

# Planning Interstate Projects in Relation to County Roads

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The Interstate System was first conceived as a strategic network immediately after the end of World War II, when it was realized that should our country come under attack at some future date, it would be vital and necessary, for defense purposes, to have a connecting link between our major cities and between our military establishments. Over 300 cities of 50,000 or above population will eventually be connected by this giant network of roads, which is, by the way, the largest single construction project ever attempted in the history of mankind. The System would then be available for transporting military troops and vehicles from location to location. It would also serve as a means of evacuating civilian populations from distressed areas.

But, in view of the fact that local traffic problems have increased so rapidly, and are becoming more and more complex daily, another function of the Interstate System is to provide a free flowing highway for the accommodation of, not only interstate, but other through traffic movements such as local movements—farm to market, job to home, industrial requirements, etc.

The last statement can be emphasized by pointing out that in 1928 we had 875,000 vehicles registered, in 1950 that number had increased to over 1½ million and in 1960 it had reached 2¼ million. With that rate of increase we feel that by 1970 there will be 3 million and by 1980, 4 million registered vehicles in this state. That is why we are looking to the future in the design of the Interstate System.

The total national picture will amount to about 41,000 miles, and Indiana will get about 1,121 miles of that figure including 157 toll road and 964 freeway miles. This is an ambitious program overall, because it is currently planned for completion in 1972. To-date Indiana has completed 198.4 miles of the System with 32.7 miles complete but not yet usable. Another 59.4 miles are under actual construction, with 440.7 miles either in the process of R/W acquisition or under design. This means that, counting the 156 miles of toll

road, we can give an accounting for over 888 miles of the total, with less than 225 miles yet to be undertaken. These figures are as of January 1, 1963.

Let us look briefly at the Interstate Program in Indiana.

First, in the southwestern portion of the state of Indiana is located the route we have designated as Interstate Route 64. It originates in Newport News, Virginia, enters the state at New Albany where the new bridge is already completed there and in operation. I.R. #64 would leave the state 6.7 miles north of New Harmony. The bridge there is already under design. The road would eventually terminate at St. Louis, Missouri.

Interstate Route #74 originates in Cincinnati and terminates at Des Moines, Iowa. It enters Indiana in the northern part of Dearborn County. Great portions of that route are already open. It would leave the urban area of Indianapolis on the west side in the Brownsburg area and would eventually leave Indiana just north of Covington on the Illinois line.

Interstate Route #69 originates in the Michigan area near Battle Creek and would enter Indiana near Angola, interchange with the Indiana Toll Road and would, of course, project southward around Fort Wayne, Muncie, Marion and Anderson; insofar as we know today it will terminate with I.R. #465 in the Castleton area.

Across the northern part of our state is the location of our famous 156 mile Toll Road. The western portion of the Toll Road has been designated as I.R. 94 and the eastern portion designated as I.R. 80 and 90.

In the northwest portion of Indiana is located the Tri-state Highway which connects Illinois, Indiana, and Michigan. The western section of this route has been designated as I.R. 80 and 90 with the eastern portion numbered I.R. 94.

Traversing the length of Indiana is one of the most important of our interstate routes. It originates in Indiana at the East boundary of the City of Gary and connects the Tri-state and the Toll Road, projects southward around Rensselaer, Lafayette, and in through the northwestern sector of the urban area of Indianapolis. This route known as I.R. 65 comes into and through the downtown area of Indianapolis and would eventually leave the state at Jeffersonville, and terminate at Mobile, Alabama. Great portions of this route are already open.

Around the urban area of Indianapolis is the route of I.R. 465 as we have it designated. It travels only in the metropolitan area for a total distance of just under 52 miles.

Interstate Route 70 originates in Pittsburgh, Pennsylvania, and traverses across a corridor through Pennsylvania, Ohio and enters into Indiana just north of Richmond. This one also traverses a corridor through the downtown area of Indianapolis. It would leave the city of Indianapolis near Valley Mills and on the west side it travels south of U. S. 40. It is 154.2 miles long in Indiana.

I.R. 70 would leave Indiana near Terre Haute and is planned to terminate at Cove Port, Utah, as it traverses a corridor over 1,000 miles long. It is one of the most famous of our east-west interstate routes.

In the Falls Cities area is located I.R. 265 which will serve as a connector between I.R. 65 and I.R. 64.

Near Lawrenceburg is located Indiana's portion of I.R. 275 which is the circumurban route for the metropolitan area in Cincinnati.

