DEVOLVING SELECTED FEDERAL-AID HIGHWAY PROGRAMS AND REVENUE BASES: A CRITICAL APPRAISAL



Advisory Commission on Intergovernmental Relations A-108 September 1987

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(September 1987)

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Preface

uring an ACIR discussion of highway financing and program responsibility, Senator Dave Durenberger said that on this matter, "You're either a devolutionist or you're not, and I am." He is not the only devolutionist. ACIR has repeatedly urged devolution when increased political centralization and excessive fiscal control erode the self-governance powers of state and local communities. In the U.S. Constitution's Bicentennial year, we would do well to remember that the Constitution established an experiment in self-rule and shared rule involving a multiplicity of governments serving different purposes and constituencies, both near and far. State and local self-rule is advanced by having an energetic but limited national government, one that serves the general interests of the nation without impinging unduly on what are in fact state and local responsibilities.

Over the years, the Commission has explored a number of general means to achieve devolution, such as block grants, formula-based revenue sharing, origin-based tax sharing, "swaps" of responsibilities between governments, and turnbacks. In December 1985, ACIR again considered turnbacks-the simultaneous repeal of selected federal grant programs accompanied by the relinquishment of federal revenue bases to finance those programs. Without specifying particular grant programs or revenue bases, the Commission recommended turnbacks as one way to decentralize the federal system and urged the development of turnback packages in consultation with other interested members of the intergovernmental community. At the same time, the Commission cautioned that such a fundamental change in authority requires careful attention to matters of transition and of state-local relations.

At the March 1986 ACIR meeting, Governor John Carlin asked the Commission to study highway turnbacks.

This report, including three recommendations, was adopted in March 1987. The report examines federally aided highway programs, their current financing, and the turnback of specific categories of highway programs (excluding the Interstate Network) along with part of the federal tax base on motor fuels. Two ideas are key.

One idea is that particular categories of roads provide benefits to specific areas of less than national scope and so should be financed by the highway users in those areas. Such noncentralized provision can establish a desirable "fiscal equivalence" between the community that finances the roads and the citizens who benefit from the investment.

The second key idea is that it is the movement toward highway devolution that is important, not solely the specifics of a turnback package. The process of devolution will itself refine goals because that process should address the needs identified in the research—to stabilize federal highway financing and promote state-local cooperation on highway matters. (To facilitate cooperation, the Commission directed its staff to work with state and local officials and with state ACIRs.) Finance stabilization is a short-term goal, while enhanced state-local cooperation is an intermediate procedural goal intended to advance movement toward highway devolution.

> Robert B. Hawkins, Jr. Chairman

Acknowledgments and Related ACIR Reports

his report was written by Mark David Menchik, ACIR Senior Analyst, under the general supervision of John Kincaid, Director of Research, and Ronald J. Oakerson, Assistant Director of Research. Gary M. Anderson, Robert R. Gleason, Lawrence A. Hunter, Jane F. Roberts, and Max B. Sawicky contributed valuable suggestions. Lori A. O'Bier and Anita J. McPhaul provided skilled secretarial support, and MacArthur C. Jones carefully prepared the graphics.

We at ACIR gratefully acknowledge the assistance of the many public officials, staff members, and scholars who gave us the benefit of their experience, knowledge, and-viewpoints. ACIR especially appreciates the efforts of Moktee Ahmad. Robert Aten, Kazem Attaran, Madeleine Bloom, Rebecca Brady, William Colman, Albert Davis, Robert Fogel, Frank Francois, Barbara Harsha, George Herndon, Steve Juarez, Damian Kulash, Susan Lauffer, Jerry Letterer, Bruce McDowell, Ruth McWilliams, Harry Meyers, Deb Miller, Gerald Miller, Akira Nakamura, Janet Oakley, Michael Pagano, Michael Pleasants, Robert Rafuse, Suzanne Schneider, Tibby Sharlin, Larry Wieman, and Jay Wortley. These experts helped make the report a better one, even though they may not agree with all the findings or conclusions.

Earlier versions of the research on highway turnbacks were considered at meetings held by the Coalition of Northeastern Governors, National Association of State Budget Officers, National Conference of State Legislatures, National League of Cities, U.S. General Accounting Office, U.S. Senate Committee on Government Operations, and U.S. Department of Transportation. We are indebted to these organizations for providing a forum for discussion. Of course, full responsibility for the content and accuracy of the report rests solely with the Commission's staff.

The current work should be placed in context. ACIR has long examined federal programs operated by means of intergovernmental grants, looking at potential program improvements through the lens of federalism and taking the perspective of improving intergovernmental relations in the United States. In the early 1980s, for example, the ACIR reports most pertinent to this general topic include:

An Agenda for American Federalism: Restoring Confidence and Competence, A-86, June 1981, which is the concluding volume of a series examining the federal role in the federal system.

"Changing the Federal Aid System: An Analysis of Alternative Resource/Responsibility Turnbacks and Tradeoffs," a Staff Working Paper, December 1981, which examines alternative instruments for federalism reform, such as combining existing programs into block grants.

The present report is part of a larger study of whether programs now supported by federal grants to state and local governments can become more efficient and more responsive both to citizens and to state and local officials by means of the devolution of tax bases and program responsibilities, or, alternatively, whether programs of integral national interest require an enlarged federal role, such as an increase in the costs defrayed by federal financing. More recently, ACIR published:

Devolving Federal Program Responsibilities and Revenue Sources to State and Local Governments, A-104, March 1986, which discusses turnbacks in general.

Local Perspectives on State-Local Highway Consultation and Cooperation, SR-4, July 1987, a companion volume, which reports on a survey of associations of local officials.

> John Shannon Executive Director

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Recommendations

Recommendation 1

Stabilizing Federal Highway Financing: An Immediate Goal

The U.S. Advisory Commission on Intergovernmental Relations concludes that appropriations delays, policy uncertainties, and the accumulation of fiscal and regulatory limits in the federally aided highway system pose serious problems for state and local governments. The Commission recommends, therefore, that the Congress (in cooperation with the President) stabilize the federal fiscal role in financing highways and bridges. The Congress should avoid: (1) delayed disbursement of funds and (2) disbursements that are less than the amounts apportioned by statutory formulas (as has occurred with "cap" laws and the financing of demonstration and discretionary projects from Highway Trust Fund revenues). Actions, or inaction, that have the effect of using revenues in the Highway Trust Fund for purposes only indirectly related to highway construction and improvement should be replaced by direct Congressional enactment, with clearly stated goals. Issues not relevant to completing and modernizing the nation's federally aided roads and bridges should not jeopardize or delay funding for these essential components of the nation's infrastructure and these key contributors to the nation's economic competitiveness.

Recommendation 2

Facilitating State-Local Cooperation In Highway Financing: An Intermediate Goal

The Commission believes that local concerns about state responsiveness to local road and highway needs must be addressed before there can be an effective state-local partnership in the development of highway programs.

The Commission directs its staff, therefore, to work with state and local officials (and with state Advisory Commissions on Intergovernmental Relations) to help establish forums for discussion of how changes in federal highway grants might affect state and local highway finances, operations, and policies. Discussion should include members of governors' offices, state budget officials, state transportation officials, and state legislators, as well as local elected officials and their relevant staffs. Discussion could encompass, but not necessarily be limited to, matters of:

• the responsiveness of state elected and appointed officials to the highway-related concerns of local officials and their communities;

- local and interlocal disagreements about highway location, truck regulation, and state spending priorities;
- local capacity, responsibility, and power pertaining to highways;
- interlocal arrangements for specific highway functions;
- public-private cooperation and innovative finance mechanisms; and
- more generally, state and local roles, responsibilities, and powers with regard to highways. The purpose of such forums is not to dictate rigid or uniform rules but to encourage discussion that will identify issues, promote state-local cooperation, and facilitate, if possible, the implementation of any plan to manage federal highway revenues and responsibilities turned back to state and local governments.

Recommendation 3*

Turning Back All Non-Interstate Highways: A Long-Term Goal

A. The Commission concludes that a devolution of non-Interstate highway responsibilities and revenue sources to the states is a worthwhile goal and an appropriate step toward restoring a better balance of authority and accountability in the federal system. The Commission also believes that the following proposal is illustrative of the general, though not necessarily specific, direction in which the nation should move in achieving this goal. At the same time, the Commission is keenly aware of important issues, especially issues involving relations between local governments and their states, that must be addressed in order to achieve the goal of restoring non-Interstate highway responsibilities and revenue sources to the states. The Commission recommends, therefore, that in moving toward this turnback goal, the federal government, state governments, and local governments must seek to resolve the issues outlined in Recommendations 1 and 2 above.

B. It is the sense of the Commission that the Congress should move toward the goal of repealing all highway and bridge programs that are financed from the federal Highway Trust Fund, ex-

*Mayor Ferd Harrison, County Commissioner Sandra Smoley, Governor Ted Schwinden, and Representative Ted Weiss dissented. Mayor Harrison, County Commissioner Smoley, and Representative Weiss introduced the following dissent:

We dissent from Recommendation 3, Turning Back All Non-Interstate Highways. We believe it makes little sense for the Commission to go on record endorsing a highway turnback proposal, or taking a position on the future of the federal-aid highway program, when Congress just recently enacted a five-year extension of the program. It simply undermines any constructive role ACIR can play in the debate which will occur over the next several years on the future of the highway program. More specifically, we view the turnback proposal as bad public policy for the following reasons:

- It would eliminate most of the categorical federal-aid highway programs and would not guarantee replacement with comparable programs funded at comparable levels. The \$3 billion for the Secondary and Urban highway programs and the bridge programs which primarily benefit local governments would be lost.
- The federal-aid highway programs and the trust fund are responsible for building the best highway system in the world. The program itself has created thou-

cept for: (1) the Interstate highway system, (2) the portion of the bridge program that serves the Interstate system, (3) the emergency relief highway program, and (4) the federal lands highway program. The Commission urges that the Congress simultaneously relinquish an adequate share of the federal excise tax on gasoline—about 7 cents of the federal tax on motor fuel plus an additional 1 cent for a grant based on lane mileage—to finance the above programs.

C. The Commission further urges that the Congress employ transition grants when necessary in order to reduce any adverse fiscal effects of the new funding arrangement on individual states.

D. The Commission also urges that, during any transition period, states continue to consult and cooperate with affected local governments so as to minimize fiscal dislocation and uncertainty for local communities as they adjust to any new highway provision arrangement. Moreover, during the transition period, states should maintain the level of quality of highway services for those highways of importance to affected local communities.

sands of jobs and has been a tremendous stimulus to the economic development of many counties, cities, and regions of the United States.

- The underlying assumption in the turnback proposal is that each state would simply impose a comparable gas tax for highway purposes on its citizens. We have no way of knowing if that would happen. What might happen is that a lower gas tax would be imposed or that a newly imposed gas tax would be used for nontransportation purposes. State legislation, under pressure from various constituencies, might use the turned back gas tax authority for welfare or other purposes.
- Our infrastructure needs are growing in this country. The federal government should not be moving away from its commitment to the financing of such needs.
- Turnbacks are radical steps to take to solve the problems of the federal-aid highway program. The problems with the current authorization and appropriation process (such as unobligated and unappropriated balances in the trust fund) should be addressed by reforming the current processes rather than by elimination of them. ACIR should study these problems and make recommendations for addressing them and improving the existing federal highway program.

Introduction

urnbacks entail the simultaneous devolution of a federal responsibility to states and localities along with the relinquishment of a federal revenue base to finance that responsibility. Turnbacks are a potentially promising mechanism to decentralize the American federal system and to achieve a better assignment (i.e., a "sorting out") of responsibilities and revenues to individual governments. Highways are an appealing possibility for turnbacks because state and local governments already finance many important roads; indeed, these governments plan, build, and operate essentially all the streets and roads in the nation. The devolved roads would be financed-as most roads are-by a tax on motor fuels, in this case a share of the current federal tax base. With state and local governments freed from federal requirements, some of which are unsuitable and expensive, turnbacks offer the possibility of more flexible. more efficient, and more responsive financing of those roads that are of predominantly state or local concern. Investment in highways could be matched more closely to travel demand and to the benefits received by the communities served by those roads.

However, given that some very important benefits of the nation's highways are national in scope, it is important to consider which highway functions are most appropriate for devolution. At the same time, given the major role the federal government has played in highway finance since 1916, as well as the complex interplay between state and local highway concerns, any movement toward road and highway devolution must proceed with care and deliberation.

This is a good time to examine alternative ways of financing American roads. The recent reauthorization of federal highway grants provides a five-year period in which to consider changes. Another factor is that the 99th Congress adjourned without reauthorizing highway appropriations; consequently, from September 30, 1986, to April 2, 1987, the nation was without any new federal highway grants. This was not the first time that Congressional delays had held up highway funding or impeded orderly work on roads. Continuing Congressional disagreement, starting in 1985, delayed approval of the apportionment factors in the Interstate Cost Estimate by 18 months.¹ Another reason to consider changes in the financing of federally aided highways is that the accumulation of unappropriated and unobligated gas tax and related excise revenues in the Highway Trust Fund has reduced the federal deficit, as calculated currently. If the funds had been authorized, the deficit would have looked larger. Although reduction of the deficit is an important national goal, the failure to reauthorize Trust Fund spending delayed the work for which those revenues were legislatively intended, without there ever having been any change in the stated legislative intent of the Trust Fund.

Highway turnbacks potentially can add both certainty and flexibility—as well as efficiency and accountability—to the financing of the nation's transportation infrastructure as well as to the design and operation of both new and modernized roads. Turnbacks can improve more than roads. They offer an opportunity to reform an important component of fiscal and political federalism. Decentralization of specific highway programs can also be part of a larger "sorting out" of program responsibilities that would focus the attention and funding of the federal government on those national transportation issues which it is best qualified to address.

Any turnback proposal must answer some important questions, however, because highway turnbacks would significantly change the political and fiscal authority for roads, not simply alter highway financing. For example, the flexibility of funding and program operation that turnbacks would effect means that some states might not maintain existing spending priorities. A state government might cut spending so much as to reduce the level of highway services (despite efficiency improvements), particularly if the state faced hard times or a tight budget. Under the present federal matching grants, state-local funding is matched at a very favorable rate-at least three federal dollars for each state-local dollar. This matching rate provides a strong incentive to continue the state-local contribution. Similarly, if state-provided highway funds were cut, or if urban transportation needs or local growth concerns were given short shrift in a state house, a turnback might strain state-local relations.

It is also possible that the gains sought by highway turnbacks could be achieved by different changes, such as block grant funding or alterations of current categorical formulas for federal grants. Other possible changes in federal road financing, considered briefly in *Chapter 1*, are alternatives to turnbacks. Many of the other possible changes could also be combined with a turnback plan.

A. Research on Decentralization

A short history of ACIR's research on questions of decentralization and the intergovernmental sorting out of revenues and responsibilities will put the current work in context. In 1976, the Congress mandated an ACIR study of "the American federal fiscal system . . . including the allocation of taxing and spending authorities between levels of governments"² ACIR's leading recommendation (adopted June 1980) for this multi-year, multi-volume study begins as follows:

The Commission concludes that the federal government has overused the grantin-aid mechanism, sometimes giving the state and local governments roles in certain programs that could be handled best by the federal government itself, while at other times establishing a federal role in programs better left to state and local governments. In these cases, the grant mechanism often unnecessarily complicates the administration of the program, confuses political and program accountability, reduces effectiveness, interferes with economic efficiency, and rarely achieves equity goals. Hence the Commission reiterates and strongly re-endorses its earlier recommendation that the nation's excessively intergovernmentalized system be corrected by action of the Congress and the President.³

The recommendation went on to name specific federal programs and program areas appropriate for full federal financing. Although not designating individual programs or program areas for which the federal role should be relinquished to states and localities or consolidated (i.e., through block grants), the recommendation and supporting analysis did set out certain criteria for such action, including: (1) programs that do not embody essential national objectives, (2) program areas for which funding is fragmented among the levels of government, and (3) programs that could obtain most of their funding from state and local governments or from user charges.

Other organizations have also recommended a sorting out of roles, responsibilities, and revenues. The December 1985 report *To Form a More Perfect Union*⁴ was followed by a legislative proposal developed by Senator Daniel J. Evans, former Governor Charles S. Robb, and Senator Dave Durenberger. This draft legislation initially called for an increase in federal financing of welfare and Medicaid treatment for chronic illness, while also turning certain highway programs and highway excise taxes back to the states.⁵

ACIR has explored various mechanisms (e.g., block grants and turnbacks), revenue sources, and programs that might be good candidates for a sorting out of intergovernmental responsibilities. For example, a 1981 staff working paper emphasized the advantage of turning back revenues (most notably highway excises) that are directly linked to the program responsibilities that would be funded by those revenues. The report also underscored the need to minimize any state-by-state fiscal mismatch. Even in a turnback that is fiscally neutral nationwide, some states would gain funding on balance and others would lose. "Leveling up" to avoid any losses could be costly unless the extent of both gains and losses were minimized.⁶

The staff paper also stressed (as has later ACIR work) that any state-specific gains and losses should be examined in view of the revenue base of each state. A state with a weak revenue base and already high tax rates, for example, would find it difficult to replace lost federal funds. The situation could be even more severe for a hard-pressed city government with restricted taxing authority.

More recently, ACIR has endorsed revenue and responsibility turnbacks in a general way as a mechanism for fiscal and program decentralization. A 1986 report suggested criteria to assess sorting-out mechanisms, established principles for program turnbacks, and illuminated the choice of revenue bases to be given to state and local governments. The report also presented a computerassisted procedure designed to minimize mismatch. The Commission's turnback recommendation did not specify particular programs or revenues, although several illustrative packages were presented. The recommendation indicated that turnbacks "are a promising approach to achieving increased political decentralization." The 1986 report also raised certain concerns and suggested further consideration of the turnback concept before its implementation.⁷ The present report is a further exploration of the turnback concept as applied to the devolution of current federal-aid highway programs and motor fuel taxes.⁸

Other organizations and public officials have also considered highway turnbacks. For example, a turnback proposal has been endorsed by the National Association of State Budget Officers. Virginia's Governor Gerald L. Baliles, speaking to the American Association of State Highway and Transportation Officials in 1986, said:

Perhaps we have reached the point where those [Secondary and Urban highway] programs should be returned to the states and localities, accompanied by an adjustment in the taxing structure to reflect such a reduced federal role.⁹

Some students of federalism do not agree with the view that the intergovernmental system needs sorting out in general and greater decentralization in particular.¹⁰ An alternative view recommends "rational incrementalism," that is, step-by-step, "business as usual" adjustments to existing federal programs, laws, and revenues.¹¹

Another view emphasizes instances in which there is too little, not too much, federal control of those funds and programs that serve national purposes. Federal block grants impose few requirements on their state-local recipients, and these governments can frequently use even restrictive categorical grants to evade Congressionally intended purposes, or simply to free up own-source revenues.¹² In an important way, however, this view is consistent with ACIR's approach to federalism reform: that the federal government should exercise strong fiscal and program responsibility and control, but only in those fields in which there is an integral national interest.

