

Future Role of Federal Government in Highway Development

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FINANCE

The Surface Transportation Assistance Act (STAA) of 1982 is the most important and comprehensive highway legislation enacted in many years for two major reasons: (1) It provides the significant increase in capital needed to step up rebuilding of this Nation's transportation system. (2) It reinforces the user fee method of paying for the Nation's capital undertakings as an acceptable and reliable means of financing.

Exemplifying why the 1982 STAA was so timely are several significant facts: 40,000 lane-miles of Interstate pavements are now more than 20 years old and 8,000 to 10,000 additional lane-miles will be added to the category over the next eight to 10 years; about nine percent of Interstate pavements are rated in "poor" condition; the trend is up in terms of both weight and number of trucks on the highways; and the 1959 highway dollar is now worth about 25 cents.

The new authorizations and provisions contained in the STAA of 1982 will go a long way toward resolving these problems and meeting highway needs across the country.

The authorizations, which indicate an upper limit on the amount of entitlement the states receive each year, total the following for highways and highway safety in FY's 1982-1986: (In millions of dollars)

1982 - \$8,885

1983 - \$12,897

1984 - \$14,062

1985 - \$14,801

1986 - \$15,532

The actual impacts of these authorizations on the major highway programs include: (1) Increases in authorizations for Interstate construction and Interstate resurfacing, restoration, rehabilitation, and reconstruction (4R). Significantly, the I-4R program increased from \$800 million in FY 1982 to \$1.9 billion in FY 1983. By FY 1986 funding for I-4R will total \$3.15 billion. (2) Increases in authorizations for the bridge replacement and rehabilitation program, permitting more progress

towards correcting this serious problem; increases in funding for the Federal-aid primary program, reflecting the major traffic service function of these highways. (3) Authorizations for urban, secondary, safety construction, and various other categories, generally at the same levels as in recent years.

Other important sections of the act provide for establishment of a coordinated federal lands highway program; a minimum allocation which establishes 85 percent of Trust Fund contributions as a "floor" for new apportionments for donor states; a temporary matching fund waiver; new budget authority for a Motor Carrier Safety Assistance program; a five cent increase in motor fuel charges, and adjustments to other highway-user fees; and an extension of the Highway Trust Fund through FY 1988.

We are proud of the fact that apportionments to the states of newly authorized funds, as well as distribution of the obligation limitation, were made on January 6, the very same day the bill was signed by the president. This permitted states to immediately begin obligating the dollars provided by the STAA. The states have, in fact, been aggressively obligating these funds. Since passage of the STAA, monthly nationwide obligations have been:

January	\$ 900,000,000
February	\$1,100,000,000 (highest ever for a February)
March	\$ 930,000,000
April	\$1,150,000,000
May	\$1,135,000,000 (highest ever for a May)

Such levels of obligation activity indicate that the states are prepared to continue at a record-setting pace for the remainder of the year.

The long-term implications of the STAA are that federal financing will continue to be tied to federal-aid systems and that there will continue to be a requirement for state/local match. Based on current highway financing trends, it appears that states will be able to provide their share of the increased federal aid. The average annual increase in federal aid resulting from the 1982 STAA is approximately \$750 million. Since 1980, total state receipts from highway-related sources have increased approximately \$1.05 billion per year. In general, if these trends continue, sufficient state revenues will be available to more than match the federal increase in highway authorizations.

The federal government will not be the sole source for leadership and resources in meeting our highway problems; the state and local governments also will be required to actively participate and provide additional revenues. This is no deviation from current activities and revenue generation responsibilities.

The federal role in highways has evolved over a period of 66 years, since the Federal-Aid Road Act of 1916 formalized a federal concern

for the basic primary system of roads. Since that time, systems and mileage eligible for federal aid have been added, and the rural post road system of 6,200 miles envisaged by the 1916 Act has grown to a multi-system program. Current conditions and trends in the federal-aid highway program have dictated a drive to realign the federal role in these systems.

The rationale for realigning the federal role is in line with the administration's desire to redefine responsibility within our federalist system. From the highway perspective, this means that the federal government assumes a greater role and responsibility in providing highway service on those systems and facilities of a national, interstate, and in some cases, regional significance. The tenets of federalism are in keeping with the state and local governments' professed interest in managing and directing their own affairs, again, using the case of the highway system, that includes systems of essentially state and local interest.

