

# Transportation Plans: Washington's Next Steps

ROBERT A. KEITH, Traffic Planning Engineer, National Capital Planning Commission; and Project Director, Mass Transportation Survey

● A FOUR-YEAR SURVEY of transportation needs for the Washington, D. C., region was completed July 1959, by the National Capital Planning Commission and the Regional Planning Council when a final report containing the survey recommendations was presented to President Eisenhower. From the survey, a much clearer picture of future travel demands and a better understanding of changing urban travel patterns has resulted. Also, the general limits of both highways and rapid rail transit to serve the future travel patterns have been rather clearly established for the metropolitan Washington community. Most important the survey has shown for the very first time how much it is going to cost the region over the next 20 years in order to have an adequate transportation system.

The outstanding features of the survey are described, but only in brief form because such a description is not the purpose of this paper. The purpose is to point out to persons interested in getting a clearer understanding of urban development what the next steps will likely be as Washington's proposed plan evolves from a planning agency report to a development agency construction program. It is intended to show that this long-range plan for transportation is no different from any planning agency's general development plan for land use: It is a continually changing, continually evolving thing that recognizes changes in public attitudes, legislative policies and technology, and at the same time moves from general proposals to specific development. The Washington plan is now ready for a development agency to take over from the planners even though there may be a number of detailed planning questions yet to be answered. For only planners to continue with more general studies would be a waste of effort.

## THE TRANSPORTATION SURVEY

The report "Transportation Plan — National Capital Region," prepared by the National Capital Planning Commission and the National Capital Regional Planning Council, completely describes the survey and its proposals and copies are available from the Superintendent of Documents, Washington 25, D. C. At the Highway Research Board's annual meeting in January 1958, Paul C. Watt, then Director of the Regional Planning Council, described the planning aspects of the survey to that date. A voluminous report, containing the testimony of a week-long Congressional hearing held by the Joint Committee on Washington Metropolitan Problems in November 1959 will soon be available. Interested persons may wish to refer to these documents, as well as to several other reports and papers on various aspects of the project.

### Major Proposals

The plan has been designed to meet the needs of the region when 3,000,000 people live here, in about 1980. The primary proposals are for a rapid rail train and express bus transit system of nearly 100 mi (not round-trip miles) and a freeway system of approximately 330 mi. This may be compared with a transit system today that has virtually no express service and an 85-mi freeway system which would have been expanded to a 260-mi system under earlier plans. The express transit system would cost \$564 million and the freeway and major street system would cost \$1.8 billion. Under present Federal-aid programs and other local programs there would have been about \$1.3 billion spent by 1980 on major highways. The highway financing presents a tremendous challenge to the area for the new \$500 million would be 100 percent local funds. All local highway funds would as a result need to be more than double those local funds needed to carry on presently-established programs.

In round numbers, there is need for one billion dollars of new money, about one-half for highways and one-half for express transit. Almost one-half of the express transit cost would be repaid by transit fares if fares were similar to those existing in the District of Columbia at the time of the survey. However, if fares were to be set near the rate being requested by the major District of Columbia transit operator at the time

this paper was prepared, and at about the rate already charged in Virginia, more than three-fourths of the costs would be repaid.

The key to the realization of the proposed system is the early creation of several transportation agencies. The ultimate goal as proposed by the survey is to create an interstate metropolitan construction and operating agency by means of a compact between Maryland, Virginia, and the District of Columbia. Because it would take a number of years of legislative negotiation to create the agency, two other temporary agencies are proposed, one for regulation and one for development. The regulatory agency proposal is the product of the States and the District themselves. Before the survey was completed, Maryland and Virginia had formally approved it, and it now requires only the approval of the Congress to become a reality. The other temporary agency would be a Federal corporation (similar, for example, to the Saint Lawrence Seaway Development Corporation) created to extend the planning and design and carry through on the development of the system until the time that the ultimate interstate transportation agency is created.

### Survey Procedures

A brief explanation of the survey procedures is essential to a discussion of what the next steps might be. It is necessary first to appreciate that the survey was one of the most comprehensive yet made in this country; it represents a significant break-through in transportation planning. This is not to say that improvements cannot be made, or that judgments and decisions are not subject to error. Most recent surveys are in fact developing some improved techniques on certain facets. But this survey is believed to be far more adequate and inclusive than has been the case for almost any previous survey.

First, you should know that all the studies and proposals were based on a land-use plan for the future region. This plan showed, for the first time in the Washington area, the location of homes and jobs, shopping areas and recreational areas, all in accordance with an agreed-upon, realistic plan for the future 3,000,000-person region. Then, using a rather new technique of projecting travel, the future daily traffic pattern was predicted based primarily upon the expected land-use development and the probable travel time between the different parts of the region in the future. One of the significant results was that 60 percent more people would result in approximately 200 percent more miles of week-day travel.

