

# Signing of the Interstate System in Indiana

FLOYD KLINE JR., Engineer of Traffic Regulations  
State Highway Department of Indiana

The Interstate system in Indiana will contain approximately 1,100 miles when it is completed. The routes include: Interstate 64 from Vincennes to New Albany, about 104 miles; Interstate 65 from Jeffersonville to Indianapolis to Hammond, about 277 miles; Interstate 69 from Indianapolis to Angola and the Michigan state line, about 157 miles; Interstate 70 from the Illinois line west of Terre Haute to Indianapolis to the Ohio line east of Richmond, about 153 miles; Interstate 74 from the Illinois line southwest of Covington to Indianapolis to the Ohio line northwest of Cincinnati, about 171 miles; Interstate 80 and 90 from the Illinois line in Hammond to the Ohio line east of Angola, about 152 miles; and Interstate 94 from the Illinois line in East Chicago to the Michigan line northeast of Michigan City, about 51 miles. There will also be a circumferential route around Indianapolis numbered Interstate 465 and it will be about 50 miles long. Interstate 265 will run from Interstate 64 to Interstate 65 north of New Albany and Jeffersonville and will be about 8 miles in length.

When we first discovered that the Division of Traffic Engineering would be responsible for letting contracts on Interstate signing, we decided that the best way to get started, would be to find out what the other states and toll road authorities were doing.

We wrote letters requesting they send us any information which might be of help in developing specifications and plans for sign contracts. We received material from the states of Illinois, Ohio, Kentucky, Michigan and Colorado and from the New York Thruway, the Illinois Tollway and our own Indiana Toll Road. We have since received additional material from the states of Iowa and Missouri and from the Connecticut Turnpike. After reviewing the different methods employed we came up with a plan similar to that used by the Indiana Toll Road.

In developing our specifications we used material received from the various states and toll roads and from many material suppliers. After about six months preparation we had our first traffic letting on January 28, 1959. These projects are presently under construction.

One project is on Interstate 65 near Lebanon, more commonly known as U.S. 52 (Lebanon Bypass). This job is 6.24 miles long and has three interchanges and one exit. Two of the interchanges are of the diamond type and the other a jug handle or trumpet type. The exit at the North end of the bypass is somewhat peculiar in that traffic leaves from the left side of the thru roadway. There are some 1,100 sq. ft. of small signs (20 sq. ft. and under) and 4,500 sq. ft. of large signs which make a total sign area of 5,600 sq. ft. The contract price for this job was \$50,868.43. This makes the cost per sq. ft. of sign area come to \$9.08. There is one 50 ft. overhead sign structure and 17,000 lbs. of structural aluminum included in this contract. The overhead structure will be an aluminum box type truss located in advance of the left exit. The structural aluminum will be in the form of I-beams to be used as posts for ground mount signs.

The other project let in January is on Interstate Routes 80 and 90, commonly referred to as the TriState Highway. This job is 6.39 miles long and has five interchanges. Three of the interchanges are full cloverleaves, one is a half cloverleaf and the other, half a diamond. There are some 1,700 sq. ft. of small signs and 8,500 sq. ft. of large signs making a total sign area of 10,200 sq. ft. The contract price was \$120,715.39, which makes the cost per sq. ft. amount to \$11.83. There are 7-90 ft. overhead sign structures and 20,000 lbs. of structural aluminum included in this contract. The overhead sign structures cost almost \$7,000 apiece.

We are preparing plans and specifications now for two more sign projects which we hope to let early this summer. One job will be on Interstate 74 (U.S. 421) from Shelbyville to Indianapolis. It will be 19.57 miles long and have six interchanges of various types, none of which will have more than one exit from the interstate route. There will be about 1,600 sq. ft. of small signs and approximately 5,150 sq. ft. of large signs. There will be no overhead structures. The other project is on Interstate 65 (U.S. 31) from Jeffersonville to Underwood. It is 19.24 miles long and has five interchanges. It will have 1,300 sq. ft. of small signs and 5,900 sq. ft. of large signs. There will be no overhead structures since all interchanges will have but one exit from the interstate route and no other conditions exist which warrant such an installation.

