THE CASE FOR HIGHWAY PLANNING

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Unfortunately, these days, much criticism is being levelled from all directions at highway planning—or rather, what is alleged to be the *lack* of it. I say "unfortunately"—because these charges simply are not true.

Still, it is a fact that in many of the legal actions being pressed in courts around the Nation it is charged that there have been inadequacies in highway planning. Then, too, we hear it asserted that highway planning goes forward without accompanying land-use planning or that it is done in a vacuum, without regard to other modes. There are many more similar charges and I am sure you are familiar with them.

However, these critics are either misinformed—or they are uninformed. To put it bluntly, they simply do not know what they are talking about. It is because of these misconceptions and ill-conceived notions—and because the subject is so important—that I wish to discuss the entire subject of highway planning.

The transportation land-us planning process as we know it today is probably the most outstanding and successful of all planning programs, and its roots are firmly based in the longest continuing intergovernmental planning program in our history. I refer to the Statewide highway planning program established 37 years ago by the Hayden-Cartwright Act of 1934. That Act authorized the use of "1-1/2 percent funds" for physical and economic investigations required for developing a sound formulation for the planning of future highway projects and programs.

The highway planning process organized by the State highway departments, in cooperation with the FHWA, then called the Bureau of Public Roads, led to the physical inventory and measuring of existing highway systems and the traffic services which they rendered. These inventories and measurements gave us for the first time in history reliable data about our highway systems and provided us at the same time with related statistics on highway expenditures and revenues in every State, and collectively as a Nation. Without such fundamental information, we would have been unable to provide the necessary factual inputs to the national study leading to the famous 1939 report to Congress entitled, "Toll Roads and Free Roads."

This study, which was begun in 1937, by direction of Congress to Bureau of Public Roads Commissioner Thomas H. MacDonald, con-

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cluded that a national system of major highways could not be financed through tolls alone, although certain sections could be so financed. It recommended instead that a system be constructed to comprise "direct interregional highways, with all necessary connections through and around cities." This single statement, supported by the necessary facts, was the forerunner of today's great Interstate System. Your attention particularly is called to the words "through and around cities." More than 30 years ago, the highway planners of this Nation recognized the transportation needs of our cities and developed a program to aid in its solution.

That report of a generation and a half ago emphasized that "the location and design of transcity connecting streets, express highways and belt lines or bypasses is a matter that requires particular study of the physical and traffic conditions peculiar to each city." And although it was written 32 years ago—it is equally applicable today. It was almost prophetic, in fact, in this and other of its findings. It stated: "The facts derived from the highway planning surveys were especially useful in disclosing the general characteristics of highway traffic, which have an important bearing upon the estimation of the amount of traffic that would probably use the proposed super-highways . . ." and "In fullness and in accuracy the facts supplied for consideration in the investigation (by the highway planning surveys) are unmatched by the information elsewhere or to any person available. In the absence of these facts, this report would be far less definite in its conclusions, and less dependable in its authority." That last statement points up the quality of those early planning surveys—a quality which has been present in all subsequent planning for highways and transportation carried on by the States and the Federal Highway Administration.

Recognizing the feasibility of the recommendations contained in this 1939 Toll Roads and Free Roads report, President Roosevelt in April, 1941, appointed the "National Interregional Highway Committee" to investigate the need for a limited system of national highways. Serving on the Committee were three men from the highway field and two from the city planning field. Rounding out the Committee were the Chairman of the National Resources Planning Board, and the former Governor of Alabama. The Committee elected Commissioner MacDonald as Chairman, and H.S. Fairbank, both of the Bureau of Public Roads, as Secretary. The composition of the Committee clearly shows the importance attached even then to the city and its problems, and to a broad planning approach in developing a framework for national highway development.

The system finally selected by the Committee as best meeting the requirements laid down by the President was reported to the Congress on

January 12, 1944, and the designation of the System, identified as the National System of Interstate and Defense Highways, was subsequently authorized as Section 7 in the Federal-Aid Highway Act of that year. But it was not until passage of the Federal-Aid Highway Act of 1956 and the Federal-Aid Revenue Act of 1956 that construction of the System actually began. These enlightened words from the "Interregional Highways" report of 27 years ago strike a familiar note today.

