

PROGRAMMING URBAN IMPROVEMENTS ON THE STATE HIGHWAY SYSTEM

by

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This is a subject that within highway circles has been and is "prime target" for much discussion, agreement and disagreement, variation in policy and procedure, and additional research. Certainly programming is not new, and the fundamentals of programming highway improvements have been practiced since the first road was built, perhaps not with the same degree of detail or as broad in scope and consideration, but, at least, on an informal basis.

Since the passage of the Federal-Aid Highway Act of 1956 there has been a dramatic growth in the volume of highway construction. The annual capital outlay by all levels of Government for construction of roads, streets, and bridges has reached about 7.5 billion dollars. About eighty percent, or 6.0 billion dollars, is devoted to improving State-administered highways. The task of planning, designing, acquiring right-of-way, constructing, and maintaining highways has evolved from a relatively simple task to a major undertaking requiring the most up-to-date and efficient management practices of which programming and scheduling are parts. Programs and schedules serve many purposes. They are the overall plan for effective investment of capital outlay for the extension and improvement of highway systems in an efficient and equitable manner.

Planning, programming, and scheduling are a continuous process. Each phase leads to the next, and the process of programming and scheduling is the link between planning and operations.

For the sake of uniformity in thinking about these terms as they are referred to hereafter, I would like to use the following definitions which are those used in the Bureau of Public Roads Highway Planning Technical Report.

Planning - The preparation for action. Planning involves examining present conditions, forecasting future conditions; then recommending the objectives and the course of future action and policies to attain the goals in light of the forecasts.

Programming - The process of stipulating the work to be performed in a specified period of time to accomplish the objectives set for that period, with due regard given to the relative urgency of the work. The end product is a documented plan for future highway improvements where-by projects are arranged in a logical sequence so as to most effectively use anticipated monies as they are available.

Scheduling - The process of developing a plan of operations to carry out the program. The process first involves breaking down projects into activities, setting, starting and ending times for those activities, determining the resources required to perform the work, then adjusting the times as necessary to balance the resource requirements.

Like everything else these days, highway planning has become more costly, more complex, involves more people, and is changing in scope and technique. The employment of specialists and application of new disciplines and methodology is necessary and part of the modern highway planning unit. The Kentucky highway planning and programming operation is becoming more "urban oriented" and more "people oriented" which -- I feel -- is as it should be. "Coordination", "cooperation", "comprehensive", and "continuing" are key words in today's highway planner's vocabulary, and their proper blending into an implemented plan of action is the hallmark of his success. Now, and most probably for some time to come, highway planners will be busy trying to cope with the large, varied, sometimes poorly planned, and often times vague, highway oriented programs which are given birth in our Congress; responsibility for their administration given to the Bureau of Public Roads - now part of the new Department of Transportation; then, and almost always, passed on to the State Highway Departments to do the work and carry out the intent and directive of the Congressional Act. This is the basis of our Federal-aid programs for which we are very thankful, and the Federal-aid programs represent a large share of the total programming of a highway department.

The most vital land areas in this country are the urbanized areas where increasing millions live, work, play, produce, trade, and consume. A generation ago, 80% of the people in this country lived in a rural-oriented economy. By 1980 it is predicted that the reverse will be true -- 80% of our population will be living in our urbanized areas -- on approximately 5% of our total land area.

In these areas, the most vital highways when related in terms of traffic volume, are the present and projected systems of express highways. These highways are, in most cases, being built and planned by State Highway Departments with the approval of the Bureau of Public Roads and generally as segments of the Interstate system. It is my observation that Metropolitan areas themselves follow no such clear cut procedure. They are built mainly by multiple private enterprise and planned usually by the summation of separate plans by various planning groups.

During the past several years there has been a general acceptance of the inter-relationship between transportation facilities and urban development and growth. This has been fostered and reinforced by technology which has been developed and tested by professionals in both the fields of highway and city planning who have recognized the need to integrate both processes. The corollary premise is that circulation patterns and land use patterns are interacting and future changes in either will affect the other. This does not mean that land use planning should be done by highway engineers nor highway planning by city planners, but there obviously needs to be collaboration and coordination.

Planning the land use pattern of an urban area cannot proceed with any degree of realism or hope of success if it is independent of or in ignorance of the highway system being planned for the area.

Likewise, decisions on route, type and capacity of highways, and locations of interchanges are dependent on projection of future origins, destinations, length, time, paths, and number of vehicular trips. This traffic forecasting depends upon assumptions as to factors that determine traffic flow, most importantly the land use patterns.