Perhaps of interest might be some of the basic design details relative to interstate routes. There is currently proposed to be incorporated a wide, sloped earthen center median, which will serve as a divider for the dual-paved roadways, each a minimum of 24 feet in width. The prevailing reason for these wide dividers is that they will serve not only as efficient drainage facilities, but also will provide space for future additional traffic lanes should increased vehicular flow make this addition necessary. In this way the state will not have to come back and ask for more R/W.

R/W requirements are usually held to an average total of 230 feet outside of pronounced urban limits. But in some areas that figure could increase or decrease as conditions warrant. When other 230 feet is required it will be on those occasions where certain engineering problems relative to drainage, grade separations, frontage roads, bridge structures, rough terrain, or other technical phenomena exist. A great portion of the R/W will be fenced, a factor emphasizing the limited access nature of this type road. In other words, motorists may have access to interstates in designated and pre-arranged locations only.

Another point—encroachments are not allowed within the R/W limits of these federal roads. This means motels, gas stations, restaurants, even billboards. Through traffic will have to exit at these designated interchanges to obtain supplies they might need.

Safety-wise, these roads are designed so that all traffic on a pavement flows in the same direction. There are no at-grade intersections and no stop lights. Eliminating cross traffic and railroad crossings make for faster and safer travel. It also eliminates stop and go driving. These are some of the ways that we can cut down on accidents and high

death rates on our highways. The statement has been made by experts that 6,000 lives yearly will be saved when the Interstate System is completed.

It has also been determined that the motorist saves at least a cent a mile traveling on the Interstate System, and that he averages at least 20 MPH more in speed. This, of course, saves dollars as well as many, many hours of travel time.

There is no county in Indiana that will remain unaffected by the change in travel habits that the Interstate System will bring about. In those counties traversed by an interstate route, the effects will, of course, be greater than on the counties farther removed from the freeways.

Many county roads feeding traffic to or from the access points on the interstate routes will require improvement. Certain county roads will be relocated and others terminated at the right-of-way lines of the freeways. School bus routes and possibly school districts may have to be modified. Rural postal routes will undoubtedly be revised. Fire and police protection districts may require changes also. All of these changes will bring about problems for local governmental officials as well as for the State Highway Commission. This makes planning necessary in all levels of government if the adverse effects of the changes are to be minimized and the greatest possible benefits are to be realized from the new facilities.

Certain criteria have been established concerning treatment of intersecting county roads and the determination of points of traffic interchange between the interstate routes and local or state roads. Many of these criteria are based on the economic fact that it is not financially possible to provide numerous interchanges and cross road grade separations. The financing of both the federal government's 90 per cent share and the state's 10 per cent portion is on a pay-as-you-go basis from receipts from such road users taxes as gasoline tax, vehicle registration fees, operators license fees, excise taxes on motor vehicles and supplies, etc. For this reason, the economic justification for each interchange and cross-road separation must be carefully analyzed before its' construction can be approved.

Interchange costs vary from approximately \$250,000 for the rural diamond-type interchange, to the much more costly directional interchanges required in heavily populated areas. Cross-road separation costs vary from \$140,000 to \$225,000 with the average cost being about \$170,000.

Established guide lines require an average distance of four miles between interchanges in suburban areas and an average of eight miles

between interchanges in rural areas. If this requirement is to be met, there may be many instances where interchanges will be 12 to 15 miles apart in rural sections.

Traffic counts have been taken on all roads intersecting the proposed interstate routes, and additional counts are being made as the design of the various portions of the routes is undertaken. A benefit/cost ratio is developed for each road considered for a separation. This ratio is, as it states, the relationship between the costs of building the grade separation divided into the benefits that the facility will provide. These benefits are based on savings in costs of operation of vehicles and time, over that if the traffic were rerouted onto alternate roads. Likewise considered is the matter of overall equalized spacing of separations and the traffic circulation pattern of the area. Generally speaking in most parts of Indiana the network of roads is such that unless the cross-road is carrying traffic well in excess of 100 vehicles per day, the construction of a grade separation is not feasible. This of course is not a hard and fast rule, since some roads carrying less than that amount of traffic may be vitally important in certain counties while roads carrying over that amount may not be vital links in the county road systems of other parts of the state.

It is now the policy of the Highway Commission and a requirement of the U. S. Bureau of Public Roads that the access control (i.e., interchange locations), cross-road separations and closures, and the location of frontage roads be discussed with the county officials before the interstate route construction will be undertaken.