A third contract which will be let later in the summer is also on Interstate 65 (U.S. 31) from Underwood to 1.24 miles north of U.S. 50, east of Seymour. This job will be 28.87 miles long and five interchanges. One interchange will be a full cloverleaf, one a half cloverleaf, and the other three will be diamond type. There will

probably be four overhead sign structures at the interchange of U.S. 50 and Interstate 65 east of Seymour which will be a full cloverleaf.

We have two other small sign projects started. One of these is on Interstate 65 (U.S. 52) running south from the Lebanon Bypass. It will be 6.10 miles long and have two diamond type interchanges, one at SR 267 and the other at SR 334. The other project is on Interstate 74 (U.S. 136) from the Illinois line, east 9.26 miles to a point just west of present U.S. 136, southeast of Covington. It has two interchanges, one with relocated SR 63 and the other with the main county road coming south out of Covington.

A variety of material will be used on our first two sign projects. Our small signs will be made of sheet aluminum. This includes all regulatory and warning signs on the Interstate system. The regulatory signs will be 4'x5' with the exception of the Yield Right of Way sign which will be 5'x5'x5'. Warning signs will be 4'x4'. These signs will have a reflective sheeting background with the message screened on or cut out.

Our large signs will be made of extruded aluminum panels. These will be 6" and 9" interlocking type panels mounted horizontally. They will have a reflectorized background which will be interstate green in color. The copy of all large signs will be a demountable type in order to simplify maintenance and reconditioning.

Posts for small ground mount signs will be green baked enamel channel posts fastened back to back, commonly referred to as piggy back posts. There are a few small signs on the cross road which require only a single channel post.

Posts for large signs will be aluminum I beams in order to eliminate as much maintenance as possible. All posts except the single channels will be imbedded and have concrete footings varying in size from 1' in diameter by 4' deep for piggy back posts to 2' in diameter by 9' deep for a 12 inch I beam.

Delineators will be plastic reflectors mounted on channel posts set at the shoulder edge. There are actually three types that will be installed. The single white unit will be used continuously along the right side of through roadway of the interstate route. These will be placed every 200 feet. The double amber unit will be used on all interchange ramps, and will be spaced every 100 feet. The triple unit will be placed at the end of all acceleration lanes.

There will be no mileposts installed on these two projects since the system has not progressed sufficiently enough to allow accurate posting. When posting is done, numbering will begin at the West

and South ends of all routes. Mileposts, when erected will be placed at the shoulder edge and will have reflectorized mileage numbers 6" high.

Overhead structures on the two projects will be made of aluminum in order to have as maintenance-free a structure as possible.

Each quarter we publish our "Status of Plans" report which contains information pertinent to each project, such as project number, location of the job, its length, where the interchanges will be located, road construction completion date, status of sign plans and the various road projects included in each sign project. Our first sign projects cover anywhere from two to six road projects. This report is distributed to keep people in our department abreast of progress being made in developing sign plans.

By the end of this year we should have under contract all those sections of the Interstate which are presently under construction and which will be open to traffic by the end of this construction season. After we have caught up with road construction, our sign projects will necessarily be smaller since they will have to cover whatever portion of the route that will be opened to traffic. When this happens small projects will probably be combined into one contract in order to secure more economical bids.

Since sign installations are an integral part of the Interstate highway facility they are being planned concurrently with the development of location and geometric design. Plans for signing must be analyzed during the earliest stages of preliminary design because neglect to do so could result in physical layout that would become plagued with chronic operating difficulties.

The cost of an up-to-date, effective signing system is but a minute fraction of the total facility cost. Our experience so far has indicated that this cost will be roughly one per cent of the total construction costs. The difference in cost between mediocre and excellent signing is negligible and if sign installations are going to be commensurate with the superior traffic services offered by the Interstate Highway System, then nothing short of excellent signing will suffice.