B. Outline of this Report

Below, *Chapter 1* reviews and analyzes the federal highway program from a dual perspective: its history and the current issues confronting it. Additionally, it outlines possible changes in federal road financing mechanisms other than turnbacks and sets forth the goals used in the re-

port to assess turnbacks. Those goals also serve as a yardstick to see how other road financing changes and the existing federal-aid program measure up. *Chapter 2* delineates the principles applied in the design of a highway turnback package. *Chapter 2* also explores the reasons for undertaking turnbacks, highlights the potential advantages of turnbacks, and considers how turnbacks might influence state-local relations on

NOTES

- ¹The Surface Transportation Act of 1987, however, provides a "fallback" mechanism in the case of a future Congressional delay in enacting the statutorily required Interstate Cost Estimate.
- ²In PL 94-488, Sec. 145.
- ³ACIR, An Agenda for American Federalism: Restoring Confidence and Competence, A-86, June 1981, pp. 111-12.
- ⁴Committee on Federalism and National Purpose, *To Form A More Perfect Union*, Washington, DC: National Conference on Social Welfare, December 1985.
- ⁵The current version of the bill, however, still calls the list of federal programs to be relinquished "tentative," but omits mention of any change in federal highway programs or in motor fuel taxation. See the summary document entitled "The Partnership Act of 1987: A Proposal to Implement the Report To Form A More Perfect Union," March 1987. p. 11.
- ⁶ACIR, "Changing the Federal Aid System: An Analysis of Alternative Resource/Responsibility Turnbacks and Tradeoffs," a Staff Working Paper, December 1981.
- ⁷ACIR, Devolving Federal Program Responsibilities and Revenue Sources to State and Local Governments, A-104, March 1986, p. 4.
- ⁸The current work does not consider the federal financing of urban public transportation, although part of its cost is

matters of roads and highways. Chapter 3 raises practical concerns about the design and implementation of such a major change in federal highway financing. A summary and the report's findings appear in Chapter 4. The Appendix presents state-by-state figures for two illustrative turnback packages, designed to supplement the package shown in Chapter 4.

borne by a share of the federal motor fuels tax, and it has been included in certain turnback proposals. See the proposal for turning back all 9 cents of the federal gasoline tax that was presented at the February 1986 meeting of the National Governors' Association. Also see the purely illustrative package in pp. 58-65 of ACIR, Devolving Federal Program Responsibilities and Revenue Sources to State and Local Governments, cited above.

- ⁹Quoted in the National Governors' Association, Governors' Weekly Bulletin, November 14, 1986, p. 2.
- ¹⁰See, for example, the dissenting opinions in ACIR, A-104, pp. 4-7.
- ¹¹For example, see Richard P. Nathan, "'Reforming' the Federal Grant-in-Aid System for States and Localities," *National Tax Journal*, Vol. 31, No. 3, 1981.
- ¹²In general, see Thomas J. Anton, "Decay and Reconstruction in the Study of American Intergovernmental Relations," Publius, Vol. 6, No. 1, 1985; Edward M. Gramlich, "Reforming U.S. Federal Fiscal Arrangements," in John M. Quigley and Daniel L. Rubinfeld (eds.) American Domestic Priorities: An Economic Appraisal, Berkeley: University of California Press, 1985; and U.S. Department of the Treasury, Office of State and Local Finance, Federal-State-Local Fiscal Relations: Report to the President and the Congress, September 1985.

1 Federal Financing Of Highways: History and Current Concerns

rom this nation's beginning, the federal government has initiated transportation projects designed to help the country grow. Historically, federally aided transportation projects have emphasized reaching out to places remote from established centers of population and thus have helped knit together the nation and its economy. As transport technology developed and transportation needs changed, federal projects and the federal role changed also. In the 18th and 19th centuries, the national government constructed lighthouses and other aids to navigation, improved post roads to link centers of population, cut roads and dug canals to the frontier, and used land grants to advance the efforts of railroad companies to span the continent.

States, localities, and private companies were active too—often in partnership with the federal government, because the federal government has never financed all of any of the nation's transportation modes. There have always been transportation needs of smaller than national scope, and some transportation investments have been self-financed through charges to users. Moreover, most federal highway construction has been financed on a cost-sharing basis, with the states defraying part of the cost.

A. Evolution of the Federal-Aid Highway System

1. Role of the States. Active and innovative state highway departments and, since 1916, the federal-aid highway program have together made improvements in road travel.¹ At the start of the century, interurban roads were usually narrow, bumpy, impassable in poor weather, unsafe, and often devoid of directional signs for the stranger. Neither state agencies nor the federal governments had much skill in highway planning or in efficient construction and maintenance practices. Lane widths, road designs, vehicle registration requirements, and highway signs varied from place to place in a new way that burdened even the brave interstate motorist.

By the 1930s, the national government had encouraged the profession of "highway engineer" to come into being and assisted the states in the efficient management of wholly state-supported highways. One observer notes:

In order to participate in the national program, each state had to form a highway department so that responsibility for implementing the program was clearly identified. Moreover, each state had to adhere to national construction standards in order to qualify for federal aid. These two policies stimulated formation of a professional community of highway engineers [represented, most notably, through the American Association of State Highway and Transportation Officials and the Transportation Research Board] that has played an important role in identifying national transportation needs and in creating national policy.²

The federal grants have been "cooperative" because they emphasize a broad state role in road transportation and also because they support state planning of the national highway network. Unlike other federal infrastructure grants, the state role in the federal-aid highway program is far more comprehensive than simply construction and operation. Throughout the history of federally aided roads, the states have been responsible for highway construction and operation as well as for routine and preventive maintenance, and the states have retained ownership of the roads and the rights of way. At least in principle, the states have also retained the power to police traffic and to license vehicles and drivers, subject however to specific federal limits on those general powers, such as the national maximum speed limit.

As state highway officials and agencies became more experienced and professional, they came to dominate route planning and highway design. Compared to federal grant programs that are "top down," the federal-aid highway construction program has been called a state program supported by federal funds.

By 1942, the evolution of the federal-aid highway program was described by these words: "Its purpose was to accomplish national objectives through state and local administrative agencies, using the organizational and technical competence needed in the exercise of state and local functions."³

Given the continuing interest of state and local citizens in the streets and roads that they travel on, and the continuing highway responsibilities of the state and local governments for highways that serve these citizens, it is not surprising that the federal highway program could both draw on this state-local institutional capacity-particularly that of the states-and also help to build it up. The federal highway program is not an instance of a new program, alien to community interests, being "parachuted in." Rather, it is a noteworthy example of how a continuing and truly cooperative federal program can enhance the capacity of state and local governments to satisfy their constituents' long-term goals. Federal successes in highways owe much to the importance states place on highway matters.

It is often the states that have been the innovators, with the federal highway program later picking up new but proven ideas. For instance, on its own the State of Pennsylvania financed and built the Pennsylvania Turnpike, a model for the superhighways on today's Interstate network.

2. The Various Federal-Aid Highway Systems. In 1921, five years after modern federal-aid highway funding began, the Congress made an important policy choice through statutory language to restrict the federal aid program to a limited, nationally connected system of principal roads, rather than one-shot highway projects. An assemblage of specific federal highway projects may judiciously serve the national interest—or it may be no more than a series of pork barrel appropriations, but the Congress went on record with a very clear-cut goal: to establish a program that would build a nationwide road network.

Despite the significant language, the early program developed in a rather ad hoc way and eventually became what has been "rationalized" (to quote one commentator) as the Primary highway system.⁴ Primary roads now total 257,000 miles in length and serve 519 billion vehicle-miles of travel per year (VMT), which is the standard measure of highway use.⁵

The purpose of federal aid was expanded in 1944 with the start of the Secondary system. This system has the stated goal of linking farms to markets, which often has led to building feeder roads that connect to the Primary network. Today there are 156 billion vehicle-miles traveled on the 398,000 miles of Secondary highways.

The federal support of strictly urban roads (i.e., those that are not direct links in the national network) increased gradually. In 1944 federal funding was authorized only for urban extensions of the Primary system and, in 1954, for urban extensions of the predominantly rural Secondary system. It was not until 1973 that a separate Urban system was established, dropping the extension requirement. That system now totals 144,000 miles and 383 billion VMTs.

The Federal-Aid Highway Act of 1956 provided the impetus for another, higher-speed national network of roads: the roughly 45,000- mile Interstate system. Originally, that system was to have been finished in 1972, but the completion date has been extended repeatedly, most recently (April 1987) to 1992. About 97 percent of Interstate mileage is currently in place, although some urban components are not-yet finished. Repeatedly since 1982, the Congressional Budget Office (CBO) has observed that a disproportionately high fraction of the uncompleted Interstate system consists of urban feeders or peripherals-potentially very important for individual metropolitan areas but less so for the national network. CBO has estimated that nearly two-thirds of new Interstate construction costs will go to projects that are not of national significance.⁶

The already completed Interstate highways carry a large share of the nation's traffic. Counting all streets and roads (and thus taking strictly state and local routes into account, which total 3,019,000 miles in length), the Interstate system makes up only 1.1 percent of the nation's road mileage, but it serves fully 21 percent of all the vehicle-miles traveled. By comparison, the Secondary system accounts for only 9 percent of total national VMTs, while the more intensively used Urban system accounts for 22 percent.

Regular federal highway funds have always been usable for capital improvements to bridges that connect portions of the federal-aid highway system. However, by establishing a separate bridge replacement and rehabilitation program in 1970, the Congress gave special attention to bridge structures and widening so as to increase safety and traffic capacity.

Unfortunately for the public understanding of it, the federal bridge program mixes the goal of

bridge safety with that of augmenting the capacity of bridges to carry traffic. For example, a bridge is considered to be "structurally deficient" if it has fewer traffic lanes than the roads it connects.⁷ Although this kind of "structural deficiency" may indicate a traffic bottleneck, it does not warn of bridge collapse. The bridge program also provides specified funding for "off-system" bridges, that is, bridges that do not connect portions of the federal-aid highway system.

Federal grant funds have never been intended for routine or preventive maintenance; these have been considered state responsibilities. Originally, the federal government bore much—often, the lion's share—of the initial cost of building the federal-aid road system while the states were expected to assume maintenance and operating expenses. However, in 1976 the Interstate "3R" program augmented new construction funding with grants for resurfacing, restoration, and rehabilitation work on Interstate highways. In 1981 a fourth "R" was added—reconstruction.

The vast majority of roads in the Primary, Secondary, and Urban systems have been built for some time. Continuing federal support is used for large-scale capital improvements (such as widening) to increase traffic capacity, remove bottlenecks, and enhance safety.⁸ There are minimum federal construction standards for many aspects of highway geometry, such as lane and shoulder widths and other requirements designed, for example, to restrict using the right of way for nontransportation purposes that might detract from federal program objectives.

At times, however, the federal standards pose problems for state and local governments. For instance, where roads are bordered by homes and businesses, the federal standards for widening may mean displacement and relocation, which are rarely popular among these who are required to move. To avoid forced relocation, a state highway department may be inclined to focus improvements and modernization on locations with few roadside buildings, but where growth is forecast for the future, thus avoiding distressed urban communities.

3. Federal Revenue Sources. At about the same time as the federal-aid highway program began, the national government started to levy highway-related excise taxes. Initially these were ad valorem taxes on vehicles, but at one time or another, tires and lubricating oil also have been taxed. The first federal tax on motor fuels, at 1 cent a gallon, was imposed in 1932. This tax, now 9 cents per gallon on gasoline and 15 cents for diesel fuel,⁹ has come to dominate federal highway tax receipts, and accounts for 83 percent of the total.¹⁰

The Highway Trust Fund was established by the *Federal-Aid Highway Act of 1956*, which spurred the first significant construction of the Interstate system. This was a novel approach to highway financing and was hotly debated at the time, as noted by a Congressional Budget Office report written in 1978:

Informal linkage between fuel tax receipts and highway programs had existed in the past, inasmuch as the Congress had long used fuel tax revenues as a benchmark to determine highway authorizations, but creation of the Highway Trust Fund imposed official, statutory dedication. The dedication concept arose rather late in the legislative process leading to the 1956 act. It served two important purposes:

- It provided a long-term funding source against which the Interstate system could be planned and completed;
- It reassured highway users that aid programs would be expanded and thereby weakened resistance to the accompanying increases in highwayrelated taxes.

The existence of the Trust Fund and its dedicated receipts makes highway funding more reliable, but the Trust Fund is simply an accounting device—it does not constitute the federal highway program.¹¹

Although these goals have often been achieved, the Congress has repeatedly interrupted the process and changed the rules. At the present time, when the balance in the Trust Fund has been increasing (as discussed below), there is no immediate guarantee that all of current highway taxes will go directly to federal highway grants. Delays in disbursing the revenues do not make "highway funding more reliable"; they violate a stated goal of the Highway Trust Fund.

4. Increases in the Federal Cost Share. States have always shared in the cost of federally aided highways, not only by defraying maintenance expenses but also by a stated percentage of federally funded construction costs. The percentage of construction costs that the federal government reimburses to the states has, however, increased substantially over time.

For most states in 1956, federal grants defrayed 50 percent of eligible costs in the Primary, Secondary, and Urban programs. That statutory share has increased to the current figure of 75 percent for most states, although states with considerable federal lands may receive up to 95 percent reimbursement. From the start, the federal share of eligible Interstate highway costs has been a minimum of 90 percent.

In addition, the number of so-called "demonstration" projects has grown, both absolutely and as a fraction of federal funding. *The Surface Transportation Assistance Act of 1987* specifies 152 different demonstration projects, which will cost \$1.6 billion for their first five years and an additional \$6.8 billion to complete. These demonstration grants usually require little or no cost sharing from the area that benefits from a project.¹²

5. Categorical Funding. Just as the federalaid highway program has been cooperative since its inception-relying on state cost sharing and involving state highway departments in an integral way-so has its funding always been categorical, with specific requirements for state receipt of grants. In the program's 70-year history, these requirements have varied significantly-sometimes being very specific, sometimes being so general as to be meaningless, sometimes intruding on the operations of highway agencies in unwelcome fashion, sometimes providing them with the justification to do what they wanted to do anyway. Throughout the program's evolution, however, the specifics of the federal interest in highway finance-as viewed by the federal governmenthave been expressed in categorical requirements.

The program has evolved, with the Congress and the Federal Highway Administration generally being responsive to state highway officials and professional associations of highway engineers, as well as to a broad range of other interest groups (private as well as public) that are concerned with the nation's principal roads.¹³

That the program continues to be responsive to the concerns of the various private and public interest groups, especially those expressed inside the Washington beltway, has been a recurring weakness as well as a continuing strength. The weakness recurs because, as a complex categorical grant, it is easy to "tinker" with the federal highway program. Requirements and procedures can be added to quell criticisms of the moment; however, such changes can interfere with speedy and efficient achievement of the program's fundamental goals. Similarly, exploiting a successful partnership of long standing, the federal government can—for a while at least—sorely try the patience of the other members of the highway partnership.

A recent and compelling example is the failure of the 99th Congress in 1986 to agree on a bill that (simply put) would reauthorize *The Surface Transportation Assistance Act of 1982*. The 100th Congress then took almost three months to write a law that would pass both houses over the President's previously promised veto. As a consequence, the nation was without new federal highway funding for more than six months—not the first time highway funding has lapsed, but the longest lapse to date.

The controversy over highway funding in both the 99th and 100th Congresses derived from three key issues: (1) the demonstration projects, (2) the regulation of billboards near highways, and (3) what became known as the "national 55 mph speed limit." Neither topic is directly related to highway construction or modernization. The very notion of a national speed limit, moreover, involves the intrusion of the federal government into how states police their roads, which bears no direct relationship to road building and had not been a concern of the federal highway program until recent years. These issues show how vulnerable even a long-standing and well-regarded categorical program is to being burdened by political concerns of no direct relevance to fundamental program goals.

6. Accretion of Federal Mandates. In time, federal requirements and sanctions have accumulated, which have limited state and local governments' flexibility in road construction and operation, have restricted these governments' ability to address specific transportation needs, and have probably increased the cost and time needed for road improvements.

The federal regulation of state and local road activities has taken three principal forms: (1) program-specific requirements, (2) crossover sanctions, and (3) crosscutting requirements. (The latter two forms of federal mandates will be defined shortly.)

Program-specific requirements are tied directly to particular grants-in-aid and to the implicit and explicit goals of federal programs. Thus, certain hearings are required as part of the highway planning process, and there are minimum standards for the design of various federally aided highways.

The design standards required for receiving federal road grants may often be higher than those actually employed for roads built with state or local funds alone. The result can be that some federally subsidized highways are "gold-plated," that is, built more lavishly than would be the case if state and local governments made the tradeoffs involved in highway plans and financed their choices by taxes levied on their own constituents.

As an example of potentially excessive standards, expressways built to the requirements of the Interstate network use more land in rights of way than is sometimes needed or worthwhile, simply because of the nationally uniform standards. There are strong political tendencies for national standards to "level up" to every likely circumstance or tradeoff, with a result that is expensive, inflexible, or both. For instance, limited access Interstate routes must ordinarily have shoulders at least ten-feet wide. California, however, has built many safe, heavily traveled, non-Interstate highways with shoulders of only eight feet.¹⁴

Japan's national expressways—which are modern, high-performance roads—are built with narrower medians, traffic lanes, and shoulders than comparable roads here. Compared to the United States, Japan has less land that is not built upon or otherwise in essential uses, and so has had to build roads that are more land-efficient. To protect Japanese motorists against being blinded or distracted by oncoming headlights, glare screens are placed in the median strips, rather than relying on broad medians alone.¹⁵ Alternative design standards are possible without sacrificing safety or traffic capacity.

Inflexible federal design standards that lead to roads with overly large rights of way do more

harm than waste funds on excess land acquisition. Such standards and requirements also make it more difficult to build modern roads in congested cities where the rights of way are simply not available. This de facto bias against superhighways in older urban areas might not occur if design standards were set by state and city road departments in light of the particular circumstances influencing urban highways, as opposed to what is appropriate for roads in sparsely settled areas.

Just as it is difficult for national standards to adjust to different geographic conditions and landuse patterns, it would be surprising if state and local highway planners, unconstrained by federal requirements, did *not* endeavor to be responsive to community preferences, priorities, and traditions.

Crossover sanctions, the second form of federal mandates, are not directly related to the activity that receives federal financial assistance. An instance is federal legislation that requires specified maximum speed limits on all roads—federally aided or not—as a condition for approval of any federal highway projects.

Crossover sanctions can easily be the most intrusive form of federal mandate because they threaten withdrawal of federal funds for state action not directly hurting the operation of the grant program. The debate over easing the 55 mph speed limit is a case in point. Those who supported retaining that limit argued that higher speed limits, set by state action, would be unsafe. But are not governors, state legislatures, and local officials responsive to safety concerns? Policing the highways is, after all, a matter of state law and state and local patrols.

There have been many crossover sanctions attached to the federal-aid highway program. In 1934 highway interests enacted the Hayden-Cartwright provision threatening withdrawal of federal road funds if the states diverted their own previously levied gas taxes to nonhighway uses.¹⁶

Crosscutting requirements, the third form of federal regulation, cut across several federal programs, and so may intrude the most broadly upon the choices of state-local governments and citizens. Examples include the rule that federally aided projects be preceded by an environmental analysis and the *Davis-Bacon* requirement to pay union wage rates, or the equivalent. (The Federal Highway Administration has estimated that the Davis-Bacon requirement added between \$293 and \$586 million to road costs in FY 1986.)

William G. Colman, reviewing the intergovernmental regulation of public works from a federalist perspective, has urged the national government to allow greater flexibility to state and local grant recipients. The federal government should focus on ends, not means, to attain program goals. At the same time, he recommends that both the federal and state governments identify and mitigate the legal and administrative barriers to speedy and economic completion of public works projects.¹⁷

The Congressional Budget Office concurs, saying:

Federal programs show mixed results in encouraging sufficiently wide searches for projects that would improve the infrastructure. Too many programs actually discourage wide searches by offering states and localities only narrow ranges of projects eligible for aid On the other hand . . . cities have recently been granted the freedom to switch federal aid from urban Interstate highway system construction to other urban transport improvements. This freedom has sharpened their priorities for the selection of projects to complete the Interstate network. Overall, 71 percent of the Interstate highway gaps "traded in" under this program since 1980 would have been poor investments. with zero or even negative returns (losses) had they been constructed.18

In effect, federal regulations can increase the cost and time that are required when the regulations raise the standards for construction, operation, and planning to higher levels than would be chosen by state or local governments. The design standards in federal law or regulations, for example, can force the construction of a road that is more costly because it is built to a higher level than is needed or justifiable in terms of budget priorities.