As might be expected, there is often honest differences of opinion among the U. S. Bureau of Public Roads, the Highway Commission, and the Board of County Commissioners as to need for additional separations and interchanges; or as to the proper choice of locations for the suggested separations. Where agreement can be reached the commissioners are requested to pass a resolution approving the access control for the route across their county. Since every road is of importance to someone, it is recognized that the Board of Commissioners' approval to modify their road system quite often places them in an unpleasant relationship with the very people to whom they must look for re-election.

On each segment of our interstate routes, a public hearing must be held. At these hearings, which often are prior to the time that the access control discussions are held with County Officials, representatives of governmental units, industrial and commercial organizations, service and fraternal clubs, as well as interested individuals are given the

opportunity to make statements concerning the planned improvements. Incidentally, this type of public hearing is being held in connection with virtually all of our planned road improvements and not on interstate routes alone. The testimonies of those attending the hearings or the exhibits submitted to be attached to the transcript of the hearing are reviewed by the Highway Commission and the U. S. Bureau of Public Roads for information which will aid in the proper design and construction of the proposed improvement.

While present efforts are being concentrated on the completion of the Interstate System as originally planned, there is a definite recognition of the fact that changing local conditions in many instances will require the construction of additional separations and interchanges as additional funds do become available. Likewise, it is the current opinion of highway officials that the 41,000 mile Interstate System itself will be expanded after the originally planned routes are completed.

No system of highways, be it city street system, county road system, state road system, or the Interstate System stands alone. Any action to make improvements on any link of any of these has an effect on all other links on all other systems to a greater or lesser degree. The need for co-operative planning is becoming day by day more critical. Two important events in the field of co-operative planning have occurred in the past year.

In September of 1962 Governor Welsh sent letters to the Boards of County Commissioners and the mayors of cities of over 50,000 population in Indiana. The text of the letter was as follows:

“As you know, during the past 18 months the Indiana State Highway Commission has sought, through every means at its disposal, to work in close cooperation with the elected officials and the general public in each community throughout the State. It is our belief that enough progress has been made in this direction to indicate that the communities of Indiana should be consulted more closely and have a more direct part in the Highway Commission’s construction and maintenance program planning process.

“To this end, I am requesting that you develop a 15 year road program for your area. I suggest that you may want to consult with, or even form a committee of, representatives of various groups and organizations vitally concerned with roads, so that the program you develop will have the broadest possible base of public acceptance.

“I suggest further that, in consultation with members of your community, you develop a list of projects *in order of priority* so

that the State may be informed fully and officially of the future road needs of your community and adjust its planning accordingly.

“As you recognize, I am sure, this will permit the State Highway Commission to program more equitable road and bridge construction in the various areas of the State.

“You will want to consult with specialists in the State Highway Commission before you complete your plans. I have instructed them to work cooperatively with you, furnishing you the results of their experience and studies of needs in your area. In addition, I suggest that your comprehensive road program should include not only those traffic arteries which the State constructs and maintains, but purely local roads and bridges as well. In this way, there will be realized a truly comprehensive and integrated program of county, city and state roads to serve better the needs of the motoring public.

“It is my hope that through the development of such a program, with local communities and their leaders taking the initiative and with local interest groups consulted fully, the State’s highway program in future years can become far better integrated with local needs, desires and planning than has been possible in the past. It is imperative that the State become fully aware of community planning and its effect on possible road locations.

“It is my earnest desire, and I believe it will be the desire of Governors to follow me, that the State Highway Commission work even more closely and harmoniously with communities throughout the entire State.

“I trust that you share with me approval of this State Highway Commission program for cooperation with your community. It is my hope that in the relatively near future you will be able to formulate your proposed comprehensive plan which may then become the basis for the development of a more formal agreement between the State Highway Commission and your community involving the establishment of an over-all road program.”

It should be pointed out that the request is for information not only of priority of needed improvements on the State Highway System but included local road and bridge programs as well. Also the request states that the programs should be the result of consultation with the various members of the community and not be the result of any “special interest” group.

The State Highway Commission in cooperation with the U. S. Bureau of Public Roads is in the midst of a re-inventory of county and state highways, the first such inventory made since 1937. The

complete data, punched on IBM record cards, have been assembled for nine counties. Office coding and validity checks have been completed on an additional 13 counties. The drafting of index maps is completed in 38 additional counties; the field data collection completed in 24 additional counties. This leaves but eight counties in which work is yet to be started. Revised general highway transportation maps have been developed for 60 counties. It is anticipated that this re-inventory project will be completed in about 18 months, with a periodic review in future years to keep it up-to-date. Arrangements can be made with Indianapolis firms for copies of the General Transportation Maps, and for the reproductions of the inventory cards, after the cards are properly checked and coded. You should await the completion of the inventory in your county, before obtaining copies of the data, since once the information is placed on IBM cards the reproduction of the data is a simple operation involving but little costs, while the photographic reproduction of the original written data is a more costly process.

