Development of A National Highway Policy: An Interactive Process

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The nation has spent the last 50 years building the best system of highways in the world. In the last decade, the federal government has dedicated $90 billion to this effort. This network of highways has become the backbone of the transportation system and has supported the economic growth and development of the United States. The highway system carries almost 90 percent of all personal and freight movements. Despite its significance, the highway system—particularly the national, interregional system—is deteriorating at an increasing rate as the federal and state governments grapple with decreasing revenues.

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Since 1970, travel has increased at an annual rate of 3 percent and, because of the growth in travel and the enormous impact of inflation on the highway capital dollar, conditions have deteriorated on the major highway system. Inflation has played a major role in the inability of governments to keep up with necessary improvements. Inflation in the country was about 10 percent in 1980. In the highway construction industry in 1979, the composite price index rose 13 percent. The bid price index, the indicator for construction costs, closed the fourth quarter of 1980 at 349.7, which means that what would have cost $100 in 1967, the base year, now costs $349.70.

During the past 10 years, the costs of maintaining a mile of roadway have increased by more than 111 percent, while the costs of highway construction and reconstruction have increased by more than 190 percent. Since 1973, the average rate of inflation in highway construction has been 12.5 percent per year, a rate that doubles highway costs every six years.

While highway costs are rising sharply in the wake of inflation and expensive energy, the user revenues to pay for these costs are leveling off and declining. Due to the shift to smaller, more efficient automobiles and decreasing highway travel, the growth rate of the income into the Highway Trust Fund has dropped sharply. From 1970 to 1978, the income grew at a rate of 4.5 percent per year. From 1979 to 1984, the projected increase is 1.5 percent per year.

These factors have resulted in a reduction of capital expenditures by all levels of government on highways of 42 percent in constant dollars from 1970 to 1976. More than half of this drop was caused by the inability of federal and state spending to keep up with inflation. States have reduced spending on all highways while local governments managed to fund large real increases on their roads during this eight-year period. Part of the states' decline was due to the states shifting their resources into non-capital categories, such as maintenance, traffic control, administration, engineering, and law enforcement. The local government increase was due to increased funding from general revenue sharing and the U.S. Department of Housing and Urban Development Community Development Block Grants, which local governments chose to spend on local roads and streets.

As we enter the 1980s, the country is embarking on a national effort of refurbishment and recovery. There are many new challenges to add to the traditional objectives of the highway program, e.g., energy conservation, preservation of the environment, and economic recovery. The emphasis in the highway program will be on preserving the existing systems and increasing the productivity in the management of the highway network.

In this framework and based on data and issues that have been distilled from other inputs, the 1981 highway legislation was developed. For very practical reasons, it is important to enact highway legislation in 1981. First, the programs terminate with the 1982 authorizations. Second, it is critical that the Interstate completion program be modified as soon as possible so as to shift to the important work of rehabilitation and reconstruction. Finally, the taxes for the Highway Trust Fund end on September 30, 1984. The taxes and trust fund need to be extended, and, if authorizations are increased significantly, revenues must also increase.

The process of developing the legislation presents an excellent case study of how national highway policy is formulated and presented for consideration by the Administration and Congress. The following discussion outlines the use of data and inputs from constituent groups, the development of goals, options, and, finally, legislative recommendations.

SUPPORTING INFORMATION PROCESS AND DATA

Status of the Nation's Highways: Conditions and Performance

U.S. Senate Joint Resolution 81, enacted in 1965, requires that a report on the nation's highway needs be submitted by the U.S. Secretary of Transportation every two years to the Congress. The first highway needs report was compiled in 1968, followed by biennial reports in 1970, 1972, 1974, and 1977. Previous reports on highway needs were based on the determination of estimated costs of improving all roads so that by 1990 no road would have physical or traffic characteristics below certain uniform operating and physical standards. The total costs to meet such needs in the past were enormous so in 1974 the report introduced the concept of "performance" as a standard of measurement. A performance index scale was constructed to illustrate the relationship between investment and levels of performance.

About three years ago the Federal Highway Administration (FHWA) established the highway performance monitoring system (HPMS), a data-collection and analysis tool that has been used to develop the relationship between investment and performance and condition. The HPMS depends heavily on state participation and samples the conditions and perform-
ance on 100,000 federal-aid road segments. The HPMS also reports accident rates and bus usage and is being expanded to include a fuel consumption factor and air pollution emission rates. The findings from the 1980 report that were submitted to the Congress in January 1981 are discussed in the section on definition of the issues.