Highway interests may be able to "level up" the standards in federal law, that is, lobby for federal standards for each highway characteristic that are almost to the highest level practiced. "Leveling up" is not only costly, it overlooks the tradeoffs among desirable but costly features that is the hallmark of careful planning.

The tendency to incur higher costs through higher standards is distinct from federal procedural requirements (such as *Davis-Bacon*) that add to the cost of highways of fixed characteristics. Because these two cost influences are difficult to separate, and since the experience with nonfederal highways built to high standards is so limited, it is difficult to make reliable estimates for the cost of federal highway regulations.

The federal restriction on state and local road choices occurs not solely because federal standards are high, but because they tend to be inflexible, inappropriate to circumstances that vary from place to place, and more responsive to national interest groups than to the users of specific highways. Requiring broad median strips is one way to separate opposing traffic, but there are other alternatives in congested areas. The combination of a glare screen with a guard rail, as is done in Japan, provides safety while reducing the amount of land needed.¹⁹

7. Role of Local Governments. Local governments have not been receiving federal highway funding directly under the major federal aid programs, neither is there a pass-through requirement as such. Many states, however, do transfer federal funds to local governments, often by state law, and federal law has supported such arrangements, although it has not guaranteed them.

Federal highway grants are awarded to state transportation agencies almost exclusively. Nevertheless, the role of local governments in federally aided highways, although often indirect, is now pervasive. Since 1973 a portion of the grants for the federal-aid Urban system has been earmarked for use in urbanized areas with populations of 200,000 and over, even though the actual spending of the funds is done by state transportation departments. Urban population is used in certain of the formula allocations, as is rural population for the Primary and Secondary systems.

Writing about the evolution of the federal highway program, Arthur Bauer observes that:

The state-federal relationship that had been the foundation of highway programs . . . was modified in several important ways by the *Highway Act of 1944*. For the first time, states were required to consult

with counties in the selection of Secondary routes, as well as to involve counties in the selection of expenditure priorities for the Secondary system. In addition, state highway departments had to form special organizations to manage the Secondary program. States could, however, arrange for counties having technical competence to implement the Secondary highway program directly By 1960, the federally supported highway program had become a substantial national endeavor; cooperative intergovernmental relations formed its cornerstone as implementation was shared by the federal, state, and local governments If there was a weakness in the development of the highway program, it was the failure to involve cities formally in the state-federal partnership.20

Partly in response to this weakness, the *Federal Highway Act of 1962* initiated the "3-C" metropolitan highway planning process (i.e., continuing, comprehensive, and cooperative planning) for urbanized areas of at least 50,000 population. This process came to mandate the formation of metropolitan planning organizations (MPOs).²¹

No foe of transportation planning as such, Bauer nevertheless criticizes the 3-C process and MPOs as being based on a mistaken notion of the appropriateness and efficacy of the "bureaucratic centralization" of choices that are actually matters for local governance. The 3-C process was designed to achieve what was in effect a change in collective choices-giving urban concerns a higher priority-that would have required altering the relative power of the different institutions, agency and professional interest groups, and communities of highway users. Simply adding a general requirement for "consultation" and "planning" does not reconcile diverse interests by itself, and neither does it change the priorities of a state transportation department or a legislative highway committee.

Bauer concludes that: "Perhaps the alleged failure of the 3-C process and the MPOs to overcome 'divided' authority for transportation planning and investment determination is not a failure of the structure itself, but more significantly a failure in understanding our federal political system. For example, the political system is not hierarchical but noncentralized, with many semi-autonomous agencies that are legally constituted for specific purposes. Each agency, of course, has its own constituency and its own aspirations and goals for the future."²²

A fair evaluation of the 3-C planning process and MPOs need not undermine the notion of metropolitan highway planning, but it focuses on what planning organizations can and cannot accomplish. They can perform valuable technical and professional functions by providing needed data, projections, and alternative plans. MPOs can serve as intermediaries, and thereby foster agreement among local governments (both elected and transportation officials) as well as facilitate statelocal agreement.

Moreover, effective MPOs are usually comprehensive in their outlook, as they not only incorporate their views of citizen preferences but also relate short-term and small-scale matters of highway financing, construction, policing, and upgrading to long-term and broad-brush issues of regional priorities and goals. The key regional priorities and goals are not limited to transportation interests, but include as well land use and economic issues.

To a considerable extent, the work of interstate MPOs (i.e., those with a metropolitan area that straddles a state line) is both more difficult and more valuable than it is for those interlocal organizations that work within a single state. The interstate MPOs deal with two (or more) sets of state statutes, two different state fiscal situations, two state transportation departments, and two state legislatures. Yet the opportunities match the challenges. By avoiding short-sighted thinking, they gain the advantages of two diverse sets of state political and institutional ideas and procedures.

However, although both intrastate and interstate MPOs can serve as a valuable forum for state-local, local-local, and interstate communication and plan making, they generally cannot by themselves "reconcile" diverse interlocal goals and priorities. That is a matter for the multigovernmental, state-local political process. Local governments gain power over highway matters primarily by fiscal and political authority and responsibility—much less through coordination and consultation. For example, Bauer identifies flexibility in existing federal law that has encouraged California to allow local governments to veto particular highway projects. This transfer of authority from state to local governments has proven successful. Local vetoes of state plans are less common, fortunately, than state-local negotiation; cooperation between state and local officials in California is more common than conflict.²³

B. Critical Developments in the Federal-Aid Highway Program

1. Federal Tax Collections and Funding Levels. Excluding interest on the balance in the Highway Trust Fund, and excluding the mass transit account,²⁴ the trust fund totaled \$11.931 billion in FY (fiscal year) 1986.25 Receipts are projected to grow slowly but steadily to \$13.019 billion in FY 1990, an annual rate of increase of 2.2 percent. The lion's share of receipts (grossing \$11.321 billion in FY 1986) comes from the tax on motor fuels; the remainder comes from various taxes on truck use, truck purchase prices, and the like. In practice, these miscellaneous excises are collected at the point of manufacture or wholesaling, not at the place of use. The federal tax on motor fuels can easily be levied at the pump-as state taxes are-and so is administratively eligible for devolution to the states.

2. Increased Federal Gas Taxation Has Increased Federal Highway Grants. In April 1983 the federal tax on gasoline increased from 4 to 9 cents per gallon. The tax on diesel fuel later increased to 15 cents a gallon. Gasoline taxation accounts for 76 percent of the gross federal motor fuel receipts, with diesel fuel and some other special fuels (e.g., gasohol) bringing in \$2.669 billion (gross of various accounting adjustments) in FY 1986.

These increases in motor fuel taxes were enacted at the end of 1982, near the trough of a serious recession. They were intended to increase sharply the spending from the Trust Fund, to improve the condition of the nation's highways, to provide federally supported jobs, to encourage completion of the Interstate system, and to stabilize funding for both highways and public transportation.

What is the impact, thus far, of increased user taxes on spending from the Highway Trust Fund?²⁶ Excise revenues deposited into the Trust Fund were \$6.744 billion in FY 1982. Federal-aid highway obligations increased significantly, from \$8.415 billion in FY 1982 to \$14.471 billion in FY 1986. Probably reflecting the expanded amount of work still in the financial pipeline, actual expenditures from the Trust Fund to the states increased by a somewhat smaller amount, from \$7.969 billion in CY (calendar year) 1982 to \$13.290 billion in CY 1985, the latest available information for this expenditure series. Most of the increased obligations from FY 1982 to FY 1986 were accounted for in five ways:

- 1. Interstate 4R shot up from \$0.578 billion to \$2.230 billion.
- 2. The Interstate Substitution Program grew from \$276 million to \$588 million. This program increases the flexibility of federal transportation funding by allowing states to "trade in" certain moneys for uncompleted Interstate links for use by other transportation projects.
- 3. A new program provided \$988 million in "minimum allocations" to ensure that no state receives federal highway grants that are less than 85 percent of its contributions into the Highway Trust Fund.
- Spurred by safety concerns, obligations for the Bridge Replacement and Rehabilitation Program increased from \$0.745 billion to \$1.442 billion.
- 5. Funding grew for a variety of small and often specific programs and projects, including those for the Baltimore-Washington Parkway, the Los Angeles Freight Demonstration Project, and the Vermont Certification Demonstration Project. Excluding the major, formula-apportioned highway and bridge programs,²⁷ obligations in the remaining budget lines increased from \$1.501 billion to \$2.614 billion. Most of this increase went to heightened support of discretionary programs, often individually designated by the Congress, whose total grew from \$0.479 billion to \$1.168 billion. The funding of demonstration projects also increased.²⁸

Another important budget concept we can use to monitor federal-aid highway spending is the level of "apportionments." Compared to obligations and expenditures, apportionments look forward in time. As mentioned, apportionments are calculated from the various grant formulas, from the cost estimates for Interstate completion, and from other provisions of law.²⁹ To help arrange for orderly construction, apportionment figures especially for the Interstate system, which are set an extra year ahead of time—are announced in advance of when the funds can be obligated, and also in advance of when the Congress appropriates funds to liquidate the obligations that have been incurred under past obligation ceilings, which are also set by the Congress. Because state budget cycles do not coincide with the federal fiscal year, state officials need reliable advance information.

Apportionment figures for all federal-aid highway programs have indeed grown, but Congressional limitations on obligations—providing less spendable money than was collected and formulaapportioned—have delayed much of the increased highway spending intended when highway excises were increased. For instance, an April 1986 FHWA directive specified the limits on formulabased obligations for FY 1986. The obligation limits totaled \$11.358 billion, more than \$2 billion less funding than the apportionment for this period.³⁰

3. Delays and Uncertainties in Funding. Funding has not only been cut below expectation, it has also been delayed. In 1985, continuing Congressional disagreement on the Interstate Cost Estimate delayed the release of Interstate construction funds by a total of 18 months.

This was not the first time that Congress has delayed highway funding. Stalled reauthorization eliminated highway apportionments in 1972.31 Transportation funding uncertainty is not new and cannot be blamed entirely on the Congress. Presidents Johnson and Nixon both impounded highway moneys. Yet under current federal arrangements, such uncertainty may well continue, despite a large balance in the Highway Trust Fund that may be used to smooth out the flow of funds. The use of some of those Trust Fund revenues that are released to pay for demonstration and certain discretionary projects contributes to state uncertainty about the funding of the major federal-aid highway programs. Discretionary funding is not formula-based or guided by a national plan, and the geographic distribution of grants for new demonstration projects fluctuates sharply from year to year, often varying as the political influence of individual members of Congress waxes and wanes.

4. The Balance in the Highway Trust Fund and Federal Deficit Reduction. During the last few years, authorizations less than tax receipts. obligation ceilings that are less than the apportioned amounts, and delayed authorizations have all contributed to a rising balance in the Highway Trust Fund. There are different measures of the balance in the Trust Fund and certainly different estimates of the future balance. In November 1986 the National Association of State Budget Officers figured the balance to be about \$10 billion and said that under current policies it would grow to \$20 billion by 1990. In June 1987 the Federal Highway Administration reported a \$6.5-billion balance, which it said would increase to \$9 billion by 1990.³²

As the Interstate network nears completion, it would seem that smaller and smaller balances in the Trust Fund are needed to guarantee funding and to assure orderly progress if the grants are awarded on schedule.

Although highway excises are dedicated to transportation, a balance in the Trust Fund has the statistical effect of reducing the calculated federal deficit. Without doubt, federal deficit reduction is a widely shared objective. The question is whether this mechanism is appropriate to the job, given the Congress's past decision to dedicate federal-aid highway funding.

The "back-door" action by the Congress that has swelled reserves for deficit reduction in effect diminishes the nation's trust in the Highway Trust Fund as a reliable means of road financing. On the other hand, budget analysts have long criticized special funds and dedicated revenues for improperly insulating some government functions from the political processes and the public choices that constrain most government decisions on taxing and spending. It is important for both analysts and elected officials to re-examine the purposes and budgetary mechanisms of the 30-year-old Highway Trust Fund, that must now operate under pressures for deficit reduction.

C. Are Federal Grants Improving the Condition of Interstate Highways?

1. Indicators of Pavement Condition. The increase in federal highway excises that was signed

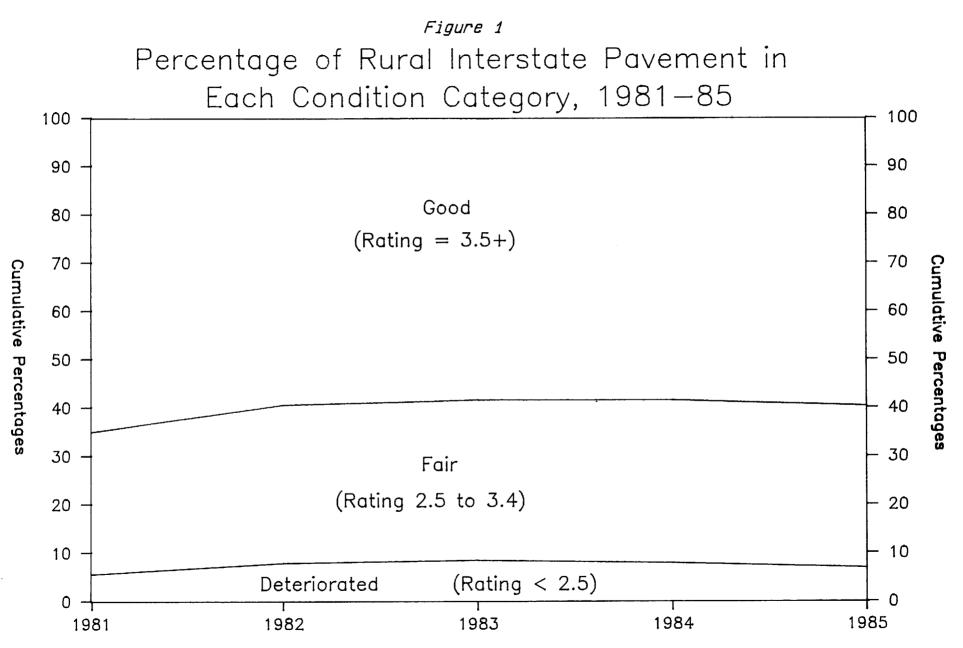
into law in January 1983 was in large' part intended to improve the condition of the nation's major highways. To assess whether increased grants have actually improved the condition of Interstate roadways, we employ a standard measure of pavement condition, the "present serviceability rating" (PSR), which was developed about 25 years ago. The PSR index ranges from a low score of 0.1 to a high of 5.0. An interval from 3.5 to 5.0 is generally considered "good" for Interstate roads, and one of 2.5 to 3.4 is regarded as "fair."³³

Low PSR values indicate poor construction, disclose deterioration, and bode ill for speed of travel, comfort, efficient future highway life, and possibly safety. Although the definition is standard, the reports of state agencies are sometimes incomplete, and almost no data are available before 1981. Information provided by the states to the Federal Highway Administration is analyzed in the accompanying charts, for the period from 1981 to 1985.³⁴

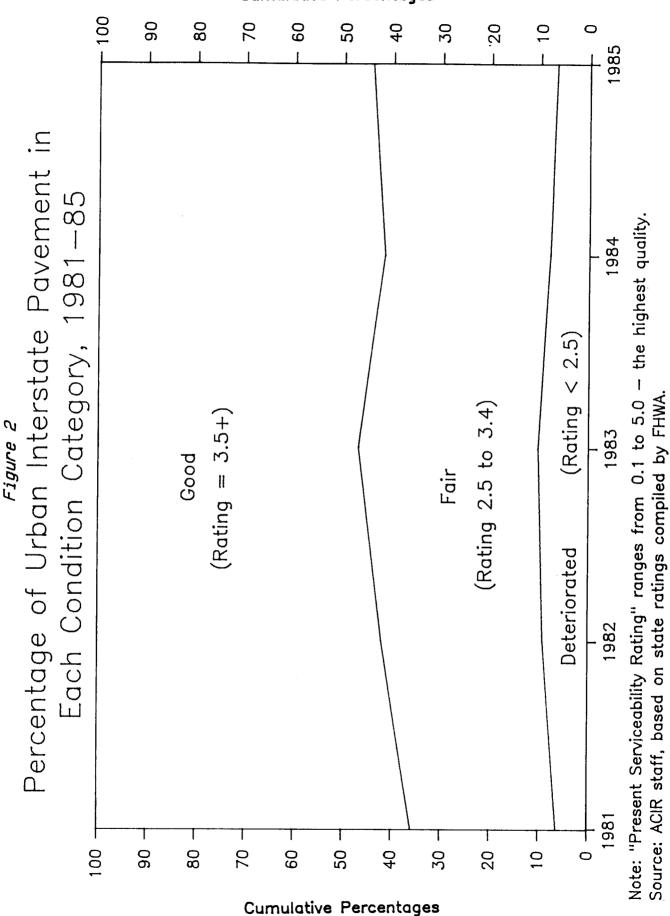
Nationwide, pavement conditions on the rural Interstate roads seem to have worsened, although on average the trend seems to have been reversed in the last year or two for which data are available. (See below, for state-specific data.) Condition ratings vary sharply from state to state. In 1981, 65.0 percent of the nation's rural mileage received a PSR between 3.5 and 5.0. In 1983 the percentage declined to 58.3, and then inched up to 59.6 by 1985. PSRs of 0.1 to 2.4, the worst category, are considered to indicate a "deteriorated" condition. The percentage of rural Interstate mileage in this category rose from 5.6 in 1981 to 8.6 in 1983, thereafter declining to 7.0 in 1985 (*Figure 1*).³⁵

Urban Interstate roads tell a similar story. Mileage in the best PSR category declined from 64.1 percent (in 1981) to 53.1 percent in 1983, thereafter improving to 55.8 percent in 1985. In 1981, 6.3 percent of the urban mileage fell into the worst category (*Figure 2*). This rose to 10.3 percent in 1983, thereafter decreasing to 6.6 percent in 1985.³⁶

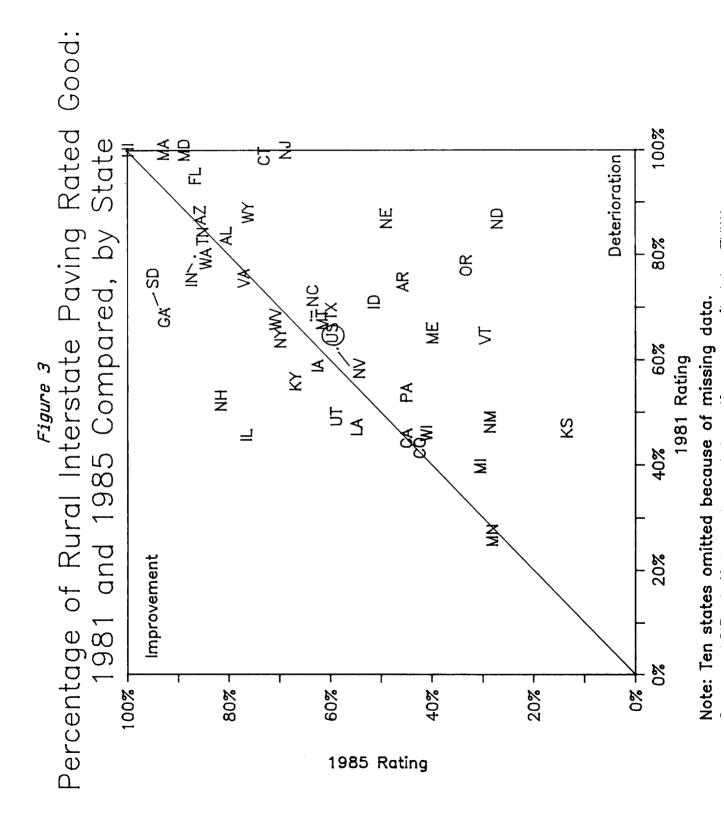
Whether or not there are any nationwide trends in Interstate pavement condition, highway conditions—and changes in conditions—vary sharply from state to state, as shown in the next two figures. *Figures 3 and 4* plot a scatter of points showing state pavement conditions in both

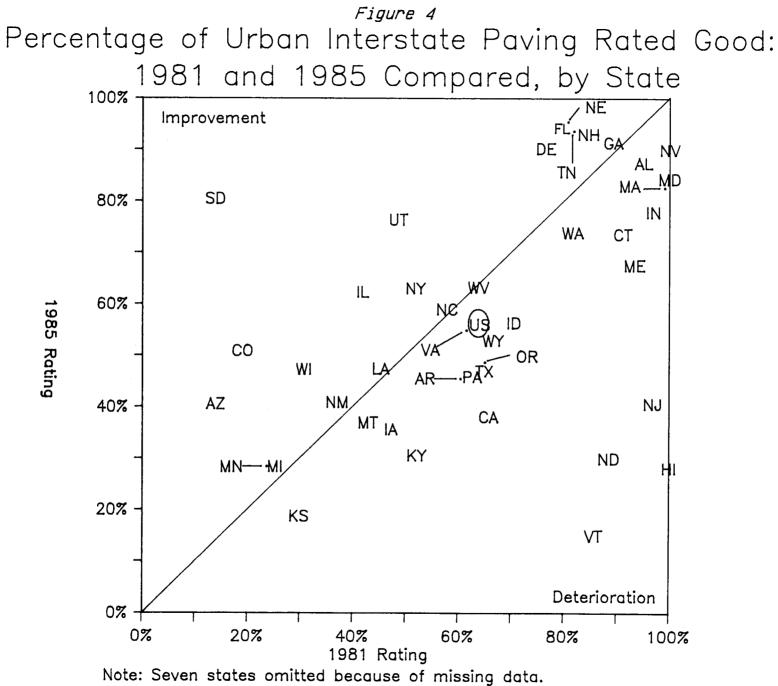


Note: The "Present Serviceability Rating" ranges from 0.1 to 5.0 - the highest quality. Source: ACIR staff, based on state ratings compiled by FHWA.