> "By careful and complete functional studies of the city organism, it may be possible to devise a rational plan of future land-use that will assign more or less specific areas to each of the principal classes of use—residential, cultural, business, industrial, etc. Having planned such rational distributions of land-use, it may be possible to obtain the public consent necessary to the establishment of *legal controls, land authorities, and other devices and machinery that will assure an actual development over a period of years in conformity with the plan.* In such cases, the planning of city streets, the interregional routes and other expressways, and all other urban facilities would take the forms and locations necessary to serve the intended land-uses, and *these facilities would be provided in essential time relationship to the development of the entire plan*, and in a manner to bring about its undistorted realization."

There were many other major historical landmarks of the highway planning process over the years. Certainly one of the most significant was the Federal-Aid Highway Act of 1962, with its transportation planning requirements for purposes of program approvals of proposed Federal-aid highway projects in urban areas above 50,000 population. Section 9 of the Act, now known as Section 134, Title 23, gave national recognition to the urgency for resolving problems relating to the planning and location of highway and transportation facilities in and around the larger urban areas. Simply stated, the planning requirements called for the development of transportation systems, embracing various modes of transportation in a manner that will serve the State and local communities effectively and efficiently, and specified that proposed projects must be based on a continuing comprehensive transportation planning process carried on cooperatively by the States and local communities.

This highway history has been recited because I believe it is important to stress the fact that the planning progress and highway officials are not new acquaintances—they are old friends that go back many years. They have grown up together. Despite these facts, however, we have oft-times been accused of developing our highway plans without regard to land-use planning. This charge simply has no validity. Even the 1939 "Toll Roads

and Free Roads" report which first recommended the Interstate System was based on land-use considerations, as earlier noted.

The land-use plan is a stated requirement for the transportation planning process carried out under the requirements of the 1962 Highway Act. This does not mean that highway departments must actually do the land-use planning within their own staffs, but that they participate with the urban area's own land use planning body and develop highway needs based thereon. Since our transportation planning process emphasizes the necessity for land-use planning to such a high degree, it is worth some elaboration on how the process works.

The process of preparing a land-use plan usually begins with the preparation of a Development Guide by a multi-disciplined team of planners, demographers, economists, and sociologists. The Development Guide, when adopted by the Policy Board, becomes an official statement by the community—not the highway officials, Federal or State—of the principles and policies desired to be followed in guiding the future growth of that metropolitan area. A more popular term for the Development Guide is "Goals and Objectives." It also is the policy guide for developing the detailed land-use plan. But before detailed location of future land-uses can begin, economic and population forecasts must independently be made for the metropolitan area and balanced against each other so that population and employment are not out of step with each other. Again, this requires the talents of many disciplines outside of, and additional to those in the highway engineering field.

The next step in the process is to locate on the ground each future land-use; i.e., residential, commercial, industrial, either on vacant or redevelopable land. The location or distribution of these land-uses depends upon the accessability offered by the transportation system, the zoning policies of the local governments, the recognition of reserved areas such as historic sites, parks, open space, wildlife refuges, etc. Once more, this is a process in which we utilize highway trained people from a variety of disciplines.

The end result becomes a land-use plan that describes in numeric terms the future pattern of densities of development by type throughout the metropolitan area, which permits control totals of population, automobile ownership, income, households, etc., to be developed. It is within the constraints of these control totals that the calculation of travel demand can begin—and only then. We accept no other procedures of reckoning travel growth other than those derived from this kind of a land-use plan. In fact, the transportation planning requirements formalized into law by the 1962 Act have contributed heavily to the evolution of land-use planning from a description by bright-colored maps to quantified numerical equations and models portraying the expected analytical dimensions of

the metropolitan area for use with the largest and most sophisticated computer machines of today's world.

The Federal Highway Administration and the highway departments have jointly developed the analytical tools to transform a land-use plan into identifiable travel patterns, related to the income, auto ownership, population, and social characteristics of each area within the community as derived from the land-use plan. The number of daily trips of all kinds for each household is then calculated, area by area, without regard to any mode. These trips are then connected to work places, recreation places, and so on, to build up the complete picture of travel requirements by the residents of the metropolitan area at periodic intervals into the future, generally 20 years ahead. The proportion expected to use mass transit is then calculated by examining each trip as if it were to be taken by auto and then by transit, the costs and time of each being considered. This is the "modal split" step. Trips are then traced through the transit or highway network as appropriate along minimum time paths from origin to destination. It is only at this point that the highway portion of total transportation needs is determined, and it is significant that the other modal needs are determined simultaneously as an integral part of the same study operation. Many alternative transportation systems are then explored and the costs and benefits of each calculated to permit the local Policy Board to decide which systems best serve the policies of the official Development Guide and furnish the lowest possible transportation costs and most desirable service. The one adopted then becomes official highway and transit plan for that urban area.