Next, three different transportation systems were tested by assigning the estimated traffic to each of them and then measuring their relative effectiveness. The different highway-and-transit systems ranged from one with no transit improvement to one with maximum transit improvement. For each system the appropriate amount of highways was included. Traffic was assigned separately for the peak hours and for the off-peak hours and several arrangements of routes in each system were tested. Finally, the recommended system was developed with the finding that a much-improved transit system was essential, together with an accelerated and expanded highway system.

### THE NEXT STEPS

What is likely to happen in Washington in the near future? The next steps which will be required to advance the survey proposals are essentially of two different types, and it could take several years and several hundred thousand dollars to accomplish the goals set forth in the following paragraphs. The present survey required four years and \$450,000 directly, together with another one-half million dollars indirectly. The first type of studies to be undertaken can be considered as refinements to the present survey. These refinements are principally studies that should be made continually by a well-staffed transportation agency in any major urban area. For example, the Chicago area now has such a continuing study group. These studies are not expected to cause major changes in the proposed system, but they will be of immense value in developing details of the system. Although these studies are necessary, they are nevertheless secondary to the other type of studies that are needed. The latter involves two principal aspects: system details and financial details. Here is where more specific answers than the

survey was able to provide are required before huge sums of money could be committed to a construction program.

The refinement studies are principally concerned with improving the background information on which the system details are to be resolved. The land planning work will involve some simple steps, such as using more recent statistical data on population and employment, and accounting for land development decisions not foreseen four years ago. It will also take into account the findings of the special downtown Washington study group which was recently created. The work may also be able to reflect the findings of some recently initiated studies of sketch plans of the region for the year 2000. The year 2000 studies may require consideration of some alternative land development plans not yet imagined which may affect growth after the 3-million population is reached.

Additional traffic projection and traffic assignment analyses will likely be made, and these will generally reflect continued improvements in methodology that are being developed in the major traffic studies under way in several cities today. Three items on which it would be helpful to improve on should be mentioned. First, a substitute for the origin-destination studies developed some years ago by the Bureau of Public Roads is greatly needed. It may be a method which more directly measures trips into and out of the major traffic generators, such as the obtaining of data at employment centers, rather than by home interviews. It is the work trip that largely determines the urban transportation system, and the data can be obtained, analyzed and fed into traffic predicting formulas rather quickly. A second item is the method of assigning traffic in the peak hour. This survey was at least able to assign peak-hour, two-way travel, and it is now hoped that it will soon be possible to assign peak-hour, one-way trips. Such a method is being developed in the Minneapolis-St. Paul study. A third study item would be further general improvements in methods of assigning trips, both the allocation between various highways as is being worked on now by the highway agencies in the Washington area, and also between automobile and transit. All of these things will contribute to a better foundation on which later decisions can be made on the system details and the financial details.

### System Details

Work involved in resolving system details includes more complete field studies for rights-of-way, test borings and detailed cost estimates, not only for the routes themselves but for transit stations, the large outer terminals, parking areas, and shops and yards. But it goes beyond this preliminary engineering work. It must also include consideration of community reaction to the presently proposed general locations of transit and highways, as well as the latest thinking of the area highway and planning agencies.

For example, the location of highway interchanges and transit stations will have a profound effect on nearby land development. What has happened around transit stations in an earlier generation of rapid transit construction is well-known. What might happen today, and what land planners might want to happen, is not so well-known, for this is an automobile-oriented age. Most experience has been from a pre-automobile age when transit had little or no competition. There are few so-called "experts" for this particular problem, and a good deal of hard thinking lies ahead. The transit land acquisition and development, both at stations and along the rights-of-way, may easily serve as the catalyst that gets the land planners to renew and redevelop older neighborhoods throughout the metropolitan area. Joint redevelopment and transit projects could be carried out just as joint redevelopment and highway projects are carried out.

Another significant system-design problem may come from the highway side. It is not possible at this time to say what the highway program eventually will be because many voices are being raised against the highway proposals. If there is a lack of decisions on the highways, it will be more difficult to decide on transit system details, particularly the specific transit route locations because all of the express bus routes and two of the rail lines would utilize freeway facilities.