It is at the "network" scale of planning that integration is essential. The broad patterns of land development, and the main facilities of the total transportation network are the real interacting elements of consequence. It is therefore very important that highway planning be carried out on a "system" basis, and plans be developed to make the total system function rather than a series of uncoordinated projects.

With the growing recognition of the need to have coordinated programs in the urbanized areas, in October, 1962, Congress passed into law as part of the Federal-aid Highway Act of 1962 a new section 134 which reads as follows:

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 shall cooperate with the States, as authorized in this title, 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 under section 105 of this title 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.

In October, 1958, the first national conference on highways and urban development was held at Sagamore, New York and brought together for the first time city planners, transit representatives, local government administrators, and technical personnel, and the State Highway Departments. At that time, I am sure, it was felt there was a calculated risk in bringing these groups together, but it was apparent that this was a necessity. Final result of this conference was a set of "recommendations and findings" that proved to be very effective guidelines for going ahead with the Interstate Highway Program in urban areas. Products of the Sagamore conference were, also, the AASHO Committee on Urban Transportation Planning and the urban transportation planning process require-

ment of the Federal-aid Highway Act of 1962. Following the developments of the Sagamore Conference and the consequences of the 1962 Federal-aid Highway Act, there was a second national conference on highway and urban development held at Williamsburg, Virginia in December 1965. The objectives of this second conference were spelled out by a steering committee, and discussion was directed along lines and by recognized representatives in areas where discussion was felt to be needed. In general, these objectives would be:

1. To analyze the full meaning of the terms "cooperative" and "continuing" in both the Federal-aid legislation in 1962 and Bureau of Public Roads memos.
2. To explore what constitutes an adequate "continuing process" in an ever changing urban atmosphere.
3. How the process is to be used in implementing capital improvement programs.
4. To review the detail of planning, its cost, and determine if procedures might be simplified in the continuing operation.
5. To explore what are called added highway responsibilities, in addition to transportation, such as cultural, social, and economic.
6. To study the policy organizational structure of the planning operation.
7. To explore how to either get a formal or effective informal representation of the various levels of government making up the planning area.
8. Explore to what extent participation is necessary in the planning process to assure a concensus of the whole area.
9. Discuss what should be the proper role of the State Highway Departments in transportation planning and their decision making role in highway developments in urban areas.

This conference brought out many problems, objectives, and criticisms, as well as many challenges, that are real and which cannot be ignored. It is generally felt that the conference was successful in providing an interchange of ideas and viewpoints among the various agencies and disciplines operating in the urban areas and provided some guidelines for moving ahead with the highway program in these areas.

Needless to say, the impact of Section 134 of the 1962 Highway Act is being sharply felt in highway departments across the country. Under the 1960 Census, Kentucky has four areas falling under this provision of law.

1. Northern Kentucky which is part of the Cincinnati Metropolitan Area and now has the O-K-I Transportation and Development Study well underway.
2. The Louisville - Indiana area with a population of over 600,000, and transportation and development study to be initially completed by January 1st.
3. The Ashland, Kentucky - Huntington, West Virginia - Ohio urbanized area with over 165,000 population, and study underway, and
4. Lexington, Kentucky with a population of more than 120,000 and the transportation program here considered to be in the continuing phase.

Transportation studies have been made in 7 urban areas with populations under 50,000.

There are a total of 34 urban areas in Kentucky so defined as areas with a population of 5000 or more. These urbanized areas house approximately 1,200,000 of Kentucky's slightly more than 3 million total population. This represents about 40% urban.

In the newly designated responsible State highway network of approximately 24,000 miles which had been functionally classified by the Department, there are 632 miles in the urban areas. Of these miles, 368 are extensions of the rural Federal-aid primary system, and 264 miles are extensions of the Federal-aid secondary system into the urban areas.

Financially, the Department has approximately 2.5 million dollars of Federal funds apportioned annually to improve these urban miles. This is part of the approximately 16 million Federal dollars Kentucky receives annually to improve the Federal-aid primary, secondary, and urban systems. These are often referred to as the ABC funds.

With a functional classified system to work with; a Federal-aid apportionment as the basic financial resource; and needs established by urban transportation studies or, in the case of many projects, more simply by analysis of traffic and inventory data, the Department has the basic input from which to develop projects which will make up its urban improvement program. While the Department has not completed detailed studies from which a comparative analysis of all urban needs can be arrayed with relative priority, this is the goal of the Office of Planning and Programming in the Kentucky Department of Highways.

Thank you for your kind attention.