After determining what highway system which will best serve the transportation demands of the planned land-use development in conjunction with public transportation service, we then move to a determination of the priorities in the development of that highway system. In the project planning stage, those segments of the system which have high priority get immediate attention of greater detail than was possible in the analysis of broad alternatives in the multimodal systems planning stage. For every highway project, we study the 23 items spelled out in PPM 20-8 back in 1969 which cover the gamut in the environmental scene from esthetics, conservation, and natural resources to replacement housing, education, and fire protection. It even includes the element of no highway project at all. PPM 20-8 also initiated the two-hearing procedure to cover location and design separately. These public hearings have sometimes been criticized by anti-highway groups as so much window dressing, but this general charge is based on ignorance of the actual planning process, and the record tells a different story altogether.

State highway departments today are making material changes in their highway plans as a result of comments made at public hearings. In a

survey of all States during the period January 1, 1966, to 1968, it was reported that 1,606 public hearings were held. There were substantive suggestions received at 264 of these, and as a consequence, 162 significant plan revisions were made. In a more recent survey in 1971, in three eastern regions of the Federal Highway Administration, numerous examples of plan changes were found as a result of presentations at the public hearings stage.

Highway planning has opened up new avenues for imaginative urban and rural development opportunities with the multiple use of right-of-way and joint development concepts. These concepts are no longer abstractions but very much part of the project planning process in cases where such possibilities exist. Projects which have been developed are to be found in all States and involve such diverse facilities as parks, campsites, conservation areas, lakes, parking areas, medical centers, libraries, museums, and even a battleship memorial. The careful step-by-step planning of systems and projects has provided the assurance that all of the environmental impacts, both social and physical, have been weighed in the balance at the proper stage during development of a highway project before ground is broken for construction.

Turning now to our most current actions in the planning area, we have just recently established within the Department of Transportation an intermodal coordinating arrangement described as the "Program for Improved Intermodal Planning in the Field." Secretary of Transportation John A. Volpe, in a letter of August 5, 1971 to each of the Modal Administrators, spelled out the organization and goals of this program, which puts together as a working coordination group the Secretary's Representative and the planning representatives from FAA, FHWA, FRA, and UMTA in each of our ten regions. We expect to achieve a further improved intermodal planning at the local level as a result of this coordination at the Federal level where our programs impinge on each other and the community. But more than just planning, we will achieve coordinated action in the development of transportation facilities. Now that our sister Department of Transportation agency, UMTA, has money out of the 1970 legislation for program implementation, multimodal planning will assume a new dimension and permit program implementation of planning decisions.

As a second step, we have also moved forward in the area of strengthening the 3C process in urbanized areas by issuing IM 50-3-71 which requires that the planning organization, the areawide policy board, and the planning process be individually certified annually before any Federal-aid highway projects are approved. This is really no different than the 1916 Highway Act which required strong State highway departments as a prerequisite to participation in Federal aid—and which pro-

duced strong State highway departments. IM 50-3-71 is expected to be similarly beneficial in improving areawide decision making on urban plans and projects.

Third, we have made progress in the very difficult area of citizen participation. We now have a better understanding of the problems of apathy in the absence of conflict and problems of negativism in the presence of conflict. We have met on three separate occasions with the Citizens Advisory Committee established by Secretary Volpe. We asked this Committee to examine FHWA procedures and practices in the area of citizen involvement. Although we do not know how the Committee's final report will read, the initial draft stressed that "citizen participation" does not mean "citizen decision making" outside the governmental process. It also stressed the need for citizen education, more trial and demonstration programs involving citizen participation, and the multidisciplinary approach. We intend to follow through and build upon this Committee's advice.

These are some of the things that we have been doing to strengthen the transportation planning process and to make it truly an overall intermodal local community planning operation. Although jointly we have achieved a great deal over the years and created the most sophisticated planning process existing in any public function, there is still more to be done. We must do more to keep pace with shifting public values. The continuing phase of the planning process in the future may be different from the years of the sixties and the fifties. The technical processes of data collection, forecasting, and estimating traffic volumes for design purposes will certainly be improved and enlarged, but their analysis to aid in improved public decision making must also be improved.