Cost-Allocation Study

The 1978 Surface Transportation Assistance Act called for a cost-allocation study to be submitted to Congress in January 1982. An interim report presenting preliminary findings was transmitted to Congress in January 1981.

Cost allocation is the process of dividing up the cost of program outlays among both the various classes of highway users and monomers and translating such distributions into revenue sources, such as general revenue and user taxes.

The process normally involves assessing those costs that can be specifically attributed to certain vehicle classes, generally based on the size, weight, performance, and level of use of the vehicle class. All the attributable costs are both governmental costs (construction, maintenance, operation), and/or user interference costs (congestion, accidents), and/or external costs (noise, air pollution). There are also common or joint costs that specific classes of vehicles cannot be shown to cause in an unambiguous way.

The process of cost allocation then covers both assessing those costs that can be clearly attributed to certain vehicle classes and allocating those remaining common or joint costs that cannot be clearly attributed to certain vehicle classes.

In addition to the cost-allocation study, there is a companion study to be completed by the U.S. Department of the Treasury that will evaluate various taxing methods, the burden of the taxes, administrative costs, etc.

Truck Size and Weight Study

Section 161 of the Surface Transportation Assistance Act directed the Secretary of Transportation to study and investigate the need for and desirability of nationally uniform truck size and weight limits, the effects on construction and maintenance of roads, and related topics.

The Federal-Aid Highway Act of 1956 set maximum limits for truck operation on the Interstate. The limitations were permissive in nature, that is, they did not preempt the states’ rights to establish lower limits, and they applied only to the Interstate system. The oil embargo in 1973 and the subsequent enactment of the national 55-mph limit generated greatly increased pressure from the trucking industry to increase the existing weight limits and to make the limits uniform.

The results from the truck size and weight study are related to the cost allocation and the revenues necessary to support the highway program. This relationship will be apparent in the legislative recommendations that are submitted to Congress in the study and ultimately as a part of highway legislation. The Carter proposal coupled changes in maximum vehicle size and weight limits to changes in the highway program structure and its funding. Specific proposals will be based on the following principles:

1. Interstate commerce should be fostered through increased uniformity in motor vehicle size and weight limits;
2. Local and regional economic conditions must be accounted for in the establishment of revised size and weight limits;
3. Changes in size and weight limits should consider other national goals, such as preservation of the nation’s highways, energy conservation, safety, and environmental concerns; and
4. The revised highway user tax structure should be consistent with the revised size and weight limits.”
structure. Nevertheless, in the third decade of construction, some sections remain to be built and, in fact, may never be built because of skyrocketing costs, environmental objections, and more pressing priorities.

The program, originally estimated to cost about $27 billion, is now estimated that the cost to complete the system will be $54 billion, or at least twice as much to finish the last 4 percent as it cost to construct the first 96 percent. Further, from 1975 to the present, the Interstate system has deteriorated to the point that 8 percent of the pavement needs repaving immediately, 13 percent of the bridges have some deficiency, and 23 percent of the urban Interstate is congested during peak-hour periods.

Goals to Be Served

The traditional goals of the federal-aid highway program have been to provide for an Interstate highway network to serve national defense and commerce, to develop a balance among jurisdictions in transportation, and to improve highway safety. In addition to serving the traditional goals, the highway program is now responding to the need to conserve energy; reduce inflation, minimize adverse social, economic, and environmental effects; and revitalize central cities. Balancing traditional goals and more recent national priorities involves two interrelated issues: (a) performance of the existing systems and the federal role in preserving the improving conditions, and (b) the source and amount of revenue that can be raised to finance the highway program. Given the interplay of these issues, it is likely that the Congress will consider the following:

1. Ensuring Adequate Highway Facilities—Real increases in authorizations may be considered in order to provide constant buying power over the life of the next highway bill because the real program level has decreased so dramatically over the last 10 years.

2. Completing the Interstate and Providing I-4R Funding—Provisions may be introduced to ensure rapid completion of remaining gaps on the Interstate to resolve the problems surrounding the use of the ICR as the procedure for financing the Interstate. The intent would be to allow states to complete segments and then to focus on preserving and rehabilitating the existing system.

3. Providing Program Flexibility—States and others have expressed the need for a greater degree of program flexibility in selecting and implementing projects through consolidated program structure and simplification of requirements.