Some who oppose the extent of the highway system do so because of the financial problems. But the most common dissatisfaction arises from the feeling that the prob-

lems of right-of-way acquisition and the after effects on nearby property not acquired are more than the urban community cares to face. This reflects not only the typical dislike for change itself, but a real and honest fear for loss of urban values, tangible and intangible. The unfortunate thing, however, is that without sufficient freeways there will be a great excess of local street traffic, which inevitably will overrun the very neighborhoods these people hope to save, and also cause a deterioration of properties in a much wider section of the city. A large proportion of the excess street traffic simply will not be in a position to use transit, and there will be a need for more one-way streets, street widenings and tree cuttings, and additional parking restrictions. Specific values on this potential neighborhood deterioration have not been determined, and most of the highway opponents do not want to believe that such a condition will result.

The people are generally willing to spend more and more money on good highways, even though it may not always seem this way because public officials are naturally slow to ask for it. For the highway proponents, the important task is to do a better job of "education" and back up the education by making the freeways more compatible with urban living.

It is quite possible that many of the transit system details will have to be decided on before the highway questions are fully resolved. This will be unfortunate, but there is such a degree of urgency to get on with subway construction that it would not be wise to delay the transit program.

Other transit system details to be decided on also include further consideration of the best transit train equipment to be used and possibly a reconsideration of the potentiality of the existing railroad facilities. In the interest of reducing initial capital costs, further consideration of the use of railroad facilities will likely be made. This study will be made easier by the new cooperative attitude of the area railroads. However, existing railroad facilities will not provide much improvement for transit riders who live in the District of Columbia. The main value would be as a low-cost, temporary facility that could be tied in with the first stage of subway construction in order to broaden the service area of the initial subway.

### Financial Details

The term "financial details" encompasses a broad subject and while many of the items are tangible, many are not. For economists, the questions may not appear to be new. But most transportation economists will probably agree that specific answers to the questions would be new, and the decision-making governing officials will most certainly welcome some answers before a financial policy is firmly established. It seems essential that more extensive study, than the present survey was able to make, be undertaken so as to come up with better information on these questions of economics. One drawback to this economic analysis is that so many of the problems spill over into the social field, where still less specific values are to be found. The questions that ought to be answered include both highway and transit problems, for the survey has proposed that the metropolitan transportation agency build the transit system as well as assist the highway departments in overcoming any deficits in funds to the extent possible. Here are seven questions which should be answered:

1. What are the relationships between transportation costs and benefits? And, how far can the consideration of intangible values be carried?
2. Is a public welfare argument justified, particularly to pay for the cost of putting transit out of sight in subways, or should the users themselves pay all the direct and many of the indirect costs?
3. Should the revenues and costs of both transit and highways be pooled together?
4. Having determined the desirable amount of transit service that should be provided, how far should the community deviate from the goal in order to permit private transit firms to determine the quality of services?
5. What other community needs will require large expenditures? And, how do transportation costs compare with the other costs?
6. To what extent is it desirable to spend more for transportation services in the future, considering that per capita income may well double in 20 years?

7. As the work week gets shorter and weekends longer, will the public prefer to invest less in travel-to-work facilities and more in recreational travel facilities?

In addition to analyzing these difficult questions, there will need to be a reconsideration of the estimates already made for capital costs, revenues and expenses. The fare structure alone is subject to important adjustment. If the fare were set a little higher than the conservative figure assumed in the survey, the projected \$16 million annual capital cost amortization deficit could be significantly reduced. And if improved route locations can be found by more detailed studies, then the finance picture can again be improved because of additional patronage or because of lower construction cost.

### Land Acquisition and Construction

The primary purpose of the paper has been to describe the steps which are needed to transform the planners' present report to the ultimate goal of the operation of a new rapid transit system. The study activities described here and community approval of a final plan may require up to 2 years, and would be followed by the preparation of engineering construction drawings.

During this study period, the transportation agency will need to acquire key rights-of-way and build bus stops along several new freeways. The major land acquisition will be in establishing extra-wide median strips in virtually all the new radial freeways that are being planned and built. Thus, the activities of the next few years should include some specific, but limited, development activities.

In summary, the next steps involve establishing a continuing transportation body to make a more thorough study of system details and bold attempts to understand some of the complex and vague economic problems. In order to accomplish these objectives, and to then build the proposed system will require the establishment of a temporary Federal corporation, to be followed in later years by an interstate agency of the two States and the District of Columbia. Not all the "next steps" discussed here would be carried out by the new corporation. Some of the work is clearly the responsibility of existing planning and highway agencies.

There is considerable support developing for creation of a Federal corporation. The most specific came in November 1959, when the Bureau of the Budget, in the Executive Office of the President, gave strong endorsement to the idea, and acknowledged a responsibility to meet the special Federal interest in the National Capital region by stating "...initial Federal financing of the proposed corporation will be necessary." Specific legislation is being prepared and is expected to be submitted to the Congress soon. A favorable action by the Congress will keep the planners' report from gathering dust and will enable the community to maintain its enthusiasm for the project.