The 1970 Highway Act placed increased emphasis on local initiative for the new Urban System. This further underscores the need for viable metropolitan decision making bodies. I am convinced that we must take the initiative and exert a leadership role to assist the trend toward creation of State legislated bodies in the larger metropolitan areas where local government is fragmented and there are multiple Federal programs all requiring areawide processes. These legislated bodies should have the following characteristics as a minimum if they are to be viable:

1. A policy board consisting of elected and appointed officials with appropriate State representation.
2. Co-terminus boundaries for all planned functions.
3. The authority to do land-use planning at the metropolitan scale.
4. The authority to assume project responsibility such as route selection, priority setting, and programming.

5. The authority to do mass transit system planning.
6. The authority to make commitments for implementation of regional scale projects on behalf of the entire urbanized area and to be responsible to the public for its decisions.

Funds for planning support are in very short supply. We should be sure that we are making the most efficient use that we can of the 1-1/2 percent planning and research funds. We should continually reexamine our programming practices. Are we devoting the proper share to urban planning support when considered from the standpoint of urban versus rural population and travel, size of construction program, etc? Are we allocating the funds devoted to urban size, complexity of problems and the size of the highway program? Continuing stable support to metropolitan bodies will be a critical determinant of their viability.

As these bodies are granted more authority by State legislatures, they can be expected to assume more of a role in location and design studies, working with counties, municipalities and citizens' groups as appropriate. Only in this way will they be able to exercise State-granted authority to make commitments for implementation of projects in behalf of the entire urbanized area.

Environmental impact studies are being made an integral part of the comprehensive planning process with the areawide agency working closely with counties and municipalities as project development moves through the system, corridor, location, and design planning phases. Most of the environmental considerations must be dealt with early in the planning process to insure that these objectives are consistent with other areawide development goals and objectives, of which good transportation is also an important one.

We must become more active in transit planning. As you know, the 1970 Highway Act required that a study be made of highway-related mass transit needs. The study is progressing well and we will be able to meet the very tight deadline of next January. Although I cannot give you any preliminary findings, I want to share with you some of the things we have learned.

Sixty-eight percent of all mass transit usage is by bus and therefore it is a highway matter. Bus patronage has been generally declining. Fares are climbing beyond the limits of practicality, and bankruptcy of bus companies is common. The prospects of other substituable modes is even more remote in the acceptable future planning target dates.

With the advent of the exclusive right-of-way express bus concept, it now becomes possible through the highway program to provide a higher level of transit service to the American public than has ever existed before. With good line-haul and distribution characteristics UMTA can

provide the buses and we at FHWA, working with you in the State highway departments, can provide the busways.

We have made great strides with UMTA in arriving at a common view of the planning process. What needs to be done now is to get this new concept of transit planning incorporated into the on-going planning within the larger metropolitan areas. The exclusive right-of-way bus concept is compatible with the systems planning approach.

Small segments of the system can be built and progressively placed into operation without waiting many years for a total system to be built before any portion can be made usable. Massive local funding efforts can be avoided, along with the risk that completed facilities may languish or be abandoned. The result is a superior level of transit service.

We have come a long way and have done a good job in planning since the beginnings in the late 20's. But we still have a long way to go, and we must constantly strive to keep abreast—or ahead—or rapidly changing public valuements. The things I've mentioned herein are part of this effort. There is no need as some are suggesting to tear down the structure built thus far and start over anew. Indeed to do so, is to waste our already inadequate resources.

Neither can we afford to separate the planning process from the program process as some are proposing. Proper planning cannot be done in the vacuum which divorcement from constantly changing program activities would create. There is feedback between these twin responsibilities of the manager which cannot be separated. There is an imperative requirement for coordination of highway planning with other program planning, but this can be adequately achieved within the program operational area without separating all planning out to itself to be made a function part. Planning for planning's sake alone is something we cannot afford in this country. Constantly changing technologies in the construction part of our highway program make it possible today to build something that ten years ago was impossible, and this new-found capability in construction makes it possible to revise our yardsticks in the planning department. Such illustrations exist through the whole spectrum and so planning can no more be separated from construction, than construction can be done without regard to and as a result of appropriate planning.

Managing these program execution and planning functions in coordination with each other and within the whole big list of public goals and objectives which change from day to day is indeed a large order, but I believe we're doing it about as well as anyone can, and that the public —both as individuals and as a group—is the beneficiary.