In furthering this initiative, President Reagan announced in his January 1983 State of the Union Address that he would shortly submit a comprehensive federalism proposal that would continue the administration's efforts to restore to state and local governments a more dynamic and appropriate role in governing this country. The legislative proposal, which has been introduced, consists of four block grants, one of which is a Transportation Block Grant.

The Transportation Block Grant is a highway transportation grant to states which consolidates six highway programs, covering urban systems (\$8 million); secondary systems (\$650 million); non-primary bridges (\$510 million); highway safety (\$10 million), and the safety construction programs of hazard elimination and rail-highway crossings (\$390 million). These would involve approximately \$2.36 billion annually. It provides for level funding for each of five fiscal years from 1984 through 1988 which will be financed by a portion of the federal gas tax revenues. During the five-year period, a state may elect to assume responsibility for the block grant in any of the five years, but the state must take over all six closely related programs in the block, rather than assuming responsibility for selected programs.

There are also safeguards built in the block grants to protect local governments including rural and urbanized areas by requiring states to consult with local units of government concerning state use of funds and require an assurance by the state that such consultations are held. The Transportation Block Grant also requires that large urbanized areas (population 200,000 or larger) will receive funds in accordance with established formulas, that are proportional to amounts that they would have received under current programs. Existing discrimination prohibitions under general law with respect to race, color, national origin, age, handicap, and sex apply to the block grant. States and localities must solicit public input on pre-expenditure reports describing how the funds

are to be used. Also, states and localities must prepare and make available for the public an annual report (post-expenditure) on activities assisted under the block grants; establish necessary fiscal and accounting procedures; and obtain independent audit of their expenditures.

The return of these programs, urban systems, secondary system, non-primary bridges, highway safety, hazard elimination, and rail-highway crossing, through the proposed Transportation Block Grant, is de facto recognition of the sophistication that states and locals have achieved. And it is an assertion of a more equal partnership in these programs, by providing funding and returning those programs, which are intrinsically of greater state and local importance, with little or few regulations and strings attached.

Certainly at this point, state and local governments will want to know what to expect—what is in it for them. States should have more flexibility, because matching requirements have been rescinded with the return of these programs and their funding. This increased autonomy will enable states to locate, design, and to construct projects to their own standards without the necessity of federal paperwork or approval. Consequently, construction should be considerably speeded up and less costly.

The revenues would come from a portion of federal motor fuel taxes set aside in a special account created in the Highway Trust Fund from which funds would be apportioned to the states in the same relative share as would have occurred under the regular programs.

With any new proposal there are a number of areas to be ironed out and considered; this is also the case with the proposed Transportation Block Grant. Although, a state may elect to change to a block grant instead of receiving the funds in the usual way, they cannot switch back. Authorizations are provided for these programs through 1988, but what happens then? Also, what is the intent of the legislation after 1988 for states that decide against participating? The president will establish a presidential commission to resolve these questions and to make recommendations on ways to finance the block grant after 1988.

If the New Federalism Initiative is passed, the Federal Highway Administration (FHWA) will maintain a role and presence in the programs to be returned, but basically in the areas of technical assistance, disseminating information, and providing training.

FEDERAL REGULATIONS

In the recent past, the federal government in general has been accused of over-burdening the federal-aid programs with excessive red tape and regulations. Within the FHWA, there has been a strong move afoot to reduce this burden. In the past two years, the FHWA has issued only two regulations, and these were issued because they were required by law.

The STAAA of 1982 was an extensive legislative effort that requires much interpretation and includes many requirements for the issuance of interpretive and guiding regulations. In order to stay on top of regulatory happenings, one must closely follow the *Federal Register*. Among the congressional mandates are requirements to issue regulations regarding truck size and weight, truck route network, minority business enterprise (MBE), “Buy America,” and Davis-Bacon provisions.