Cumulative Percentages





Source: ACIR staff, based on state ratings compiled by FHWA.

1981 (horizontal axis) and 1985 (vertical axis). As with the preceding charts, rural and urban Interstate highways are shown separately. A 45-degree line bisects each chart. For those states that appear above and to the left of the 45-degree line, pavement condition improved between 1981 and 1985, as measured by the percentage of mileage rated "good." For those states below and to the right of the 45-degree line, pavement condition worsened. The point representing the U.S. average is circled in each chart, and lines are used for states whose plots would otherwise overlap.

The comparison of state pavement conditions in 1981 and 1985 leads to two conclusions. First, the average U.S. pavement condition bears little relationship to the wide variation in conditions from state to state-the slight national improvement in Figures 1 and 2 should be regarded cautiously. Second, states also vary sharply from each other in the change in conditions from 1981 to 1985. In that period, some state pavement conditions improved, in some cases substantially, and some pavement conditions deteriorated, sometimes substantially as well. Concern about deteriorating infrastructure became widespread, and Interstate 4R funding increased greatly during this period. It may be too soon to discern beneficial consequences in any case, but the notion of a strong or consistent improvement in pavement condition finds only partial support.

It is also interesting to examine the condition of bridges. The recent analysis by the Federal Highway Administration concludes as follows:

The estimated \$51.4 billion to replace or rehabilitate all deficient bridges has remained relatively stable over the past several years. This fairly stable condition implies that the annual rate at which bridge needs are accruing is in approximate balance with the annual rate at which needs are being met. The balance leaves the statistical backlog of needs unchanged.³⁷

2. The Capital Bias of Federal Grants. What is the concern that the federal highway program imposes a "capital bias" on state and local fiscal choices? Despite the introduction and expansion of what is now the 4R program, the federal support of Interstate roads continues to display a bias through its emphasis on new construction, resurfacing, and other capital improvement activities rather than routine and preventive maintenance, such as sealing pavement cracks and clearing drains. (The other federal-aid road programs have even more of a slant toward capital improvements.) The capital bias may be exacerbated by the tendency of fiscally pressed officials to defer maintenance. However, it is not apparent that maintenance spending or 4R grants are by themselves associated with better road conditions. The capital bias may not strongly influence the spending priorities of highway officials, in practice, or any such influence may be overcome by other factors, such as the intensity of road use.

Clear-cut evidence on whether the capital bias has a deleterious effect is important to evaluate policy changes. If, for example, there are no negative consequences, then increasing 4R funding, making Interstate maintenance eligible for federal categorical support, providing block grants instead of categorical capital assistance, or instituting turnbacks may not by themselves improve road conditions.

D. Other Proposed Changes in Federal Highway Financing

Several of the most prominent changes proposed for federal highway financing are outlined below. Certain of these changes (such as modifying the current grant formulas) are alternatives to turnbacks; others (such as moving the Trust Fund off the federal budget) may be combined with turnbacks, with other financing changes, or can stand alone.

1. Taking the Highway Trust Fund Out of the Federal Budget. Taking the Highway Trust Fund off the unified federal budget (as has been done with other dedicated revenues and with loan programs) would naturally remove the current incentive to increase the Trust Fund balance for deficit reduction. Moreover, highway expenditures are long-lived investments bringing future economic returns, it is reasoned, and the accounting of such capital expenditures should not be the same as for operating expenses.

However if the need arises, the Congress could easily reverse such an accounting change which would mean that the dedication of highwayrelated revenues and any resulting stabilization of road grants would be short-lived. At least some of this has already happened. The Highway Trust Fund was off-budget when it was first established, but was subsequently moved onto the unified budget.

There are two other arguments against moving the Trust Fund off budget, which have to do with the meaning and consequences of the changed accounting. First, this accounting change may essentially be a fiscal gimmick, rather than reflecting a real economic difference between current and capital expenses.³⁸ Second, Special Analysis D of the United States Budget already separates out investment expenditures; an additional accounting may be redundant and therefore inconsequential.

2. Changes in Grant Formulas. The General Accounting Office, an arm of the Congress, has recommended that land area and postal route mileage (which are components of many of the current grant formulas) should be replaced by vehicle miles traveled—measuring actual highway use—and lane mileage. This change, argues GAO, would tie funding more closely to the volume of traffic, thereby increasing the efficiency of the grant programs. The formula change would, however, especially hurt sparsely populated areas, which generate little traffic, and perhaps also hurt those distressed communities where there is little travel.³⁹

The Congressional Budget Office has suggested trimming the federal percentage match for highway funding in many instances, so that each federal dollar would stimulate more state-local spending for highways. CBO has also suggested cutting back on plans to complete the Interstate highway network because many of the remaining gaps in it are not of national importance and are not costeffective.⁴⁰

3. Toll Financing. Allowing tolls on federally aided roads can be a finance mechanism that links revenues to the services provided.⁴¹ Toll finance is discussed in the following chapter.

4. Block Grants. The Reagan Administration has proposed transportation block grants in both the 1987 and 1988 budgets. The FY 1987 proposal was designed to reduce funding below current disbursements, exploiting the flexibility and cost reduction of removing requirements on federal grants and helping to effect a reduction in the federal budget deficit. The proposal combined grants for the Urban road system with those for urban mass transit. The FY 1988 proposal has a higher spending level, but would not reduce the balance in the Highway Trust Fund. That proposal is limited to highway grants.⁴²

E. Long-Term Goals for the Nation's Roads and Highways

Having discussed how the federally aided highway program contributed to the development of the nation's roads, as well as having stated current concerns, we can suggest the goals listed below. These goals can help us assess whether or not turnbacks—or any other policy alternative, for that matter—would improve the nation's highways.

1. Improve the efficiency of highway programs through enhanced "fiscal equivalence" of financing and benefits. There is "fiscal equivalence" when the same political community-the same jurisdiction-finances a governmental program, is responsible for its operation, and receives the benefits of that program. When fiscal equivalence occurs, the citizens and government enjoy an automatic connection between taxing and spending; that is, if they tax themselves more heavily, they will gain, themselves, the benefit of the additional spending. The tie between taxing and spending promotes efficiency and careful choices, whether spending levels are high or low. Because various areas' highway needs and preferences are so different, a nationally uniform program cannot tailor taxing and spending to each other, as state and local programs can.43 The following chapter considers the geographical range of road benefits in order to suggest, for particular kinds of roads, which governments can achieve fiscal equivalence in highway provision.

2. Achieve better administrative, political, and fiscal accountability. This goal is related to its predecessor. Accountability is most straightforward when the same governmental body both finances and administers the program and is responsible to a single group of citizens. Nevertheless, other goals may lead to program finance via intergovernmental grants, with administrative and political procedures devoted to making the various officials involved accountable to the citizenry.

3. Exploit the relative administrative and fiscal capacities of alternative governmental providers. It is folly to assign highway responsibilities to a government that does not have the administrative ability to discharge those responsibilities. Similarly, devolution must take into consideration states' capacities to levy the taxes needed for highway finance.

4. Gain the benefits of national uniformity in signs and related road features. In a footloose nation, uniformity of signs furthers safe and convenient travel.

5. Ensure safe, modern, well-maintained, and high-performance highways. These goals compete among themselves, as well as with the other goals listed. For example, maintenance expenditures compete with those for modernization; lower speed limits may be safer but they lengthen travel time, thus restricting the performance of highways in carrying high volumes of traffic.

6. Foster access to the national economy; stimulate economic growth. This long-standing goal of federal highway programs—which generally favors the centralized financing of certain roads is in frequent opposition to the goal of fiscal equivalence, which supports more decentralized financing. Equally important, the goal of access and economic growth emphasizes building roads to remote and distressed communities, despite weak tax bases and low traffic volumes at present. This goal—one of equity and of future orientation also—competes with that of efficiently meeting current travel needs.

7. Facilitate intergovernmental cooperation in highway matters. Road finance, construction, maintenance, and policing are the responsibilities of many different governments. Because the highway activities of one government influence those of another, intergovernmental cooperation can help each government to do its job better. Facilitating intergovernmental cooperation does not mean that all controversy should be avoided, or that all governments' ends and means will agree. This goal simply recognizes the interrelated nature of highway activities.

A federal system of governance offers a great advantage in balancing these competing, but widely shared goals. Different governments, since they reflect different citizen priorities, different geographic jurisdictions, and different functional responsibilities, will make diverse choices. On the other hand, when any one political body attempts to reconcile these goals, distortions inevitably result. For example, when the Congress finances roads of purely local interest, it runs the risk of engaging in pork barrel politics. Because the nation as a whole does not benefit from specific projects, but does finance them, there can be no disciplining mechanism that connects spending to taxing. And because there is no national advantage in this case to either local road investment or fiscal restraint (given set Congressional spending on local projects), special-interest politics may prevail, as when highway funding is used to seek nonhighway objectives, such as billboard control.

At the same time, another set of problems arises when local governments must separately work toward goals that are beyond their reach or responsibility. By itself, no local government can standardize signs or truck-size regulations, and a fiscally stressed community is rarely able to finance extensive highway investments.

Reasoning along similar lines, Colman has argued that:

Each year the diversity of need grows between and among: (i) [federal highway] systems; (ii) priority as among uses; (iii) toll or "free" preferences; (iv) construction versus operating and maintenance needs; and (v) highways versus public transportation. The best place to reconcile those diversities is at the state level; to reconcile with even moderate equity is impossible nationwide except for the Interstate system.⁴⁴

NOTES

¹See generally Congressional Budget Office, Highway Assistance Programs: A Historical Perspective, February 1978 and Federal Highway Administration, Financing Federal-Aid Highways, September 1983.

²Arthur E. Bauer, "Solving Transportation Problems in the Federal System: Is There a Role for State and Local Governments?" Publius: The Journal of Federalism, Spring 1978, p. 60.

³Charles L. Dearing, *American Highway Policy*, Washington, DC: The Brookings Institution, 1942, p. 84.

⁴Bauer, "Solving Transportation Problems in the Federal System," previously cited, p. 61.

- ⁵Mileage and traffic data for 1985 from Federal Highway Administration, *Highway Statistics-1985*. Strictly speaking the Interstate highways are part of the Primary system but for simplicity we use "Primary" to mean "non-Interstate Primary."
- ⁶Congressional Budget Office (CBO), The Interstate Highway System: Issues and Options, June 1982, pp. xvxviii. 59-68 and, more recently, CBO, Reducing the Deficit: Spending and Revenue Options, March 1986, pp. 166-67.
- ⁷The Federal Highway Administration has, however, recently suggested that too few lanes and related characteristics be removed from the definition of structural deficiency for bridges. See their Eighth Annual Report to Congress: Highway Bridge Replacement and Rehabilitation Program, 1987, p. 29.

⁸See Report of the Secretary of Transportation to the United States Congress, published every two years.

⁹Of the total levy, 1 cent per gallon is dedicated to mass transit. As this is written, however, there are proposals before the Congress to increase the tax on motor fuels.

- ¹⁰Highway Statistics—1985, previously cited, Table FE-10. The calculation is net of receipts for the Mass Transit Account of the Highway Trust Fund and also net of refunds and tax credits, such as for off-highway use.
- ¹¹CBO, Highway Assistance Programs, p. xi.
- ¹²"Wasteful Projects Lurk in 65 mph Bill," Washington Post, March 27, 1987, p. E5.
- ¹³One evolution in financing is noteworthy. Under certain circumstances, states can transfer a limited quantity of funds from one budget category (i.e., the Secondary road system) into another, such as the Urban system. Despite limited and specified forms of fungibility, however, the federally aided highway program remains very categorical in character, as opposed to a block grant.
- ¹⁴Recently, California has required ten-foot shoulders on limited access highways even when not federally mandated. This rule, though, is the choice of the state's highway community, based on its own experience and priorities, rather than being imposed centrally.
- ¹⁵Nihon Doro Kodan [Japan's public corporation for highways], *National Expressway Practices in Japan-Planning*, Tokyo, 1985, pp. 25-29, 59-61. Keep in mind, however, that cars and trucks are considerably smaller in Japan than in the U.S.
- ¹⁶It is ironic—to say the least—that the Congress is considering raising the rate of motor fuels taxation for non-transportation purposes (e.g., deficit reduction) at the same time federal law restricts states from doing the same thing with previously levied motor fuel taxes.
- ¹⁷William G. Colman, The Public Works Responsibilities of Federal, State and Local Governments and the Private Sector, report prepared for the National Council on Public Works Improvement, Washington, DC, July 1986, pp. i-ii, 9-10.

- ¹⁸CBO, Federal Policies for Infrastructure Management, June 1986, pp. xii-xiii.
- ¹⁹Although states are able to waive many federal design standards and other requirements by agreement with FHWA district offices, this flexibility is in the administrative and engineering implementation of the program (and assumes that many important choices have already been made) rather than in fundamental program goals and operation.

²⁰Bauer, pp. 61-62.

²¹Later, consultation with local officials was mandated for Interstate Substitution projects, which have often exchanged highway funding for public transportation.

²²Bauer, p. 72.

²³*Ibid.*, p. 74.

- ²⁴The mass transit account of the Highway Trust Fund comprises the 1 cent per gallon portion of the motor fuels tax that is earmarked for mass transit. This amounted to \$1.079 billion in FY 86.
- ²⁵Data from the U.S. Office of Management and Budget, Midsession Review of the 1987 Budget, June 23, 1986, unpublished.
- ²⁶For a history and evaluation of *The Surface Transporta*tion Assistance Act of 1982, see Peter L. Shaw, "The Surface Transportation Assistance Act of 1982: Short-Term Hopes and Long-Term Implications," *Transporta*tion Quarterly, Vol. 60, No. 3, July 1986, pp. 411- 32.
- 27 That is, the various Interstate programs, 85 percent minimum allocation, the bridge programs, and the programs for the Primary, Secondary, and Urban systems.
- ²⁸The reader is warned, in advance, about the various time periods used in the analysis and the different budget concepts applied. In part this is caused by the data available; in part by the difficulty of defining a "snapshot" in time for an activity where planning, apportionment, obligation, and spending spins out over many years. Data above from FHWA, *Highway Statistics for 1982 and 1985*, Tables FA-3 and FE-201; also (for FY 82 and FY 86 obligations) unpublished computer listings of obligations, unobligated balances, and active programs (LF01 M79A). We are grateful to the Federal Highway Administration for making these and other unpublished data available.
- ²⁹See Highway Statistics-1984, p. 54 for apportionment procedures and statutory citations for the continuing programs.
- ³⁰FHWA, "Revised Federal-Aid Highway Program Obligations," Notice N4520.82, April 8, 1986.
- ³¹Highway Statistics-1972, p. 70.
- ³²National Association of State Budget Officers, "Transportation Turnback," November 1986, p. 3; unpublished information from the Federal Highway Administration.
- ³³See the description of the "AASHO Road Tests" contained in Special Report 61E of the Highway Research Board (National Academy of Sciences, Washington, DC), published in 1962.

- ³⁴An additional caveat is called for. As a consequence of missing data, not all the states are represented in any one year and the roster of states providing the information changes from year to year. For example, only 44 states (not including the Washington, DC) supplied condition information on urban Interstate highways for both 1981 and 1985. Only 41 states with rural Interstate highways supplied condition information for them for those two years. There is no justification for the state agencies' failure to make these important data available to the nation financing such important highways. (Source: Highway Statistics, various years and unpublished, Table HM-63, and accompanying notes.)
- ³⁵In Figures 1 and 2, the road network (i.e., 100 percent) is divided into three categories of pavement condition. The vertical scales show the cumulative percentage in each category or combination of categories, going from worst (at bottom) to best, at the top. The Congressional Budget Office has also analyzed the PSR data but from a different perspective. They compare the actual rate of pavement deterioration with that assumed at the time of construction. Current deterioration, they conclude, is not as bad as would be expected. See Federal Policies for Infrastructure Management, pp. 42-46.
- ³⁶It takes boldness to attempt to explain—even in a footnote—these sparse data for such a short period of time. Pavement conditions seem to have been deteriorating on average but there is a suggestion of improvement after 1983. (The even more sparse data for 1980 are consistent with the pre-1983 pattern, hinting at better pavement conditions than in 1981.) Greater attention by citizens and officials to road conditions may be helping. There has been a considerable increase in the 4R funds made available to states, and spent by them, from \$0.2 billion in CY 81 to \$1.8 billion in CY 84. Incomplete figures on state own-source spending for routine maintenance also

show a substantial increase. For rural Interstate highways, for example, the national total reported grew from \$364 million in CY 81 to \$566 million in CY 85. Note that data for 1986 will soon be available. Those compiling the numbers say that it will show improvement over the 1985 figures.