Another important happening concerning the need for co-operative planning took place in the Congress last year. The 1962 highway act included a section stating that:

“It is declared to be in the national interest to encourage and promote the development of transportation systems, embracing various modes of transport in a manner that will serve the States and local communities efficiently and effectively. To accomplish this objective the Secretary (of Commerce) shall cooperate with the States . . . in the development of long-range highway plans and programs which are properly coordinated with plans for improvements in other affected forms of transportation and which are formulated with due consideration to their probable effect on the future development of urban areas of more than fifty thousand population. After July 1, 1965, the Secretary shall not approve . . . any program for projects in any urban area of more than fifty thousand population unless he finds that such projects are based on a continuing comprehensive transportation planning process carried on cooperatively by States and local communities in conformance with the objectives stated in this section.”

The Act will essentially require all of the state's larger urban areas to develop a *transportation planning process*. If such a process is not underway in those designated areas by July 1, 1965, the Secretary of Commerce acting through the Bureau of Public Roads must suspend federal assistance for highway construction pending establishment of a planning process.



Establishment of a transportation planning process involves many time-consuming steps. It is important that communities without a transportation planning process in being, *begin action soon*.

This legislation states that construction projects must be based on a planning process "carried on *cooperatively by States and local communities*." Highways do not begin or end at city limits. Within an urban area, a single highway may come under the jurisdiction of two or more governmental agencies. Construction projects undertaken within a community—such as sub-divisions, shopping centers, sewers, etc.—will have a place in the making of transportation planning decisions. These factors all underline the importance of the various agencies of government working *cooperatively* in the development of the planning process.

To summarize, the Act means:

- steps should be taken *soon* to establish a transportation planning process in each of Indiana's larger urban areas
- Transportation planning must involve all *levels of government*
- Highway planning must be *coordinated* with other private and public construction planning
- transportation planning must be *continuous*

Well before enactment of the Federal-Aid Highway Act of 1962, the Indiana State Highway Commission took steps to become organized and staffed to work cooperatively with local authorities in planning urban highways. An Urban Planning Section was created within the Division of Planning for this purpose.

The creation of the Urban Planning Section has given the Highway Commission an improved means of consulting with local authorities on urban transportation problems in a *continuing basis*. In addition, section personnel have taken the initiative in explaining the provisions of the Act to local officials and have assisted in the establishment of several "*coordinating committees*."

These "coordinating committees" generally have the responsibility of *determining and coordinating policy* involved in the establishment of a planning process. Membership varies from area to area but each has a representative from the larger municipalities, the County Commissioners, Plan Commissions in the area, the State Highway Commission and the Bureau of Public Roads.

Fort Wayne-Allen County has agreed to serve as a "*pilot study city*" for Indiana. Techniques and procedures used in the development of the Fort Wayne-Allen County transportation planning process probably

can be adopted, with certain changes, in other urban areas in Indiana. It will also provide training for personnel who will be engaged in the organization and development of the planning process in other areas.

Indiana has made a good start toward the establishment in urban areas of a "continuous comprehensive transportation planning process" but it is only a start. All levels of government with jurisdiction over streets and highways in Indiana must keep in mind these key words relating to the planning process:

cooperative,  
 continuous,  
 comprehensive.

The language of the Act speaks of "urban areas of more than 50,000 population." The implication is that city limit lines do not mark the end of an "urban area" and suburbs and semi-urban areas surrounding cities *may* also qualify under the intent of the Act.

Cities which, according to the 1960 census, have a population of 50,000 or more are: Indianapolis, Gary, Fort Wayne, Evansville, South Bend, Hammond, Terre Haute, Muncie, and East Chicago.

Three of these cities are in the Calumet Region, which for the purposes of the Act, may be considered by the Secretary of Commerce as a single urban area. The region may also be considered as a part of the Chicago Metropolitan Area.

Precedent for the interstate concept has already been established in Indiana. Clark and Floyd counties, and several cities within these counties, have joined with Louisville, Kentucky, to undertake a transportation study of the Falls Cities Region.

Pending the Secretary's definition of an "urban area," the possibility of all of Indiana's second class cities falling under the provisions of the Act cannot be overlooked.