Under the truck size and weight provisions of the STAA as enacted by Congress, the new weights and dimensions which must be allowed are as follows:

- Width: 102 inches with three inches additional on each side permitted for safety devices, such as mirrors.
- Length: a minimum of 48 feet for trailers in a tractor-semitrailer (single) configuration; or 28 feet for trailers in a tractor-semitrailer-trailer combination (double or twin).
- Weight: previously permissive weights of 20,000 pounds single axle, 34,000 pounds tandem axle, and 80,000 pounds gross vehicle weight are now mandatory, subject to the existing bridge formula.

With respect to designated truck routes, the FHWA issued a policy statement on February 3 requesting the states to identify additional routes available to the larger dimension trucks authorized by the 1982 STAA. In the policy statement, FHWA had designated all Interstate highways and all other federal-aid primary highways with four or more lanes, access controlled, and divided as qualified for the larger trucks.

The states responded by identifying approximately 101,000 miles of federal-aid primary routes. The responses from the states were mixed. Thirteen states designated almost 100 percent of their federal-aid primary systems. Twelve states designated less than five percent of their federal-aid primary systems.

The FHWA supplemented the states’ designations by adding 38,000 miles of federal-aid primary routes to the qualifying system. The routes were added to provide interconnectivity among and within the states, access to urban centers, and geographic balance to the network to facilitate commerce.

The interim system designated by FHWA as of April 6 consists of 42,268 miles of Interstate and 138,968 miles of federal-aid primary. The total of 181,236 is 60 percent of all Interstate and federal-aid primary mileage, but only 4.7 percent of all public road mileage in the United States. The April 5 policy statement advised that a final rule on the designated system would be issued by October 3 along with the final designations. It is expected that a substantial portion of the 256,638-mile federal-aid primary system will be included in the final designated network.

Section 105(f) of the STAA of 1982 provided that ten percent of the funds authorized by the act must be spent with small business concerns owned by socially and economically disadvantaged individuals. Administration of the MBE provision has required the development of additional interpretive regulations.

Buy America provisions were modified by raising the differential at which foreign products can be used from ten percent to 25 percent, except for the acquisition of rolling stock. Regulations had to be issued to administer this provision too.

Also, the Davis-Bacon provision (a requirement to use wage rates as set by the Department of Labor on federal-aid projects) was clarified to ensure that it would apply to all construction projects including 4R projects.

Establishing regulations is a necessary function of government and the FHWA, but it is our desire to have the minimum control that is necessary to assure our proper stewardship of federal-aid program finances, while maintaining state control and program operation. As a result of this goal, the unique partnership that the FHWA and states have enjoyed is healthier now than in recent years.

FHWA RESEARCH AND DEVELOPMENT

Research was one of the principal missions of the first national highway program in the United States and is, in fact, the oldest continuous federal highway activity. Highway research began with the establishment of the Office of Road Inquiry in the Department of Agriculture in 1893. With the creation of this office, whose primary mission was to investigate the best methods of roadmaking and to assist in disseminating this information, a formal, organized research began.

The first sustained fiscal support for highway research was authorized by the Federal Highway Act of 1921. The foundation for the Federal-aid State Highway Planning and Research (HP&R) program was laid with the enactment of the Hayden-Cartwright Act of 1934. Under this Act, up to 1½ percent of the funds apportioned to a state could be used for “surveys, plans, and engineering investigations.”

The Federal-Aid Highway Act of 1944 added the term “research” to the phrase above, thus allowing the states to use their 1½ percent funds for a variety of research purposes. Funds which were not used for planning or research reverted to the construction program. With the Federal-Aid Highway Act of 1962 came the restriction that the funds be used for planning and research purposes only.

The FHWA role in highway R&D has evolved with the changing legislation. Initially, the federal government had the major responsibility and resources for conducting research and disseminating the results. Federally assisted highway R&D programs will spend nearly \$60 million

this fiscal year and involve many organizations and people. All of the states and many localities receive federal-aid or administrative contract funds for R&D. Highway research is performed by contractors, universities, associations, institutes, state highway agencies, other federal agencies, and our own staff. We also work cooperatively with the Transportation Research Board (TRB) and with other elements of the Department of Transportation. Through cooperative agreements with foreign nations, international research results are also included in the R&D program.

Today, there are four major programs performing highway R&D. These are the HP&R program; the National Cooperative Highway Research Program, or (NCHRP); the FHWA administrative contract program; and the FHWA staff research program.