4. Promoting Economic Revitalization and Recovery—Legislation will probably be considered in light of the need to revitalize the economy and to support other economic objectives.

5. Generating Sufficient Revenues—The legislation will reflect a consideration of whether the existing revenue structure will provide necessary financing to meet the goals of the program.

Development of Optional Program Structures

In March 1980, a legislative options paper was developed for presentation by FHWA as a part of the budget process and for review by the Office of the Secretary. This paper outlined some of the early information available on the conditions and performance of the federal-aid systems, the problems currently existing in the programs, and various alternative solutions. This included a discussion of the federal role in highway financing and individual program assessments. After the discussion paper was reviewed throughout the department and FHWA, it was distributed nationwide to states, state departments of transportation, legislators, local governments, and interested groups.

Optional Levels of Federal Involvement in Highway Programs

The federal role has become of particular interest in considering and formulating the 1981 federal-aid highway legislation due to the fundamental dilemma the program is facing, i.e., the increasing number of programs and national objectives being pursued with shrinking funds. The proliferation of programs and the multiplicity of goals have dissipated the leverage the federal government had through the program.

The federal role in the highway program has been asserted in many forms—the Constitution, legislation (Title 23, NEPA, etc.), policy statements, regulations, directives, program emphasis areas, etc. In the broadest sense, the highway program has grown out of the federal responsibilities under the commerce clause in the Constitution. Title 23 states that the objective of constructing federal-aid highway systems is "to meet the needs of local and interstate commerce, and for the national and civil defense."

The role of the federal government in the highway program has gradually expanded to assume responsibilities under the general welfare clause. The major changes in the last decade have been designed to assure that the highway program could accommodate national, state, and local goals and objectives. Thus, highways could not be built without considering the impact of the facility on the environment, without fully and fairly compensating individuals displaced, and without recognizing the amount of energy being consumed.

There are three options for continued federal involvement in the highway program. One is to continue to pursue the broad range of programs currently identified in Title 23 either with the current level of authorizations or with increased authorizations to maintain constant buying power. Second, the program could be substantially modified in order to target federal investments to more specific national objectives. This could include phasing out or reducing federal participation in one or several programs.

Another option would be fundamentally to change the role of the federal government in financing the nation's highway and other surface transportation needs. This scenario would change the nature of the federal fuel tax from a user tax to a consumption tax or a conservation tax, and would include a significant increase in the federal revenues. Because the tax would no longer be a direct highway user tax, the federal-aid highway program neither could nor would be the sole beneficiary of the substantial receipts. These substantial receipts would provide an opportunity for a unified transportation trust fund, which has been proposed in the past or a tax turn-back to the states.

Specific Program Options

Travel on the primary system during the 1980s is expected to grow at a slower rate than during the 1970s; however, even with a slower rate, approximately 20 percent more travel will occur on this system by the end of the decade. Also, the system will have to provide the capacity to carry coal and other resources for which there is an increasing domestic and foreign demand. As a result, 60 percent of rural and 80 percent of urban primary mileage will
The federal funding options over the next 10 years revolve around the issue of federal role in the primary program. These options are discussed below.

1. Increase Federal-Aid Primary Program Level to Maintain Today's Performance—This option would call for a major shift in the federal-state relationship in the primary program. It could put the federal government in the lead in determining how the system will perform over time and in standardizing, to some degree, 270,000 miles of arterial highway physical and operating characteristics. It would be extremely costly to assume responsibility for maintaining that level of performance. Assuming state-only funding would grow with federal program increases, the federal share of the 10-year needs would be more than three times the current program level.

2. Increase the Federal Program to Offset Inflationary Impacts—This option would continue to provide a stable financial base for the program yet would not provide the support necessary to offset the impacts of travel growth. The states would then have to determine individually how important the performance of the primary system is to their own development. A federal investment at today’s constant dollar level would guarantee that no drastic deterioration would take place during the 1980s. If inflation averages 7 percent over the next 10 years, the federal program will have to increase to an average annual level of $2.6 billion, or a $0.8 billion increase over the 1981 authorized level of $1.8 billion.

3. Reduce the Federal Role in the Primary System—Under this option, which would reflect a major shift in the federal highway role, the primary system would no longer have the highest national significance. The states would bear more responsibility for improving their major arterials and ensuring connectivity and uniformity between states and regions of the country.