- ³⁷Federal Highway Administration, Eighth Annual Report to Congress: Highway Bridge Replacement and Rehabilitation Program, 1987, p. 11.
- ³⁸See Aaron Wildavsky, Budgeting, Boston: Little, Brown & Co., 1975, pp. 152-153.
- ³⁹General Accounting Office, Highway Funding: Federal Distribution Formulas Should be Changed, RCED-86-114, March 1986.
- ⁴⁰CBO, Reducing the Deficit: Spending and Revenue Options, March 1986, pp. 166-167.
- ⁴¹CBO, Toll Financing for U.S. Highways, December 1985.
- ⁴²See the United States Budgets for FY (fiscal year) 1987 and FY 1988 and also supporting documents, such as the *Major Initiatives* volume for FY 1987 and U.S. Department of Transportation, Office of the Secretary, FY 1987 Budget in Brief, February 1986, and the document of the same name for FY 1988, dated January 1987.
- ⁴³The dedication of highway user revenues to highways is another kind of application of the principle of fiscal equivalence. The question here is not so much whether or not highway funding should be from dedicated revenues, but—in view of the sizes of jurisdictions—which political bodies should have the responsibility and authority to make taxing and spending decisions.
- 44Colman, p. 73.

2 Highway Turnbacks in Principle

Т

he fiscal and program concerns and controversies outlined in the previous chapter may be examined through the lens of federalism. What is the basis for suggesting that one government or another be responsible for a particular category of roads? Although the principles to be discussed are difficult to apply-and do not command universal support-they do provide useful guidance for the intergovernmental assignment of road responsibilities. Another matter raised in this chapter is whether- (and how) turnbacks might influence state-local relations. Can turnbacks help the states serve as the laboratories of federalism? The following chapter, complementary to this one, addresses practical matters of the design and implementation of the highway turnback concept.

A. Initial Considerations

More than most programs that involve federal financing, the highway program mixes clearly national with highly localized benefits. It is not an accident that there are roads called national, state, and local. All these roads are physically interconnected, yet they differ systematically in the length of trips on them and in the travel purposes for which they are used.

Most trips on Interstate highways—particularly on the interstate roads—are much longer than trips taken on the Secondary and Urban systems. This fact argues that the Interstate network provides transportation benefits over a wider geographic range than the Secondary and Urban systems. This concept of the geographic range of highway benefits is a key test to determine which unit of government should bear responsibility for highway finance, as shall be shown.

Note first, however, that when a single federal highway program—often through a single grant formula—provides different geographical ranges of benefits, distinct goals can be confused. In this way, the basis for the intergovernmental relationship can become muddled, as can the relationship between the program and the interest groups it serves. As a result, the financing of federally aided roads may become embroiled in political controversy and inefficient "cross-subsidy." In effect, the motorists in one area will subsidize the roads in another, without a national purpose being served. Moreover, when funds are tight, federal grants for roads that serve largely local purposes—helping to make quicker trips to the supermarket, for example—compete with financing for roads that provide truly national benefits—for instance, facilitating the interstate commerce and economic health on which the whole nation's welfare depends.

Defining the approximate geographical range of benefits associated with each federally aided road system supports the idea of incremental devolution. Roads that provide virtually no national benefits could be devolved first, while others that, on balance, provide some national benefits could be devolved later. Because each change would be assessed through the federal-state-local political process, an incremental approach is also likely to be more palatable politically than a wrenching, once-and-for-all change. That political process, because it will draw on practical experience with decentralization, could properly determine the pace, extent, and details of devolution. The same intergovernmental political process could also redress any adverse consequences and even reverse mistaken actions.

1. Revenue Collection by Different Jurisdictions. Compared to other tax bases, the gas tax offers administrative flexibility. Some or all of it can be devolved to the states, and this can be done incrementally or all at once. Further, the combined levying and collecting of gas taxes by different governments causes virtually no problem of "tax overlapping" (i.e., the detrimental effects that may occur when multiple jurisdictions tax the same base).¹ Unlike most taxes, the levy on motor fuels rather closely and automatically link s highway spending with taxes paid. Such a direct fiscal link builds fiscal discipline that ties spending to services and produces the horizontal equity-i.e., the simple fairness-whereby users pay in relation to the use they make of roads.

2. Intergovernmental Sorting Out and the Fiscal Equivalence of Services and Revenues. The sorting out among different governments of various highway programs and the funding for them can simplify intergovernmental relations and provide better accountability of elected and other officials to their constituents and to highway users. Many aspects of highway programs are appropriate to the benefit principle of public finance: Those who benefit from the government function should pay for it. An intergovernmental sorting out for highways can, moreover, achieve a geographic pattern in which services and revenues are fiscally equivalent. Because the same jurisdiction that pays for a function receives its benefits, the citizens and officials of that jurisdiction have an incentive to make judicious fiscal choices, neither skimping on valuable public investments nor squandering other persons' tax dollars.

B. Determining the Appropriate Geographical Scale of Highway Provision

The origin and destination of individual road trips and the routing of particular links in the nationwide highway network, though important, do not alone provide sufficient information to assess the appropriate jurisdictions to make fiscal and other choices for highway services.

For example, federal coordination of certain activities with consequences for safety (such as making signs uniform) can be a good way to improve the safety of an urban trip going only a few blocks. In parallel fashion, the fact that many trips cross state lines does not by itself mean that states would act at cross purposes without federal-aid highways.

An important distinction is that between the *provision* and the *production* of highway services. Provision refers to collective choices that determine: (1) which goods and services are offered under government auspices, (2) how to finance those services, and (3) the quantities and other characteristics of public goods and services. Production, on the other hand, refers to the processes whereby inputs are transformed into outputs. Those governmental organizations that articulate provisioning choices need not be involved in production, which is often done by private highway contractors. Moreover, in the federal highway program, the Congress makes certain choices on provision, but not all such choices.²

Fiscal equivalence refers to provisioning, not to production.³ A lack of fiscal equivalence undermines the community of interest in a provision unit. Without fiscal equivalence, highway beneficiaries who do not pay their fair share are motivated to exaggerate their demands; if successful, they improve their services at the expense of others. 1. Interstate Spillovers. The notion of interstate spillovers reflects the frequent situation whereby the highway facilities in one state confer benefits that spill over state lines. Good roads in Pennsylvania speed many long-distance trips between the northeastern and midwestern states.

More generally, it is possible (at least in principle) to define the geographic range of highway services by identifying geographical spillovers of benefits (technically, externalities) when the service is provided at different spatial scales.⁴

The best government for provision, from this perspective, is one with an appropriately large jurisdiction so that the jurisdiction can encompass the externalities (i.e., the jurisdiction internalizes what would otherwise be an intergovernmental spillover of benefits). Sufficient size avoids the risk of highway benefits "leaking" outside the jurisdiction, which wastes money from the viewpoint of the providing government and its taxpayers. A large-enough jurisdiction also avoids the problems caused when route location in neighboring jurisdictions affects traffic patterns in the home jurisdiction.

At the same time—and from the same theoretical perspective—the best jurisdiction for highway provision should not be so large or so heterogeneous as to undermine (or to fragment) the community of interest underlying the provisioning choices. A jurisdiction that is too large also risks having one subarea cross-subsidize another one with very different transportation circumstances or priorities.

In practice, the argument for provision by a larger jurisdiction must be balanced against provision by one or more smaller jurisdictions. The question of the best jurisdiction for provision often has no simple answer because a single road typically combines transportation services at different spatial scales.

It is important to recognize that a federal system facilitates a state of affairs in which there is a multiplicity of governments and fiscal mechanisms for highway provision. That multiplicity can serve the different goals, priorities, and circumstances corresponding to different areas and political choices. As an obvious example, roads intended for national defense (e.g., for large military trucks) can be appropriately provided by the national government while local streets lie within the sole purview of local governments. What is less obvious, but certainly clear-cut, is that if state and local governments bear the responsibility for the provision of certain roads within their purview, they should also have the authority and responsibility for traffic and vehicle control (e.g., setting speed limits and truck-weight restrictions) on those roads. Setting speed limits and truck-weight restrictions involves the same general kinds of priorities and tradeoffs as determining which roads should be widened.

A federal system of governance, it may be noted further, also provides the opportunity for intergovernmental provision of those highway activities intrinsically affecting different jurisdictions, that is, where no single government is appropriate for provision. That is the case for the Interstate system, many of whose roads serve the nation as a whole. Even in the case of national provision of Interstate roads, the federal government has learned the advantages of working closely with state and local officials.

As an instance of the concept of the range of highway benefits, consider the routing of the Pennsylvania Turnpike, which was designed before the Interstate system. Generally, its east-west direction serves an intrastate interest by connecting Philadelphia and Pittsburgh. While the turnpike has been used also to link northeastern and midwestern states, its relatively southern location cannot connect New York and Chicago with the shortest possible route, which is accomplished by Interstate 80 of the Interstate system. Even if Interstate 80 were devolved to state control, Pennsylvania would be most unlikely to close that road. However, the state's spending priorities for maintenance and improvements might jeopardize the interstate link in favor of its turnpike, because of the latter's predominantly intrastate benefits.

The following paragraphs consider routing, improvement, and maintenance of highways designed for long-distance travel. These issues are complex and demonstrate that detailed questions of financing (i.e., the power to charge tolls and the toll rates) as well as alternative routing possibilities, all influence the assessment of any one road link.

To refine the concept: An interstate spillover occurs when road benefits are not fully captured in-state, or are not fully captured by taxes and other charges levied by the providing state. The state budgetary process has little reason to value fully out-of-state benefits. An all too logical consequence might be underfinancing of roads with large out-of-state benefits relative to their in-state benefits. For example, by charging tolls on Interstate 80 (which is not currently permitted), Pennsylvania could reap the savings of fuel and time gained by the highway's efficient New York to Chicago routing, with the tolls defraying maintenance costs for efficient transportation. In this case, toll finance could internalize what would otherwise be an interstate spillover, namely the region-wide advantages of a direct, swift, well-maintained superhighway.

However, if the hypothetical tolls on Interstate 80 were set too high in relation to the additional cost incurred by additional use (e.g., wear or perhaps the need for extra lanes) motorists would be overcharged. In effect they would be paying twice, through both tolls and taxes, and the interstate motorists could be exploited. In the absence of other comparably efficient routes, Pennsylvania's tolls might be set so high as to exploit a strong spatial monopoly.⁵

Consider as well the metropolitan peripheral highways that speed long-distance traffic around congested areas while also serving as "beltways." As beltways, these roads primarily ease circulation within metropolitan areas, particularly when there is much intra-suburban traffic. The relief from congestion benefits residents and businesses and makes the area more desirable in which to live, work, and conduct business.

However, when the beltways are filled to capacity, their two functions conflict. Intra-metropolitan traffic slows long-distance travel. This congestion poses a serious problem both for the metropolitan areas the roads serve and for their role as links in a national network.⁶

2. The Federal Role in Coordination, Standardization, and Other Reasons for National Uniformity. Over time, considerable national standardization has been developed in the highway transportation system. This is largely a consequence of actions by professional associations of highway engineers and other transportation officials (notably AASHTO), and is especially a consequence of their influence on the standards contained in federal programs.⁷ Standardization most likely would continue after devolution, even if direct federal control were limited to the Interstate system. The benefits of such standardization serve both national and local goals, for instance the economic benefits of uniform signs and lane widths as well as the benefits of safety and driving convenience. The state and local interest, however, in conducting research on which standards to adopt is less self-evident than the federal interest in conducting research that might benefit motorists in each of the states.

C. Applying the Concepts

The concepts stated above, although often difficult to apply, repay consideration because they can help establish worthwhile guidelines for highway policy. The following judgments attempt to apply these ideas without analyzing individual road links and without considering a wide range of financing alternatives.

1. The Interstate System. The great preponderance of the Interstate system (particularly the completed links in the network) merits continued federal support. This is less true of certain urban peripherals and feeders that mostly benefit travel at an urban or metropolitan scale. (Peripherals and feeders, however, are only a small fraction of all Interstate mileage, though a considerably larger share of the cost of completing the Interstate network.) However, because a national-scale function of the Interstate network is to integrate major centers of population and employment, many urban peripherals and feeders should remain under federal provision.

2. The Primary System. The national role of the Primary highways has been greatly reduced by the Interstate system. However, in some areas (often sparsely populated) there are few Interstate highways, and much cross-country travel relies on Primary roads. If the Primary system is devolved, special attention should be paid to the goal of providing access to lightly settled areas, very likely through funding based on lane-mileage or land area served, not purely vehicular travel or motor fuel consumption. This concern is particularly important for states with weak tax bases, some of which already carry high tax burdens relative to their citizens' incomes.

3. The Urban System. With well functioning Interstate and Primary systems, the national benefits of the federal-aid Urban system are contained, by and large, within individual states or metropolitan areas where these roads serve to "fill in the chinks" left by the highways that make up the larger-scale network. Unlike the Primary system, Urban roads have not been required to contribute to an interconnected national network.

4. The Secondary System. By and large, Secondary highways are even more appropriate for state-local financing and control than the Urban program. The reasons given above for the Urban system apply to the Secondary ones as well.

Today, most Secondary roads are only lightly traveled, because of shifts in population and the presence of alternative routes such as Interstate and Primary roads that are designed to higher standards. Turnbacks would provide the opportunity to reassess priorities for these roads; the federal grant formula on the other hand encourages keeping open some unneeded roads. Moreover, the near completion of the rural Interstate system and the maturity of the Primary network mean that few Secondary highways are needed for a national economic function, such as linking farms to markets. For instance, the Federal Highway Administration points out that although the Secondary system originally consisted of routes designed to serve farm-to-market travel, other functions were included in it "because of very loosely defined criteria." They add:

Today the Secondary system supports three major activities. First, the routes provide services to county seats not on an arterial route and to other traffic generators of equivalent *intracounty importance* [Emphasis supplied] Secondly, they link these major county traffic generators with nearby towns or cities. Finally, they serve the more important intracounty travel corridors and connect with higher classification routes.⁸

The benefits of Secondary roads are, therefore, primarily local and intrastate in scope, not national. By the same token, since Secondary roads can serve important state and local goals, such as economic development, they are appropriate for devolution. The relatively small federal funding levels for Secondary and Urban highways makes turnback of one or both feasible, in the short term, as a way of dipping the federal fiscal toe into the devolutionary waters. In CY 1984, federal grants (including related highway programs) totaled 2,462 billion in the 50 states, equivalent to 2 cents of the federal gas tax. Alternatively, a 1-cent package would turn back only Secondary roads, and thus could continue federal financing for the Urban highways. See the Appendix for further information on these two illustrative packages, including state-by-state details.

There are a few other federal highway programs to consider.

5. Demonstration Projects. It is doubtful that any general principle of fiscal federalism governs the award of funds through demonstration projects. Demonstration projects rarely convey important national benefits, particularly if combined federal-state-local highway resources are otherwise adequate. Whether demonstration projects meet pressing local needs or simply demonstrate influence in Congress, their utility is of limited scope, especially where one understands how they draw down the Trust Fund revenues available for regular highway programs of continuing importance.

Among the demonstration projects specifically funded by The Surface Transportation Assistance Act of 1987 are two Chicago parking lots-hardly an innovative enterprise-that, to quote the law, "demonstrate methods of facilitating the transfer of passengers between different modes of transportation." The benefits of such projects accrue to the nation as a whole, it may be added, only insofar as findings from the experience with them go beyond previous research results, can be applied elsewhere, and are actually disseminated. An editorialist at the Washington Post went so far as to say that "the whole process [of Congress funding demonstration projects] should be scrapped in favor of increased state control of this money. More and more governors are coming to this conclusion."9 Indeed, one can look at the history of highway innovations by states and question whether the federal government per se has a major role in disseminating new ideas.

6. Safety and Bridge Programs. Certain federal safety programs serve a coordinating as well as an operational safety function that is not appropriate for devolution. However, because the Bridge Replacement and Rehabilitation program finances bridge widening to remove traffic bottlenecks, its benefits accrue primarily to the roads that pass over the bridges served. Portions of the bridge program could therefore be devolved in accordance with the devolution of individual highway programs.

D. The Elements of a Turnback Plan

A "pure" highway turnback plan (i.e., one devolving all responsibility for a stated program or combination of programs and also totally relinquishing some collection of taxes) could work as follows:

- At some announced date, the Congress would repeal x cents of the federal gas tax. A state could, if it chose, "pick up" the exact amount of this reduced tax, keeping combined tax burdens the same. In the case of other plans to reduce federal taxes, states have passed laws increasing their own tax contingent on the federal reduction. The California legislature enacted such a law in 1986.¹⁰ Alternatively, a state government could increase or reduce the combined levy.
- At a comparable announced date, the federal programs being devolved would end operations. A state could easily continue operations or make changes.

This simple scenario shows the power that state governments would have, under a "pure" turnback plan, to change the level and nature of financing and to change devolved programs.

E. Fostering Innovation in Financing

State and local governments have the potential to use a wide range of financing mechanisms for highways that are not currently available to the national government. Turnbacks, other means of devolution, or indeed any policy that eases federal financing restrictions might foster innovative means of highway financing from states' and localities' own revenue sources. In this way, states and localities can serve as the laboratories of federalism, experimenting with ideas of more general applicability. Prominent possibilities and points to consider are:

1. Tolls. A broader use of toll finance can be implemented by individual state and local governments. Tolls already are generally accepted for superhighways in the Northeast, notably tolls levied on high-cost, high quality roads. Yet in CY 1985, toll collection accounted for only 5 percent of all state and local receipts for highway purposes. from their own sources.¹¹ Toll use by the states has, proportionately speaking, declined since the start of construction on the Interstate network. At that time, the Congress debated whether to finance the new roads through borrowing, which might or might not have led to repayment through tolls, or on a pay-as-you-go basis, primarily through the federal tax on motor fuels. Partly because of the creation of the Highway Trust Fund, the latter point of view prevailed, so much so as to prohibit, by and large, net federal grants to Interstate roads on which tolls are levied. Yet there is little basis in federalism for the law, now 30 years old, prohibiting tolls on federally aided roads.¹²

2. Congestion Pricing. Levying special charges at peak times for heavily traveled roads or bridges can be done through permits that are sold, as well as by toll collection. To the extent that congestion pricing evens out the peaks and troughs of use, it achieves an important efficiency whereby a maximum of capacity is used a maximum amount of time. Even if the scheduling of use is not affected, congestion prices reflect the need to build additional capacity to accommodate peak loads rather than average use.

3. Fairer Charges for Trucks. Weight-distance charges for trucks (keyed to both the load put on the road and the mileage traveled), reflect actual wear on roadways far more accurately than fixed charges, based solely on weight and/or the number of axles. Weight-distance charges are employed currently by many western states.

4. Increased Use of Bond Finance. Like other long-lived investments, roads and bridges incur a present cost for the future advantage of better transportation. Although state governments and turnpike authorities have always used bond finance for individual construction projects, especially those that levy tolls, bond sales are currently a small fraction-at present 12.2 percent-of all state-local receipts for highway purposes, collected from their own sources.¹³ Bond finance is especially appropriate where current revenue bases are strained and the project will contribute to future growth in revenue bases, especially through tolls and other user charges. The 1956 federal decision to use pay-as-you-go financing for the Highway Trust Fund need not be copied by each state and local government, because their fiscal circumstances often vary.¹⁴

5. State-Wide Infrastructure Banks. Infrastructure banks generally employ revolving loan funds—subsidized or not—that are established by states, although regional consortiums of states may also be used. These loans may require certain conditions for fiscal solvency, and may be limited to high priority projects. Alternatively, loans made through the private bond market could be guaranteed if specified conditions are met.

6. The Strategic Use of General-Purpose Tax Revenues. When transportation improvements are part of a general plan that broadly benefits state residents and businesses, current financing from general sources—not only users—may be called for. For example, the proposal for a Massachusetts Development Bank recommended an increased sales tax to finance infrastructure and other projects.¹⁵

7. The Case for Nonuser Financing. More generally, there are both equity and efficiency reasons that explain why state and local governments do not rely exclusively on user financing for highways. Obviously, equity toward communities that are growing or hope to grow suggests that current highway use is not the sole fiscal foundation for the road system. Furthermore, isolated communities with little traffic should have mobility too. The efficiency argument is that road benefits can accrue to the surrounding area as a whole, not just to direct users. Charging users for full cost, then, leads to "prices" for road use that are too high; the result is less use than if the charge were only for the wear or congestion caused. It is fair and efficient to set user charges at the marginal cost that vehicles impose on roads, not at the level of average costs as would be the case if only users supported highways.

