a better way to move traffic more quickly and safely. Believe it or not, they once tried an 18 inch lens but that didn't work-- the head was too heavy. But most of the techniques they developed were successful and are still being used to handle the 12,000,000 vehicles we now have in Ohio.

Although I knew most of these traffic engineering innovators personally, I do not know much about the history of traffic engineering in their individual communities. So how about someone out there letting us all know how traffic engineering got started in YOUR city or county. What was the START OF IT ALL in your community?

Sources:

Gwen Roberts, ODOT

Fred Tarbox, ODH

ITE Headquarters Library