Travel on secondary routes is expected to increase at an average annual rate of 1.9 percent through 1990. This increase in travel will have little effect on the operational features of the system, because the capacity of the system far exceeds the demand placed on it. Exceptions to this will occur where rail branch lines are abandoned, and rural roads will be relied on to provide capacity for increased heavy truck traffic and increased demand for farm-to-harbor travel. The travel will, however, accelerate the deterioration of the pavement, and by 1990 nearly 90 percent of today's paved mileage will need replacing. In addition to the current deficiencies, future travel will create extensive problems on many sections that are currently adequately designed. By 1995, approximately 90 percent of all secondary system mileage will incur one or more deficiencies related to pavement, geome-
Outreach Effort

While the states are involved in almost all of the data collected and actually manage the programs, it was felt that the program was at a turning point and in need of a fresh examination by all levels of government. Consequently, it was decided to conduct an open consultative process with various groups to receive their input directly into the legislative process.

Distribution of Discussion Paper for Comment

As mentioned earlier the discussion paper developed by FHWA and presented to the U.S. Department of Transportation (DOT) for review was circulated to nearly 2000 groups and individuals for comment. The discussion paper generated written responses from about 90 local governments, 45 states, and 14 special interest groups. The comments were compiled and integrated into a second discussion paper, which is available on request. The comments received are summarized below.

Federal Requirements and the Federal Role

There were repeated references to the multiplicity of goals being addressed by the federal highway program. In general, it was felt that the highway program was being distracted from its primary purpose. State and local governments would like to see the program streamlined, categories of funding reduced, liberal transfer provisions between programs adopted, and reporting requirements reduced. Environmental, equal employment opportunity, handicapped, inflation, and other cross-cutting requirements are real thorns in the side of state and local governments. More federal money and less federal control were desired by the respondents.

Interstate and Primary Systems

The strongest message from state departments of transportation was to complete all gaps in the Interstate system and to provide substantial financial support for restoring, resurfacing, and rehabilitation of the Interstate and primary systems. Best and informative discussions were especially concerned about losing funding to complete their gaps while states whose segments are virtually complete fear that their 3R needs will be overlooked in an attempt to concentrate on completion. Most respondents agreed that maintenance (correction of minor deficiencies and routine upkeep activities) should be funded at the state and local levels.

Urban (FAUS) Program

Most of the comments regarding this part of the paper came from local governments. These comments reflected a desire to continue funding, preferably through a block grant approach similar to that of the Community Development Block Grant or General Revenue Sharing Program. There was some hesitancy to combine this program with UMTA programs. While more federal money was requested, decreased federal and state control was recommended. Most aggravating to state and local governments are the federal design standards, environmental, and other cross-cutting requirements, and the obstacles and delays to which the program is subject. As might be expected, state-level officials were opposed to direct federal funding of urban projects although they would like to see the program continue and possibly expand.

Secondary Program

Fewer respondents addressed the issue of the secondary program, but those who did were adamant in their support for its continuance. These responses came primarily from southern and western agricultural states and from the Association of General Contractors. A block grant approach was favored.

Safety Issues

A number of states indicated support for consolidating all existing categorical safety construction programs. Colorado called for a reorganization/restructuring of safety programs under a single DOT agency. A similar sentiment was voiced by the American Society of Civil Engineers.

Trust Fund

There was tremendous support from all sectors for extending the life of the Trust Fund and continuing to rely on user taxes. Most respondents also agreed that the user taxes should be indexed to keep up with inflation. While an ad valorem tax was acceptable to many, tying the charges to the gross national product or the Consumer Price Index seemed to have greater support. There was strong sentiment that a general transportation Trust Fund not be established, but that a fund similar to the Highway Trust Fund be set up for transit.

Field Trips

Four regional trips were conducted by officials from FHWA, the Office of the Secretary, and congressional staffs. About 14 states were visited during the trips, and officials from another 10 or 12 states participated in the meetings. Further, interest groups representing environmental concerns, contractors, and various construction industries also participated. The basis for the discussion was the options paper circulated earlier. Useful comments were gathered during the discussions and based on the experiences, philosophies, and policies of the different states, regions, and groups represented. These views were recorded in trip reports, which are available from the Office of Congressional and Intergovernmental Affairs in the Office of the Secretary.