8. Fiscally Capturing Increases in Land Values. State and local treasuries can benefit more directly from the increases in land values and business activity that usually follow transportation improvements. This can be done through tax increment financing or special assessment districts, keyed to property taxes. Highway departments can take a leaf from mass transit's book. Some transit agencies rent or sell the land around transit stops. The same can be done with the frontage land on commercial highway strips. Such governmental involvement can be an aspect of a publicprivate partnership for a development project.

9. Developer Exactions. Developer exactions are required "contributions" to the locality before new development can proceed. Exactions are frequently used in high-demand areas. They may be in cash or in-kind (e.g., building an access road). Developer exactions are an alternative to growth limitation by regulation because, directly or indirectly, exactions can be used to reverse the adverse fiscal or environmental impacts of otherwise unconstrained development.

Note that each of the financing mechanisms mentioned above fiscally captures highway benefits, either through charging users in a fairer or more complete way, or by charging those nonusers (i.e., the surrounding community) who also benefit from the transportation improvements.¹⁶ Obviously, whether or not new financing mechanisms are benefit-based, not all financing mechanisms listed are needed, practical, or even desirable for every state, but a range of alternatives is available for consideration. The fiscal concept of benefit capture should be considered for those roads and other public investments that lead to tangible, specific benefits.

F. Highways as an Instrument for Achieving State Goals

Since a highway turnback involves the intergovernmental sorting out of the various goals served by highway programs, the highways under state control would better serve state goals. The goal of an efficient national highway network often conflicts with state development objectives. This is due to the tension that exists between public works that serve only current travel demand and public works that are intended to guide private capital formation, frequently into economically depressed locations. The former goal is one of efficiency and, in effect, usually assists those places that are doing well and paying ample taxes. The latter goal can be one of equity (e.g., cushioning losses) but can also be one of a citizenry and government trying to take its future in hand.

Highways are the most costly investments in physical capital that states make; consequently, highways can and should reflect community priorities. This is especially so in guiding or encouraging growth. A devolution of highway authority can accommodate interstate differences in development objectives and, truly, even accommodate different views on whether highways should respond to current population and economic trends or help guide the state's future.

Further research should explore the strategic use of state and local highway efforts. For instance, is it possible to combine highway turnbacks with those of related programs in infrastructure and urban and economic development? Would such a combination aid state and local communities in attaining their development goals, but also lead to a package of programs that more closely matches revenues with responsibilities, state by state?

G. State-Local Relations

1. Local Criticisms. Locally elected officials and their staffs sometimes express skepticism, even distrust, about how well state highway policies and practices take local considerations into account. This skepticism may apply as well to state implementation of the federal program and also to state practices with regard to nonfederal roads and own-source revenues. Certain local officials are skeptical, too, about how local roads would fare after a turnback is implemented; that is, in the continuing intergovernmental rivalry of contending interests, such local skeptics expect unfair treatment from state government.

The skepticism and distrust find clearest expression in a policy statement by a coalition that organized the National Symposium on Local Roads (NSLR) in 1986. The coalition describes itself as composed of users and managers of local roads and reflects its predominantly rural membership—though it is far from exclusively rural. The NSLR's position statement criticizes:

- lack of an adequate funding commitment to local roads;
- lack of local considerations;
- control by states in the pass-through of federal funds or allocation of state funds
- no local involvement in the [Reagan Administration's] proposed block grant program; and
- needless regulations emanating from both state and federal bureaucracies.

It goes on to decry the current allocation of funding responsibilities because of:

- failure of state and federal governments to assume adequate responsibility;
- a need for a broader base for funding than is currently available at the local level; and
- erosion of property taxes as a primary local funding source, all of which results in
- a lack of adequate, stable revenues for local roads.

The coalition urged changes that would:

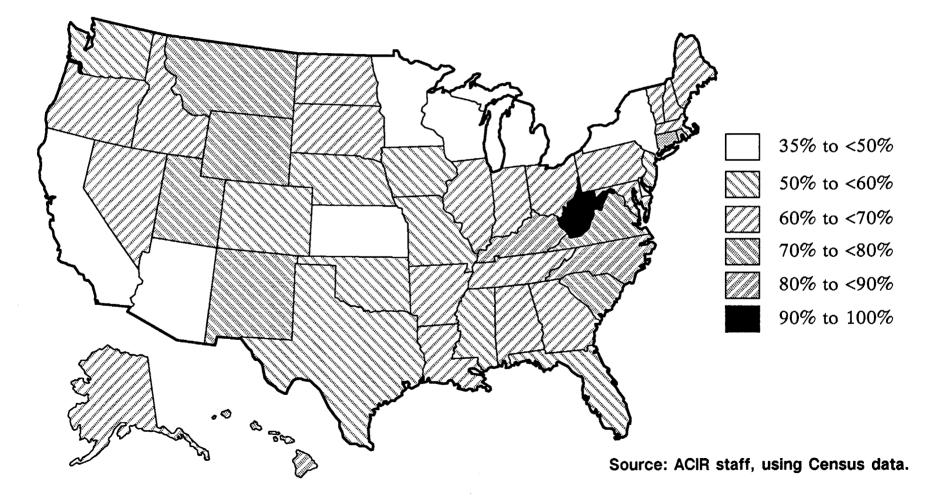
- require states to pass through [federal grant] funds intended for local roads; and . . .
- provide additional state and federal gas taxes specifically allocated to local road needs.¹⁷

Unfortunately, there is a paucity of information about the financing of local highways and state-local relations on highway matters. Furthermore, practices—as well as attitudes—vary sharply from state to state. Figure 5 shows the interstate differences in the fraction of state-local highway spending that is made directly by state government, rather than through state-local grants or by local spending from their own revenue sources. The State of West Virginia directly accounts for virtually all road spending there. At the other extreme, states as different from each other as Arizona, Michigan, Minnesota, and New York are far less centralized in highway finances. In these states, direct highway spending by the state governments accounts for less than half of state-local expenditures.18

The 1986 termination of the federal General Revenue Sharing program removed an important source of financing for local roads, particularly for rural communities that rarely have major, ownsource revenue bases other than property taxation. In a 1984 survey, township officials in Illinois, Minnesota, Ohio, and Wisconsin reported allocating an average of 84 percent of revenue sharing funds to roads in their jurisdictions.¹⁹

2. State Implementation of the Federal-Aid Highway Program. Although, as has been mentioned, local governments do not receive federal highway funds directly, there are definite federal requirements on behalf of localities. These are of three general kinds: (1) the earmarking of a por-

Percentage of State Plus Local Highway Spending Made Directly by State Governments



tion of Urban system funding to specific urbanized areas on a formula basis, (2) specific requirements for consultation with local officials, and (3) a mandated metropolitan planning process for which the federal government provides funds.

ACIR research that is still in its early stages suggests that the implementation of these procedures varies sharply across the nation. Our research affirms a report by the American Association of State Highway and Transportation Officials (AASHTO), which finds that "these examples [of the organization of state highway systems] clearly demonstrate that states define and deal with political subdivisions in a variety of ways, based on their own needs and perspectives. Broad generalizations are difficult to determine and any specific comparisons must be highly selective."²⁰

In conversation, officials of several state transportation departments expressed strong support for local involvement—often, even control—of the federal-aid Secondary and Urban programs. Many state governments establish a local passthrough of at least a portion of these grants. In California and Kansas, for instance, Secondary grants are passed through to counties and Urban system grants to cities. (In California, Urban system grants also go to urbanized counties.) Both states, however, require the recipient localities to contribute the state share needed to receive federal matching funds, though Kansas pays 20 percent of the match for Secondary grants.²¹

Although it is not unusual for states to require local contributions for federal Secondary and Urban system funds, the share of the state match that is required does vary. The AASHTO study found 25 states with local contributions for Secondary road projects. Almost always, these localities were counties. Again looking at extremes: Virginia counties paid 4 percent of the matching funds required for the federal grants, whereas counties in Iowa paid 100 percent. Of the 49 states responding to the question for Secondary funds, 42 required local contributions, usually from cities, occasionally from counties, and only rarely from townships. The local share ranged from 100 percent of the state match all the way down to 2 percent in North Carolina.

Several states have implemented a regional planning process that goes beyond the federal requirement, and state officials testified of the effectiveness of that process in representing local interests before state transportation departments and legislatures. (In fact, sometimes, staff of state transportation agencies felt the process was too effective, because it meant the involvement of local elected officials in decisions that they thought were within their own purview.) Florida, for example, requires five-year highway plans that are updated annually and adopted by the legislature. The state plan clearly shows where federal highway funds will be spent, county by county and project by project, and local officials are not shy to comment. California, which allows local officials to veto any limited access route, provides state-raised funds to local governments for highway planning.

Members of state transportation departments and legislative staffs also told of the effectiveness of mayors and other local officials—especially, elected officials—when they visited the legislators who represented their communities. Many state legislators customarily support the requests of local officials when those in a particular area agree with each other.²²

3. Survey of Associations of Local Governments. To explore opinions on state-local cooperation on highway matters, ACIR mailed out questionnaires to directors of state associations of local officials: municipal leagues, county associations, town and township associations, and associations of regional councils. Since the results appear elsewhere, they need only be summarized here.²³ Directors from 111 organizations in 49 states responded, with a response rate of 76 percent. The small number of respondents, however, makes the findings suggestive rather than conclusive.

In the view of a majority of respondents, state officials consulted with them on highways matters either "very often" or "often enough." This was not so for federal highway officials, but we have seen that there are virtually no direct federal-local dealings as part of the federally aided road program. A majority, also, of respondents said that they could usually influence state officials to modify a project that affected their area. The local officials were generally satisfied with state-local consultation procedures, and they rated state-local cooperation on highway matters as being good to fair. Only from the directors of town and township associations did we see systematic evidence of unhappiness with state-local consultation and cooperation. Here, however, the number of respondents was very small.

A majority of respondents thought that, after a turnback of non-Interstate federal roads and revenue bases, state spending on roads of local importance would be "much more" or "somewhat more" than is presently the case. Roads for particular types of local areas (i.e., urban, suburban, and rural) might fare better after a turnback, but few respondents thought they would fare worse.

4. Unfunded State Mandates Upon Local Governments. Speaking of responsibilities for public works, Colman puts it plainly:

One of the sorest points in state-local relations in some states is the tendency of state legislatures, in response to pressure from locally based pressure groups, to mandate upon local governments the responsibility for providing a new public service or a new benefit to local employees or some other group, leaving it to the city, county or township the responsibility of raising the tax revenue to pay for the largess voted by the legislature. Some states have enacted legislation, and at least one [California], a constitutional amendment requiring that any service or benefit mandate upon local government will not be enforceable in the absence of state appropriations to pay for all or most of it.24

Colman urges: (1) legislative clarity and judicial restraint with regard to both state and federal pre-emption of (or intrusion upon) local or state authority in infrastructure matters; ²⁵ (2) reviewing state public works regulation of local government for the cost-effectiveness of these controls, especially requirements for roads, streets, and bridges; (3) state and local law to improve the synchronization of economic and residential development with available infrastructure facilities;²⁶ (4) the identification and removal of federal, state, and local legal provisions causing undue delay of projects; and (5) state technical, planning, and purchasing assistance to local governments. State legislators and executive officials who really do "take care of their own" (i.e., state-established entities of local government) will do well to consider these recommendations.

5. State Distribution of Revenues and Other Intra-State Matters. States authorize a wide variety of revenue sources for local road finance. In some cases, notably motor fuel taxes, the revenues are collected by the state for distribution to local governments. (In other cases, local governments can decide whether to use the base and can also set rates.) As of 1985, laws in all the states except for Alaska and West Virginia—provided for sharing with local governments the revenues collected from highway users.²⁷

State-collected funds are allocated to localities in many different ways. Road mileage, vehicle registration, and population appear most commonly in the formulas, but Florida uses tax capacity, Kentucky uses the ton-mileage of coals and minerals transported, and Kansas estimates vehiclemiles traveled. The point is that allocation methods often are sensitive to the state's view of local costs, needs, and resources.²⁸

Adding together all varieties of funding, the nation's local governments received a total of \$20.5 billion for roads, streets, and highways, according to a survey by the Federal Highway Administration for 1984. Of this amount, \$5.8 billion came from state governments, 28 percent of the total. Although all states (again, excluding West Virginia) provide local highway funds, there is considerable interstate variation in state payments as a percentage of local receipts for highway purposes. In Indiana and Michigan, 60 and 64 percent, respectively, of local highway funds come from the state. At the other extreme, Rhode Island provides only 1 percent of local highway funding; Texas provides just 4 percent.²⁹

The states also differ in the fraction of nonfederal mileage that is under local control. An ACIR working paper analyzes those data.³⁰ It finds that the institutional characteristics of state governments (especially, their legislatures) are statistically associated with the degree of centralization or decentralization of nonfederal roads. For example, when the upper house of the legislature is large and legislator turnover is low (compared to other states), then within-state decentralization is common.

Even in a large and diverse state like California, state-local relations on highway matters seem to be quite informal. Staff cutbacks at the California Department of Transportation have caused delays in their approval of local plans, so the legislature has allowed certain substitutions of local for state staff.

6. Reprise. In our federal system many responsibilities are shared among governments, which are then expected to cooperate in uncertain, conflict-prone, and often trying circumstances. In some instances, potential difficulties may be forestalled by careful program design. On other occasions, the result is contention, some of which is unavoidable and may even be productive insofar as it generates alternative approaches, stimulates officials to take effective action, and facilitates citizen access to their governments.³¹ Turnbacks can empower local officials and citizens by ridding them of onerous or outmoded federal procedures and requirements. At the same time, the transition to turnbacks provides an opportunity for states and localities to identify and eliminate outmoded or otherwise inappropriate state-local highway regulation.

This potential benefit of turnbacks, however, will be lost if institutional and fiscal barriers tie the hands of local officials. Moreover, less effective state support for roads of local interest will force an unwelcome burden upon these communities' governments and taxpayers. It is a useful safeguard and reassurance to have states guarantee a constant level of highway services (for roads of local importance) during a transition period, which is a state guarantee for local governments, not a mandate upon them.

Alternatively, the level of state funding for locally important roads could be frozen during transition. With a freeze, however, states and localities would lose the flexibility sought by turnbacks and the opportunities for greater efficiency. It would be better to guarantee a constant level of highway mobility and quality. Defining a state guarantee for roads of local concern should be a cooperative enterprise that involves both state and local officials. The very process of defining the guarantee could serve as a forum for discussion of highways to include both the elected officials and highway administrators for the governments affected. Just as local roles in highways vary from state to state, so might the guarantee.

The ACIR survey of state associations of local officials found a generally high and satisfactory

level of cooperation between state and local officials on road matters; the respondents also thought well, in general, of consultation procedures between state and local officials. The directors of the local associations thought that state roads of local importance might receive more funding after a major turnback, but that it was unlikely that these roads would be worse off.

H. Federal Revenues and Responsibilities After the Completion of the Interstate System

The completion of the Interstate system, currently scheduled for 1992, will free federal gas tax collections now used for new construction. This is another possible revenue source for turnback or for a "hold harmless" grant (discussed below), as may be the balance remaining in the Highway Trust Fund, once final obligations are met.

Once there is a general recognition that the Interstate system has been finished, a welter of conflicting forces expressed nationally might influence the federal highway program. In the absence of a major change, such as a turnback or a significant block grant, that program probably would continue to evolve in reaction to interest groups, skeptics, and reformers.

To develop an example of what might happen, consider a change in the geographic distribution of federal road grants. Because the remaining Interstate links are predominantly metropolitan (and thus very expensive per mile), in the 1980s the distribution of federal highway funding has tended to shift toward urbanized states and metropolitan areas. Rural areas may want to change this.

Another distributional factor is important. The minimum allocation provision ensures that total federal highway funding is at least 85 percent of the highway user tax contributions in each state. States that are currently net donors to the highway trust fund may want to raise the guarantee level. On the other hand, those who seek federal budget cuts may try to trim the minimum-allocation grant.

The minimum allocation of highway grants evokes a nagging issue of fiscal federalism. Since about 1978, many of the hardest-hit federal grants to state and local governments have been generalpurpose fiscal assistance (i.e., General Revenue Sharing), block grants, and grants for brick-andmortar infrastructure projects. Recently, moreover, there has been a restriction in the federal income-tax preference for the bonds that usually finance infrastructure and economic development projects.

With no-strings federal funding cut back, it is indeed possible that federal highway dollars have become a kind of de facto revenue sharing. This allocation is largely on a formula basis (i.e., the specific federal road systems), but is also a returnto-origin basis for the gas tax, because of the minimum allocation provision. If this is so, the federal formulas for road grants might do well to provide additional funding to recipient governments with weak tax bases. At the same time, the formulas could incorporate influences on the cost of standardized highway expenses. A typical highway in Alaska is likely to be more expensive to build than the same highway in the climatically less extreme state of Nebraska. Construction of a mile of road in the District of Columbia or Rhode Island typically costs more than in the less urbanized state of Maine. The following chapter reviews econometric research showing that federal highway grants tend to supplant (in part) state and local road spending from their own sources, which frees up state-local tax revenues for other purposes or for tax relief.

This chapter has certainly been skeptical of the federal government's continued role in the provision of those highways with largely intrastate benefits. Yet the benefits of new safety ideas and enhanced road technology are not limited to one state or another. Here is an important role for the federal government, supporting research and innovation of broad usefulness, even though state and local governments can in most instances determine the specific applications.

In this vein, the imminent completion of the Interstate network argues for fresh thinking about the future role of the federal government in road transportation. Will a key federal task be one of ensuring that the Interstate network embodies safe and modern technology—not simply keeping the roads repaired but updated? Are there highway initiatives for the federal government to take that will enhance the nation's economic competitiveness? These are open questions, as open as the intergovernmental political process that might develop and implement a plan for highway devolution.

Considering the future role of the federal government in highways raises an intriguing possibility. Well conceived and executed, devolution might actually strengthen the federal role, insofar as it focuses the attentions and actions of the Congress and other federal policy-makers onto those highway matters for which they have true responsibility and competence. Rather than debating exactly which "demonstration" parking lots to subsidize, Congress can ensure the continued performance and security of a truly national system of superhighways while at the same time supporting further technical and safety advances.

NOTES

¹The evasion of excise taxes on gasoline and diesel fuel has become a problem, yet not one that necessarily requires federal intervention. There are few economies of large scale in law enforcement activities. Moreover, many states are already working together through an exchange of truck logbooks; they can also exchange information on tax evasion. In a turnback state tax levies would rise as states pick up the relinquished federal tax. As a consequence, the states would have added incentive to enforce compliance. ³See generally Mancur Olson, "The Principle of 'Fiscal Equivalence': The Division of Responsibility Among Different Levels of Government," *American Economic Review*, Vol. 59, May 1969, pp. 479-87.

⁴It is not so much whether a trip crosses jurisdictional boundaries that is important, but whether the benefits of that trip spill over those boundaries. For example, an efficient shipping trip to a suburban warehouse quickly benefits the central-city retailers that are stocked from that warehouse.