The HP&R program is the cooperative federal/state venture authorized by Section 307 of Title 23, U.S.C. The available HP&R funds are used by the states to finance a two-part program: Part I, Planning, and Part II, Research. The share allocated to research ranges from 5 to 55 percent, with an average of approximately 20 percent. This year the states have programmed \$31 million, of the \$151 million available in HP&R funds, for research activities. States initiate R&D studies to be conducted by their own staff or by contract with public or private research organizations. Universities and colleges do a substantial portion of the State HP&R research. The FHWA provides technical guidance and coordination, and reviews and approves both the overall program and the individual study elements.

The NCHRP is a three-way contract between the American Association of State Highway and Transportation Officials (AASHTO), the FHWA, and the TRB. Research activities are selected by a special committee of AASHTO, called the Select Committee on Research, and administered by the TRB, with approval by the state highway officials.

Under this program, 4½ percent of the HP&R funds are pooled by the states on a voluntary basis for research which responds to the collective needs of state highway agencies. The FHWA, being responsible for the federal-aid funds used in NCHRP programs, reviews contractor selection, program content, and determines when completed work has fulfilled the technical requirements. Program selection and composition are the prerogative of AASHTO and the participating state highway agencies, through the Select Committee. For FY 1983, \$6.8 million is available for this program.

The FHWA now conducts a major portion of its own research and development work by contract as authorized by Title 23. Funding for this activity comes from the Highway Trust Fund and is reviewed, authorized, and appropriated annually by the congress. These funds are separate and apart from the HP&R funds, and amount to \$21.5 million

this year. Contract research is performed by private firms, universities, nonprofit organizations, individual consultants, other federal agencies, and state highway agencies.

The final program, our staff research and development, is conducted by FHWA employees. While some of the staff R&D is devoted to continuing efforts in major problem areas, a significant portion is geared to quick-action response for immediate problems identified by the operating offices of FHWA.

Our staff research activities have recently been enhanced by the completion of a new research facility at our Turner-Fairbank Highway Research Center in McLean, Virginia. The new structure provides 80,000 square feet of laboratory, office and support service space. The light laboratories include a highway driving simulator, pavement components laboratory, experimental vehicle preparation area, highway communication and electronics laboratory, and a highway noise laboratory. New heavy laboratories in building include a structural and a highway hydraulics laboratory.

Approximately 20 percent of total R&D employee time is spent conducting staff research. The remaining time is used to plan, administer, and monitor activities supported by Federal funds, including contract research, HP&R, and NCHRP. An important benefit of staff research is direct involvement with the latest technology, thus enhancing staff ability to manage research contracts and aid the states in the HP&R program.

With the increased funds available from the STAA of 1982, the state allocations for R&D have increased from \$19 million in FY 1982 to \$31 million in FY 1983. In addition to the activities in the federally supported HP&R program, some states supplement this program with additional 100 percent state funds. For FY 1983 the states have allocated an additional \$20 million for planning activities and nearly \$12 million for additional R&D work. In future years, there is a strong indication the States will use the increased HP&R funds to finance many activities previously covered with 100 percent state funds. It should also be noted that the size of the research program in many states is constrained by the limited staff available to conduct or administer the program.

The FHWA is responsible for coordinating the activities within the four R&D programs and minimizing duplication of effort. With over 1,400 active studies each year, this could be difficult. In 1970, we created an overall national program structure to coordinate the many activities and plan the future work. This structure, designated as the Federally Coordinated Program of Research and Development (FCP) is continually updated to reflect the most urgent problems facing local, state and federal highway officials.

The FCP is not merely a system for classification and tracking of

activities. Rather, it provides active leadership to focus the efforts of the many participants on the problems of current national interest. The FHWA research staff selects those aspects of such problems which can best be addressed by federal contract or staff activity, and actively promotes federal-aid studies on aspects which the states' research resources are in the best position to undertake. The states have experience with operational problems and a pool of research talent which cannot be obtained elsewhere, and often have effective cooperative arrangements with local universities for studies of highway problems. By this approach, the FCP serves to integrate the efforts of all participants, allowing common objectives to be achieved within the shortest possible time and at minimum cost. The involvement of the states also facilitates the subsequent step of technology transfer of research results into practice.