Legislative Initiatives

The legislative initiatives were assembled, reviewed at DOT, and transmitted to the Office of Management and Budget (OMB). The negotiations between OMB and DOT resulted in the following legislative recommendations submitted to the Congress by the Carter Administration.

 Interstate Completion and 4R Program

The Carter legislation proposed to redefine completion by limiting the elements included in the ICE to upgrading all segments and building all gaps to a uniform and minimal level of service. This definition includes access control, pavement design for 20 years from the time of initial construction, and maximum lanes based on population (four lanes in rural areas, six lanes in areas with more than 400,000 population). With the redefinition of completion, there was also expansion of the 3R program to include all items deleted from the ICE and the reconstruction items not currently eligible under 3R. The authorization for the new 4R program would be about five times the size of the existing 3R pro-
Consolidation of Programs

In the Carter bill, many narrow categories were combined into three larger categories; they are the federal-aid rural, federal-aid urban, and the federal-aid safety programs. The rural program was broadened to include capital expenditures for public transportation and rail branch lines. Both the urban and rural programs eliminated the concept of federal-aid system for project eligibility. Funds could be spent on any project on any public road. The consolidation of the safety programs included the rail-highway crossing safety programs, but would not change the congressional intent of the categorical programs, i.e., safety funds must be spent on safety projects, and they were not transferrable to any other programs. The Bridge Replacement and Rehabilitation Program was retained as a separate program. (While the Reagan bill retains the bridge program, it phases out the urban and secondary programs in two years and eliminates most of the safety and other small categorical programs in 1982.)

Highway Trust Fund

The Carter proposal recommended retaining the Highway Trust Fund as the main vehicle for financing highways and increasing the fuel tax from 4 to 6 cents. Other taxes were increased for heavy trucks, and all exemptions would be subject to sunset requirements in 1987. (The Reagan Administration bill extends the existing taxes through 1989 and the Trust Fund until 1990.)

CONCLUSION

The federal-aid highway programs and initiatives that will be developed in 1981 will be closely intertwined with national issues in transportation and other major issues facing the country, such as the need to control inflation and government spending. Nevertheless, the contribution that a well-functioning national system of highways makes to the growth of the national economy is significant, and the maintenance of the system is an important goal. The systems' conditions are not a surprise to highway officials who have been trying for years to solve many of these problems with declining revenues. In 1981 we have another opportunity to establish effective policies and to set realistic priorities to address these problems.

Role of Multistate Regions in Development of National Transportation Policy

Richard B. Robertson

The experience of the Appalachian Regional Commission is used as an example of the role multistate regions can play in the development of national transportation policy. Most initiatives come from the states rather than federal agencies, in part because federal agencies do not need or want such assistance, or because they feel the status should decide such matters. Work done by regional commissions is generally welcomed by the states, but the reception by federal agencies is less enthusiastic. Conclusions and recommendations deal with national policy and agency regulations while calling for significant additional transportation investments in a particular region as opposed to the nation.

Is there a role for multistate regions in the development of national transportation policy? If so, how should a multistate area organize to make an input into such development? What are some examples of what has been tried and where have efforts succeeded and failed and for what reasons? This paper will address these points to some degree by using the Appalachian Regional Commission (ARC) as an example. It is not an attempt to settle the issue once and for all.

There is a valid role for an organized group of states in the development of national transportation policy. Some basic reasons are (a) recognition that many national transportation policies are interstate (or international) in nature, (b) to bring greater resources to bear on the identification of critical issues for a particular area, and (c) to apply these multistate resources to the resolution of such problems, with particular emphasis on consideration by the Congress and the Administration.

No single organizational arrangement is best for every issue, and several multistate organizations may often work toward resolution of the same problem. The American Association of State Highway and Transportation Officials (AASHTO), the National Governors' Association, the National League of Cities, and others assist groups of states on special interests, but they are national organizations usually trying to develop a national consensus. On the other hand, there are many multistate organizations such as the ARC (an independent agency), the Title V commissions (agencies within the U.S. Department of Commerce), the Tennessee-Tombigbee Waterway Authority (created by a compact of five states), etc., which normally seek special legislation favoring certain projects or geographic areas.

The ARC is an excellent example of how a multistate organization was created for certain reasons. One of the most important was a need to construct a highway system that, in conjunction with the Interstate system, would open up areas with a developmental potential. Perhaps the most important contribution made by the ARC is its way of making decisions. For that reason this paper will begin with a brief explanation of how the ARC is organized...