⁵Although the possibility exists of a state exploiting its neighbors through a spatial monopoly (i. e., by means of an unavoidable, heavily traveled road or bridge) this is unlikely, for two reasons. First, the road network in most regions is dense enough so that there are alternative routes. For example, Interstate highways frequently are closely parallel to the Primary roads that were their predecessors. Second, if states charge high tolls, they probably cannot avoid charging their own residents, too,

²This conceptual distinction rests on publications by Vincent Ostrom, Charles M. Tiebout, and Robert Warren ("The Organization of Government in Metropolitan Areas," American Political Science Review, Vol. 55, December 1961, pp. 831-42, esp. p. 838) and by Vincent Ostrom and Elinor Ostrom ("Public Choices and Public Goods," pp. 7-49 in E. S. Savas, ed., Alternatives for Delivering Public Services, Boulder, CO: Westview Press, 1978).

who will seek relief at the ballot box. (An attempt to apply disproportionately high charges to nonresidents would be likely to run afoul of the Constitutional prohibition against impeding interstate commerce.)

- ⁶This concern is emphasized by Carlton C. Robinson in "Highway Policy—Questions for the 80s," *ITE Journal*, October 1985, p. 27.
- ⁷AASHTO is the American Association of State Highway and Transportation Officials.
- ⁸FHWA, The Status of the Nation's Highways: Conditions and Performance—1987, 1987, p. 86. The same page also says that "Secondary roads are the only federal-aid system where the travel density is less than the national average for all streets and highways." This supports our finding that, compared to other federal highway systems, the Secondary roads are only lightly traveled.
- ⁹"Pork on Wheels," Washington Post, March 29, 1987, p. A16.
- ¹⁰The bill, SB 1560, was signed into law on July 23, 1986, and is Chapter 525 of the *California Revenue and Taxation Code*.
- ¹¹The figure, for CY 1985, is from FHWA, *Highway Statistics*—1985, Table HF-10. The denominator is net of federal grants.
- ¹²The Surface Transportation Assistance Act of 1987 allows certain tolls on an experimental basis, however.
- ¹³FHWA, Highway Statistics-1985, Table HF-10.
- ¹⁴The Tax Reform Act of 1986, however, restricted the issuance of tax-exempt, "private-purpose" bonds by states and localities.
- ¹⁵State of Massachusetts, Office of Governor Michael Dukakis, "The Massachusetts Development Bank (Mass Bank)," an unpublished planning document, 1983.
- ¹⁶It should be noted that innovative financing procedures are only financial instruments. By themselves, they do not add to the tax base of economically distressed communities, although they can make better use of existing resources and they do help finance public investments that may bring about economic growth.
- ¹⁷National Symposium on Local Roads, "America Runs on Local Roads: A Position Statement," published April 1987, by America Runs on Local Roads, Spokane, WA. The quotes are from pp. 28-29.

- ¹⁸Unpublished data for FY 1985 from the Census of Governments that appear on the ACIR Government Finance Disks.
- ¹⁹David L. Chicoine and Norman Walzer, Financing Rural Roads and Bridges in the Midwest, Washington, DC: U.S. Department of Agriculture, Office of Transportation, October 1984, pp. 73-75.
- ²⁰American Association of State Highway and Transportation Officials (AASHTO), Standing Committee on Planning, "Local Finance Survey," Washington, DC, January 1987, p. 5.
- ²¹The discussion here is based partially on interviews with state and local highway and legislative officials, conducted March to May 1987. The interviews emphasized, but were not limited to, the states of California, Florida, Kansas, and Pennsylvania.
- ²²For a general discussion, see ACIR, Measuring Local Discretionary Authority, M-131, November 1981, esp. p. 31.
- ²³ACIR, Local Perspectives on State-Local Highway Consultation and Cooperation, SR-4, July 1987.
- ²⁴Colman, pp. 62-63. Also see pp. 65-72 of that work, cited below.
- ²⁵He also suggests that such laws be clearly enforceable and that they delineate procedures for conflict resolution.
- ²⁶This, by the way, is an example of a beneficial state mandate. Colman refers to the Adequate Public Facilities Ordinance that Montgomery County, MD, enacted in 1972.
- ²⁷Highway Statistics—1985, pp. 34,75. See also AASHTO, "Local Finance Survey," p. 9.
- ²⁸"Local Finance Survey," p. 4.
- 29 Highway Statistics-1985, p. 94.
- 30"A Public Choice Model of State-Local Highway Decentralization," forthcoming in the ACIR staff working paper series.
- ³¹In the language of Grodzins and Elazar, these are additional "cracks" (i.e., points of access) in the federal system. See Morton Grodzins, *The American System*, Daniel J. Elazar, ed., Chicago: Rand McNally, 1966.

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Highway Turnbacks in Practice: Concerns of Design and Implementation

T_h

he accomplishments of federal highway programs suggest that a major change, such as a highway turnback, should not be undertaken capriciously. The variety of topics touched on in this chapter variously identify the reasons for past accomplishments, the rationale for continuation of the programs, and the weaknesses of highway turnbacks, in both concept and application.

A. Difficulties with the Geographical Scale of Highway Benefits

To use geographical range as the standard to express a road's benefits is difficult and perhaps misleading because each road has multiple uses. Moreover all the roads are interconnected. A long-distance trip conducted mostly on highways that serve interstate travel may begin and end on roads of predominantly local significance. It is problematic, for instance, to declare that a particular highway link is predominantly used for interstate commerce.

Not only is it problematic to establish that one or another highway link is predominantly used for interstate commerce, but when different kinds of travel are provided jointly, it is more difficult to assign benefits. This report has considered the turnback of entire administrative categories of roads, such as the Primary system, but a carefully developed turnback plan could and certainly should collect data on individual links in road systems.

Do differences among road programs in the federal matching rate reflect the relative amount of national interest in each road program? In principle, the Congress can express what it judges to be the degree of national interest in the various federal highway programs by setting the federal matching rate. The 90 percent federal match for the Interstate network might conceivably indicate a strong Congressional commitment to that highway system.

By the same token, an analysis of federal matching rates may perhaps indicate the extent of interstate spillovers. Again in principle, the more each road provides out-of-state benefits, the higher the federal cost share should be to encourage state construction and maintenance. However, the Congress does not seem to be guided by this principle; the cost share for Primary, Secondary, and Urban systems remain the same, although Primary roads provide decidedly larger interstate spillovers.

At least in theory—but apparently *only* in theory, to adjust federal cost shares is a more flexible and continuous way of accommodating the heterogeneous geographical benefits of different highways than by assigning them to one set of provisioning governments or another (i.e., to make Primary highways state responsibilities and Secondary roads county responsibilities).

Arthur Bauer has provided a federalism argument against a sorting out of highway programs. Bauer's analysis derives from the reality of the many shared constituencies and shared responsibilities in the American federal system.

"Shared constituencies" simply means that an individual can be equally concerned about city streets, state highways, and mass transit, and can express this concern to decision-makers in different governmental entities. Therefore an agency providing similar services is placed in the position of knowing that its constituency can be sympathetic to the demands of its competitors. Shared responsibilities result in the "joint production" of public goods, and can be combined with shared constituencies to ensure coordination between state highway departments, local street departments, and transit agencies.1

B. Gains and Losses: Post-Turnback Fiscal Balances from The State and Federal Viewpoints

If a turnback plan sets the national total of revenues relinquished equal to current spending on the programs to be ended, then the plan would be fiscally neutral from the federal standpoint, neither increasing nor reducing the federal deficit.² Yet federal fiscal neutrality does not mean neutrality state by state. That is because the multistate pattern of relinquished revenues will not exactly match that of devolved responsibilities. Some states, with more access to relinquished revenues than loss of program grants, will potentially gain funds. The remaining states that bear more responsibility than revenue will lose. This unevenness is called fiscal mismatch, and ACIR has developed a computer-assisted procedure to minimize both gains and losses, particularly losses in states with weak tax bases.³ Reducing fiscal mismatch is a matter of simple fairness to state taxpayers and state governments; it is also a means of gaining political acceptance. In the latter case, potential losses are likely to be resented far more than hypothetical gains are sought, holding aside the other turnback objectives.

Losses to two categories of states are of particular concern. First, it would be a hardship for states with weak or declining tax bases to increase overall taxation to make up for the net loss of highway funds; in many cases it would also be a hardship to cut back on road programs. Second, sparsely settled states and those with isolated populations are dependent on highways for access to the rest of the nation, even though lightly traveled highways do not generate enough in gas taxes to support themselves. It is in the national interest to maintain access throughout the country.

A "hold harmless" grant can be awarded, probably for a transitional period, which is a grant that guarantees fiscal neutrality to each state. The more state-by-state mismatch there is, the larger the national total of the hold harmless grant must be, and the more dependent state budgets are likely to be on this grant. Moreover, any hold harmless grant awarded by the Congress, particularly a large one, subjects state treasuries to the uncertainty of the federal budget process. Various federal budgetary mechanisms, such as entitlements and earmarking, can reduce this uncertainty, but the national government must over time be willing and able to make such a sacrifice of its fiscal flexibility. Our look at the intent versus the reality of dedicated federal highway revenues counsels caution here.

Alternatively, a hold harmless grant can be administered in other ways. One possibility is that a single-purpose consortium of states and localities could contract with the Congress to receive a sum of money (or a revenue base). The consortium would then allocate the hold harmless grant in accordance with the contract. A mutually acceptable contract would satisfy the highway interests of both the Congress and the individual states, yet it would not be subject to the budgetary uncertainties and divisiveness that has plagued the Congress, which has far more on its agenda than highway finance.

Note that combining a turnback plan that is fiscally neutral from the federal standpoint with a hold harmless grant—which is designed to prevent losses—means that the overall package is not fiscally neutral from the federal standpoint. The hold harmless grant increases combined federal expenditures. If the mismatch is small, however, all these budgetary and package design worries are reduced. Moreover, the relaxation of federal requirements will reduce state funding needs. Additionally, in time, expanded highway use will increase states' gas-tax revenues.

The fact that federal highway taxes have not been disbursed fully during the last few years provides an opportunity to finance a hold harmless grant. Some or all of the excess of collections over recent appropriations may be used for this grant, as may part of the accumulated but unobligated balance in the Highway Trust Fund. If programs financed from the Trust Fund are devolved, the demands on it are reduced, and the balance required as a reserve against future obligations can be cut.

A hold harmless grant for highway turnbacks can be thought of in these terms: The unappropriated highway excises have detracted from the planned and orderly financing of the nation's federal-aid roads to serve another national objective-that of reducing the federal budget deficit. Through the federal-aid road system, the states have, in an involuntary sense, "loaned" money to the federal treasury for deficit reduction. In return, the federal treasury and the Trust Fund should repay this "loan" through a hold harmless grant. That grant can serve the national objective of federalism reform. Under this reasoning, a highway turnback package with a hold harmless grant can be designed that, over the course of several years, is fiscally neutral from the perspective of the federal budget.

C. What Would State Highway Spending Be After Devolution?

1. Impediments to "Picking Up" the Relinquished Revenue Base. It may be difficult for some states to pick up a relinquished federal gas tax quickly, but the nature of these impedimentsand the delays they may impose—vary widely from state to state. The preliminary findings below will be supplemented by further ACIR research in progress.

There may be political pressures against state legislative action that is designed to pick up all of the tax revenue relinquished by the federal government. In an anti-tax mood, elected officials and voters may opt for tax relief at the pump, rather than the continued financing of the devolved roads. This kind of tax revolt can occur if state gas taxes have been raised recently, or if the current level is higher than that of neighboring states. Partial pickup of the relinquished federal tax might be attractive as a way to lessen combined state-federal tax burdens on motor fuels.

In certain states there are legal barriers, statutory or constitutional, to full state pickup of the relinquished federal tax. For example, 18 state governments are subject to limits on taxing or spending powers; in eight states the restriction is constitutional. Some state governments, subject to taxing limits, may be prevented from full pickup. Some of the legal limits may be interpreted to constrain state fiscal action, given the change in federal grants. In an instance where a restrictive limit is in the state constitution, a referendum may be required to change the limit, but that referendum may be easily passed if the voters understand that it means no net tax increase.

In 1986 California enacted a law designed to pick up any of the federal gas tax base that is relinquished.⁴ Because the state is subject to a restrictive cap on the annual rate of spending growth, the law includes a legislative finding that a pick-up tax increase is simply a transfer of responsibility and so would extend appropriations that are allowed under the cap, which is a constitutional provision that was enacted by citizen referendum.

California is not the only state government subject to restrictions on taxing or spending, although its cap is probably the most limiting. Eighteen states limit such taxing or spending—eight of them by constitutional provisions.⁵

In a turnback, proceeds from the increased motor fuels tax—whatever its level—might be only partially devoted to transportation. Although the vast majority of states earmark motor fuels, this might not be the case after federal relinquishment. However, the reasons and forces underlying current practice suggest that earmarking is likely to continue in order to guarantee to the taxpayers that most highway revenues will be used for transportation purposes.

In 1985, only Alaska, Delaware, Louisiana, New Jersey, New York, and Rhode Island put most highway user revenues into the general fund. The remaining 45 states earmarked most of the proceeds.⁶

When a state does not earmark highway user revenues, this does not indicate that roads are of low fiscal priority; instead, the use of general-fund budgeting probably expresses the choice of the state's citizens and government to subject highway revenues to their general budget process. This is not so much an anti-highway attitude, as one that supports comprehensive budgeting.

In point of fact, the vast preponderance of states do choose to apply the proceeds of motor fuel taxation to highway and to other transportation use. In 1985 only six states (Louisiana, Montana, Rhode Island, Texas, Vermont, and Washington) devoted such taxes to nontransportation purposes. Nationwide, less than 2 percent of state motor fuel receipts went for nontransportation uses. Why would turnbacks change this fiscal choice?

To be implemented successfully any highway turnback plan must allow states ample time to make the fiscal (and any legal) changes that are necessary or desirable. A relinquishment of federal motor fuel taxation would have to be announced as part of a federalism reform and highway financing package—not as federal tax relief. If a "critical mass" of state legislatures enacted increases in state motor fuels taxes that were contingent on federal relinquishment, this "grassroots" action would encourage the remaining state legislatures to consider picking up the tax, without coercing the elected officials or taxpayers of any state.

2. Econometric Analysis of Matching Highway Grants. Federal highway assistance consists mainly of closed-ended matching grants. For example, a dollar in qualifying state highway funds for the Primary, Secondary, and Urban programs is matched (for most states) by three federal dollars, until the federal funding limit for that state is reached. Until that limit is reached however, the match provides strong leverage for state ownsource highway taxation. If this match is removed by turnback or a block grant (or lessened by a change in the federal program) states are likely to raise less money for highway purposes than currently.

The incremental fiscal stimulus to state taxing provided by the matching highway grant depends on the federal funding limit not being reached. The calculation is difficult, but Harry G. Meyers recently estimated that in 1982, 30 states "overmatched" on Primary, Secondary, and Urban highways-that is, they spent more of their own funds than was necessary to gain the maximum in federal highway grants. Using data from the 1960s, Edward Miller estimated that all but nine states overmatched for the same federal-aid highway programs.⁷ This overmatching argues for a strong state-local preference for highway taxing and spending-at least under current financing arrangements-beyond what gets them the most funding from Washington.

Another piece of evidence is econometric estimation of the de facto impact of federal funding on state own-source highway spending. That approach is valuable because all dollars are green. Federal grant money is interchangeable among budget categories (i.e., is fungible), despite the continuing attempts of the Congress to stimulate additional state-local taxing and spending for designated purposes, or at least to prevent federal dollars from replacing the state-local funding that would be available without federal grants. An econometric analysis can estimate the degree to which an added federal grant dollar stimulates further state-local road spending or, alternatively, supplants such own-source spending. In the latter case, a portion of the marginal federal dollar would be devoted to nonhighway spending or would reduce own-source taxation, all else being equal.

Meyers found that marginal changes in federal grants for non-Interstate roads both stimulated and supplanted own-source highway spending. The supplantation effect was estimated to be considerably greater than the stimulation effect: All else equal, an additional federal grant dollar supplanted 63 cents of own-source highway spending, but stimulated a net addition of 37 cents in combined state-federal highway spending. Under the current formula, withdrawing one dollar in federal grants would, by the same token, reduce combined highway spending by 37 cents. Miller's estimate was similar.⁸

The over-matching evidence pertains to existing financing arrangements. We cannot be sure that own-source state highway spending would remain high without the federal contribution. The econometric evidence, moreover, draws on state fiscal choices influenced by current federal-aid financing; it also estimates only marginal changes in those financing arrangements. A turnback plan (or a block grant for that matter) would make a major change in federal highway funding, and may well invalidate the conclusions drawn from the statistical analysis of recent fiscal data. Although there are no estimates of the more-thanmarginal stimulative effects of federal highway grants, a turnback plan would remove this stimulative incentive. Thus, turnbacks could exert a downward pressure on the level of state highway taxing and, since it appears that federal highway grants free up state-local taxes for other uses, a turnback would also remove a source of fiscal relief.

D. Cars and Trucks Sharing the Road: Can One Highway Serve Two Masters?

Before the start of the Interstate network, the states developed two kinds of high performance roads of note: (1) parkways and (2) turnpikes and expressways. Usually, parkways were designed solely for automobiles—trucks could not enter and emphasized scenic views and landscaping. Turnpikes and expressways, precursors of the Interstate system, were designed for both cars and trucks. Turnpikes emphasized speed, the safety of wide lanes, broad shoulders, and strong median barriers. They also had the gentle grades, wide curves, and ample interchanges needed by large trucks. The pavement and foundation had to be designed to withstand the heavy axle loadings of big trucks.

Highways designed to accommodate safely large trucks traveling at high speeds are costly to build, costly to maintain, and require extensive rights of way.

The Interstate system generally accommodates both cars and large trucks. There are, however, safety concerns because trucks cannot stop as quickly as cars. Moreover, the length 'of large trucks (particularly "double-bottom" trucks) makes passing them more difficult and, on an undivided highway, manifestly less safe.

States could adjust the relative levels of gasoline and diesel fuel taxation, as well as the license fees for cars and trucks, to reflect the construction and improvement costs for roads serving the two types of vehicles, and the roadway wear caused by each. The federal government could apply the same philosophy of cost apportionment to the roads that retain federal financing, by adjusting motor fuel taxation and truck excises.

A very simple plan to relinquish federal motor fuel taxation might, however, leave the Interstate network to be financed largely by diesel trucks. The turnback proposal considered last year by the National Governors' Association would relinquish all 9 cents per gallon of the federal gasoline tax, and a 9-cent portion of the 15-cent tax on diesel fuel.⁹ The remaining 6 cents would finance the Interstate system. If the Interstate roads were supported almost exclusively by the federal tax on diesel fuel, we could expect truckers' interests to outweigh those of travelers by automobile. At the same time, though, the trucking industry would bridle at being the sole support for the Interstate highways.

If a large portion of the federal motor fuels tax were to be relinquished, a balance would have to be struck between the contributions of automobiles and trucks to the roads that would retain federal financing. This could be done, in principle, by adjusting the relinquishment of taxes on diesel fuel and gasoline and also through adjusting federal truck excises. The tax-relinquishment balancing act might be difficult to achieve but would be necessary, if the federally financed roads after turnback continued to balance the interests of both trucks and automobiles.

E. Rational Incrementalism

States as great engines move slowly.

Francis Bacon

The federal highway program has evolved through its history. It has always been subject to pressures to respond to changed circumstances and priorities—although responses have sometimes been slow and imperfect. This process of evolution can accommodate change through "rational incrementalism," with step-by-step adjustments.¹⁰ This is the usual way the federal government effects change, orchestrating and balancing different ideas and interests, as well as testing new policies.

Rational incrementalism is a cautious approach in the financing of such long-lived investments as highways, which exert, moreover, an even more permanent influence on the locations

NOTES

¹Bauer, p. 74.

²However, expenditures for capital improvements and other construction in practice lag receipt of the revenues earmarked for those expenditures. With current federal accounting practices, the simple turnback plan described above would cause a short-term increase in the budget deficit. That is because federal revenue receipts would decrease before the later decrease in federal expenditures. Thereafter, however, there would be a short term reduction in the federal budget deficit as currently calculated. A one-time change in accounting practices should accompany a turnback plan, in order to avoid this quick—and meaningless—fluctuation in the calculated deficit.

³That procedure is described and used in Chapter 5 of the previously cited ACIR report *Devolving Federal Program Responsibilities and Revenue Sources*. The procedure has not been employed to design the packages in this report but may be used in future work for "development-oriented" turnback packages that combine highway programs with related grants for physical facilities and economic development.

⁴Chapter 525 of the California Revenue and Tax Code.

⁵Information as of October 1985. ACIR, Significant Features of Fiscal Federalism-1985-86 Edition, Report of jobs and residences. Although rational incrementalism may not bring about any dramatic shift, consideration of that political process suggests that we should think of turnbacks not solely as an end-state but in terms of the devolutionary process that can move toward a relinquishment of federal revenues and responsibilities.

M-146, February 1986, pp. 145-46. The same source also identifies the seven states that require a legislative super-majority (i.e., more than half the vote) in order to enact a tax increase.

⁶Highway Statistics—1985, p. 62.

⁷Harry Meyers, "Displacement Effects of Federal Grants to States for the Primary, Secondary, and Urban Federal Aid Highway Systems," Working Paper, U.S. Office of Management and Budget, July 1985; Edward Miller, "The Economics of Matching Grants: The ABC Highway Program," National Tax Journal, Vol. 27, June 1974.

⁸Meyers, p. 1, and Miller, pp. 221-29. However, many states raised their own motor fuel taxes after the federal gas tax was raised in 1982. This does not necessarily contradict the idea of federal grants supplanting state spending from their own sources. Very likely the same concern with road deterioration and interest in government-induced employment during a recession that stimulated the federal action, provided the same impetus to the states.

⁹National Governors' Association, Federalism and the States-1986, Washington, DC, February 1986, pp. 22-23.

¹⁰See Nathan.

4 Summary And Findings

A. The Circumstances

1. Achievements of the Federal Highway Program. Working through the states and drawing on the public's interest in good roads, the federal-aid highway program has built a high-quality national highway network, achieved standardization of signs and road design (which enhances the safety and ease of travel) and has supported professionalism in state and local highway officials and agencies. The federal program has not only helped build up state-local administrative and technical capacities in highway matters, it has also drawn significantly upon those capacities.

The federal highway program was not recklessly "parachuted into" a suspicious and unreceptive state-local countryside: Highways are a fundamental and valued function of states and of most general-purpose local governments. At present, most state and many local highway departments have demonstrated the ability to assume significantly more responsibility and autonomy than they are allowed under the categorical program for federally aided roads.

2. A Partnership at Risk. The federal highway program has developed a generally successful intergovernmental partnership, but one that has perennially been strained by issues only indirectly related to highway construction and maintenance. In early 1986 the staff of the National Governors' Association wrote that:

Failures to approve the Interstate Cost Estimates, decreases in promised obligation ceilings, the imposition of unrelated sanctions, and destabilization of the Highway Trust Fund through increasing dedication of revenues to demonstration projects have all contributed to the failure to achieve the promised regeneration of the highway system. Federal categorical programs, regulatory standards, and budgetary controls have all worked to diminish the state capacity to get the best use of highway funds collected for the federal program.

Governors believe that "America's continued growth and competitive economic stature may well depend upon highway improvement programs that extend beyond completion of the Interstate highway system and, in fact, the citizens in their states hold them accountable for the expenditure of the highway user taxes. If public expectations are to be met and if a more efficient and coordinated program is to be developed, the states must be given greater flexibility and authority for non-Interstate programs."¹

Since the foregoing was written, funding for the demonstration projects mentioned in the quotation has increased. The nation went without federal highway grants for six months because of Congressional disagreement on those projects that benefit only individual communities, and also because of controversy on two categorical requirements only indirectly related to the construction and modernization of federally aided highways: billboard regulation and state enactment of a 55 mph speed limit. The balance in the Highway Trust Fund has grown because federal excise taxes have not been spent promptly for their intended purpose. The instability of federal highway funding has been troublesome to state and local governments, as has the accumulation of federal mandates, sanctions, and requirements. The authorization, operation, and funding of this complex categorical program is continually in danger of being detoured by the imposition of requirements that relate only indirectly to the program's fundamental purposes, and the controversy over those requirements that do not command a national consensus.

As the emphasis in highway provision has shifted from new construction to marginal improvement, modernization, and maintenance of existing facilities, it has become increasingly appropriate for all governments to consider federal relinquishment of both program responsibilities and supporting revenue sources for highways.

B. Potential Advantages of Highway Turnbacks

3. Enhanced Efficiency. With the Interstate system used for long-distance travel, most of the benefits of other federally aided roads are contained within state boundaries. These non-Interstate, federally aided roads should be considered for turnback. Absent federal funding, there is reason to believe that state-local responsibility for the devolved highways would not impair nationwide mobility or interstate commerce. Devolution would move toward "fiscal equivalence." The same jurisdiction that finances a set of roads will benefit from them. Thus highway spending and highway services would be more closely linked than is presently the case. Efficiency would be enhanced as would political, fiscal, and program accountability.

4. Increased Accountability, Responsiveness, and Flexibility. Turnbacks would unify a state's responsibility for the construction and maintenance of roads under its jurisdiction. Responsibility is currently divided because of federal funding for capital but not operating costs which imposes an anti-maintenance bias and may cause new construction to be "gold plated." Despite attempts to achieve flexibility in the use of federal highway grants, the different funding levels, matching rates, and program conditions of the various federal-aid categories distort state-local highway choices.

By freeing state and local action from federal requirements, turnbacks can empower state-local officials through greater authority to respond to their citizens' concerns. Most state governments already go beyond federal requirements in giving local governments power—and often, funds—for many of the federally aided roads of local interest. Moreover, in all but two states, some of the state motor fuel tax by law is collected for local use. Turnbacks may well augment local highway influence and authority.

Devolution could also encourage the broader use of innovative financing mechanisms, such as bond finance, bond banks, tolls, and added revenues from enhanced land values.

5. Better Match of Financing Instruments and Program Mechanisms to Public Goals. The diverse goals and constituencies served by the federal highway program has led to a complex operation and has engendered controversy over the program's procedures and allocation formulas. Reducing congestion in fast-growing suburbs leads to a very different funding allocation from ensuring access to sparsely populated communities, for example. Devolution—particularly when local communities are actively included in decisionmaking—would sharpen goals and priorities. The financing instruments could be better matched to the highway actions taken and the goals served. For example, roadbed upgrading to serve heavy trucks might be financed by a special assessment on the plants that benefit.

6. National Uniformity and Standardization. Turnbacks should not sacrifice the current advantages of nationwide standardization. Some very important highways—the Interstate system—would remain subject to federal control and would continue to influence the design and management of other roads.

C. Key Cautionary Issues for Consideration

7. Straining State-Local Relations. Although turnbacks could lead to more highway authority for local officials, the fear of some—and the risk as well—is that they would strain state-local relations on highway matters. This might occur if the consultation procedures built into current federal law were weakened or disregarded, or if state highway finances were cut back, particularly on roads of importance to local communities.

Preliminary investigation indicates that the states differ significantly on the allocation of responsibilities to localities for nonfederal roads. Preliminary results of a public choice analysis of mileage under state or local control suggest that legislative characteristics, such as the size of each chamber and the turnover of legislators, influence the degree of decentralization. State legislatures with large upper chambers and slow membership turnover tend to have a more decentralized allocation of responsibility, perhaps because there is less incentive for pork-barrel politics and less desire to interfere in roads of intrinsically local concern.

States also differ in their local involvement in the federal highway program. Many states substantially exceed the requirements of consultation, metropolitan planning, and earmarking of Urban system grants. Like Kansas, some states pass through some or all of the federal Secondary and Urban funds to local governments. California lets local officials veto freeway construction plans; not only that, their affirmative approval is required by state law.

Although exact procedures differ from state to state, the metropolitan and regional highway planning process (much of which is mandated federally) gives local officials considerable power to influence state highway activities. The metropolitan planning organizations, required by federal highway law, act as forums for state-local and local-local discussion and cooperation. Often, productive interaction is rooted in the technical tasks of transportation planning, and the professionalism of those directly involved. The highway planning function is so important in some states that they require five-year plans, updated annually with local participation, which are used to guide legislative appropriations for roads.

A small ACIR survey of state associations of local officials, although not conclusive, finds little apprehension about turnbacks. Most of the association directors believe that state spending on roads of local importance will not be worse off after a turnback; many directors believe that state spending on roads and highways will increase. The survey respondents, moreover, are generally satisfied with state-local consultation procedures on highway matters. Some respondents, however, particularly directors of town and township associations, would prefer more consultation. Further work is continuing on this important topic, including surveys of state legislators and transportation officials.

A state's present implementation of federal consultation requirements is likely to serve as a framework for state-local relations after a turnback. Because it appears that in most instances the current consultation process is working, current consultation mechanisms should be retained at least transitionally, as a procedural guarantee for the state-local highway partnership. However, intricate or rigid substantive and procedural requirements on the states would defeat the very goals of devolution.

8. Federal Stimulus to Highway Spending. Federal matching grants currently serve as incentives for states to support highway spending from their own sources. In the non-Interstate highway programs, three federal dollars are generally provided for each state dollar. If highway turnbacks (or block grants) removed this match, an added incentive would be removed for states to continue the current levels of highway funding from their own revenue sources.

However, most states "overmatch," that is, they spend more on highways than needed to gain the most federal funding. This indicates that highways have a high priority, one that will not be reduced by a turnback. Moreover, econometric estimates suggest that about 67 cents of the federal grant dollar does not actually stimulate state ownsource spending but is used for nonhighway purposes or for tax relief.

In order to lower taxes for their citizens, it is conceivable some states will not "pick up" on the full amount of a relinquished federal tax. However, significant diversion of increased gas-tax proceeds to nontransportation uses is unlikely to occur because there is little such diversion now, and there are currently no legal barriers to diversion except the states' own laws. In 1985 all but six states legally devoted gas taxes to transportation; nationwide, less than 2 percent of state motor fuel receipts went for nontransportation activities.

9. Impediments to "Pick Up" of Relinquished Tax Base. In some states there are both political and legal impediments (the latter statutory or constitutional) that could delay state legislatures in "picking up" a relinquished federal tax on motor fuels. Some states are subject to taxing, spending, or borrowing limits that would have to be changed before the states could take full advantage of the tax-base turnback.

Even in the absence of legal barriers, there may be political pressures against state legislative attempts to pick up all of the tax revenue relinquished by the federal government. California, though, enacted a law in 1986 to pick up relinquished federal taxation of motor fuels; other states may follow suit. The California law is designed to increase appropriations that are allowed under the quite stringent constitutional cap on state spending increases, since the law includes the legislative finding that such pick-up taxation is simply a transfer of responsibility to the state. Further research on this topic is being conducted by ACIR.

10. Other Practical Concerns. Such a major change in financing as turnbacks would require careful attention to individual states' budgetary gains and losses, particularly in light of the per capita strength of state and local tax bases. A tax relinquishment plan that causes the remaining nationally financed roads to be supported predominantly by trucks is another matter of concern because that financing arrangement risks undue influence from the trucking industry.

D. Additional Features of a Practical Turnback Plan

11. Holding States Fiscally Harmless. In a turnback, fiscal neutrality from the federal standpoint means that some states will experience losses (perhaps the very states least able to make up the losses from their own tax bases) and that other states will enjoy fiscal gains. Some states will lose funding even with overall federal fiscal neutrality. Transitional "hold harmless" grants, perhaps using the accumulated balance in the Highway Trust Fund (or, alternatively, derived from the funds available on completion of the Interstate highway system) would maintain the same level of highway funding for each state.

12. Movement Toward Highway Turnback and Devolution. The process of devolution could be begun through incremental relinquishment of portions of the federal tax on motor fuels and by relinquishing specific components of the federal highway program. The need for a transition period has already been mentioned. Just as important as the actual steps in a movement to devolution is the process itself, which would allow the intergovernmental political community to assess the consequences of a turnback by confronting the concerns stated in this report, and perhaps other concerns as well, that have not been anticipated.

As an example of the devolutionary goal, we present a turnback package that was developed and adopted by the National Association of State Budget Officers (NASBO). This package would devolve all non-Interstate highways and other programs financed from the Highway Trust Fund, except for the portion of the bridge program that serves the Interstate roads, the emergency relief highway program (which, as the name implies, provides disaster funds), and the program for highways on federal lands.

Employing the balance in the Trust Fund and allowing for Interstate completion, the turnback could be financed with 7 cents of the current 9cent tax on gasoline, plus an additional cent devoted to a grant based on lane mileage. The lanemileage grant would especially benefit sparsely populated states, and would support the continuing national interest in maintaining access throughout the country, especially to areas where the traffic volume does not justify Interstate highways. See *Table 1* for state-specific figures.²

Table 1:

Federal Relinquishment of Seven Cents of the Gas Tax (Plus Devotion of 1 Cent to a Grant Based on Lane-Mileage) and the Turnback of Non-Interstate Federal Highway Programs (millions of dollars, after transition; data from FYs 84-86)

Z-cent Turnback 1 Cent (Lane Miles) Total Fuel Interstate Fuel Total Fuel Interstate Fuels Total Fuels Tot		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Alaska22.637.259.817.477.3147.8-70.5Arizona127.814.4142.256.6198.7159.539.2Arkansas100.224.6124.816.5194.1159.539.2California904.67.9912.5283.6196.1984.8211.2Colorado117.916.2134.165.5199.5186.313.3Connecticut103.57.8111.3149.4260.7256.14.6Delaware26.010.936.815.552.450.32.0Washington, DC11.13.514.631.045.765.9-20.3Florida426.7321.2288.5102.8391.3314.576.8Hawaii24.75.630.378.2108.5112.1-3.6Idaho39.134.273.328.4101.783.917.8Illinois368.212.1380.489.6470.0409.160.9Indiana223.016.6239.620.2259.8253.56.3Iowa111.436.1147.541.4188.9172.516.4Kansas101.455.5156.915.5172.4148.923.5Louisiana153.613.3166.9164.7331.6308.523.1Maine45.720.866.415.882.357.325.0 </th <th>State</th> <th>7-cent Turnback</th> <th>1 Cent (Lane Miles</th> <th>Total Fuel</th> <th>Interstate Completion (Federal</th> <th>Total Funds To</th> <th>Obligation Limit (Formula) Plus 85% Minimum</th> <th></th>	State	7-cent Turnback	1 Cent (Lane Miles	Total Fuel	Interstate Completion (Federal	Total Funds To	Obligation Limit (Formula) Plus 85% Minimum	
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Delaware	26.0	10.9	36.8	15.5	52.4	50.3	
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	·							
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Texas 734.2 17.2 751.4 160.3 911.7 842.5 69.1					160.3	911.7	842.5	69.1
Utah 56.9 19.2 76.1 60.9 136.9 133.1 3.9 Verment 20.1 20.7 40.8 15.5 55.4 10.2								
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Wisconsin 161.6 21.5 183.1 15.5 198.6 196.1 2.5 Wyoming 30.4 58.2 88.6 19.5 108.1 82.2 26.0								
	Total							

Source: National Association of State Budget Officers, "Transportation Turnback Proposal."

We emphasize, however, that this package is intended only to be indicative of state-by-state consequences under a turnback of the major non-Interstate federal highway programs.³ Even more than it employs particular fiscal mechanisms, the fundamental idea of highway turnbacks entails the goal of substantial devolution; recognizes the practical advantages that devolution would have in im-

NOTES

¹National Governors' Association (NGA), Federalism and the States—1986, Washington, DC, February 1986, p. 22. The quotation within the excerpted passage is from NGA policy. This passage accompanied a transportation turnback proposal that went to the full membership but was not approved.

²That indicative package was developed by the National Association of State Budget Officers (NASBO). (We are grateful to NASBO for allowing us to reproduce their table.) Simply put, in their calculation current grant levels proving the efficiency, quality, and responsiveness of highway provision; and emphasizes that true devolution is achieved through the enlightened operation of the intergovernmental political and fiscal process. In a movement toward highway devolution, those intergovernmental processes could properly bring about a state of affairs that is very different from that represented in the table.

are those that have actually been available, i.e., reduced below apportionments by obligation ceilings. The balance in the Highway Trust Fund plus miscellaneous, highway-related federal excises are employed to complete Interstate construction and for a transitional hold harmless grant. The lane mileage grant, however, would continue. For further information, see NASBO, "Transportation Turnback Proposal," November 1986.

³The Appendix presents two illustrative packages that are far smaller but may serve as stages in the movement toward devolution.

Appendix

Turnback Alternatives: Two Small, Illustrative Highway Packages

Two small highway turnback packages are presented in this Appendix: a 1-cent turnback of the federal gas tax that relinquishes the Secondary highway program and a 2-cent turnback that relinquishes both Secondary and Urban programs. See *Chapter 2*, above, for a discussion of relinquishing these programs. *Chapter 4* contains the larger turnback package referred to as a goal in the ACIR recommendation, which would relinquish all non-Interstate federal highway programs. Either or both of the small packages below could serve as intermediate steps in the nation's movement toward the devolution urged in the recommendation.

The One-Cent Package

The 1-cent turnback package entails federal relinquishment of highway excise revenues equivalent to about one cent of the 9-cent federal tax on gasoline and a comparable share (i.e., 1/9) of the 15-cent tax on diesel and other special fuels. None of the other highway-related excises is affected; these taxes are paid disproportionately by large trucks that rarely use Secondary highways when an Interstate route is available.

The states would assume responsibility for the Secondary highway program and 28 percent of the bridge replacement and rehabilitation program (roughly equivalent to the share of that program currently serving the Secondary network and bridges outside the federal system). Statutory apportionments for the programs that would be devolved total about 1 cent per gallon.

The hold harmless grant of \$137 million per year (an addition to the turned-back revenue base that is equivalent to about 0.1 cent per gallon) would be awarded to those 24 states whose revenue collections are less than the devolved responsibilities.

Table A1 presents the state-by-state fiscal features of this turnback package after transition is completed.

The Two-Cent Package

The 2-cent turnback package entails federal relinquishment of highway excise revenues equivalent to about 2 cents of the 9-cent federal tax on gasoline and a comparable share (i.e., 2/9) of the 15-cent tax on diesel and other special fuels. None of the other highway-related excises is affected; these taxes are paid disproportionately by

Table A1 Federal Relinquishment of One Cent of the Gas Tax and the Turnback of the Secondary Highway Program and a Portion of the Bridge Program

	Program Turnback (\$000)	Tax Turnback (\$000)	"Hold Harmless" Grant (\$000)	Percent Of Program Funding Replaced	Net State- Local Gain (\$000)	Change In Gas Tax For 100% Replacement (cents/gailon)	Per Capita Change (\$)
State	(A)	<u>(B)</u>	(C)	(D)	<u>(E)</u>	(F)	<u>(G)</u>
United States	1,200,031	1,200,031	137,041	111.4%	137,041	-0.1	0.59
Alabama Alaska Arizona Arkansas California	19,609 5,013 11,252 12,914 112,693	22,501 3,060 16,746 14,372 123,362	0 1,953 0 0 0	114.7 100.0 148.8 111.3 109.5	2,892 0 5,495 1,459 10,669	-0.1 0.0 -0.4 -0.1 -0.1	0.73 0.00 1.85 0.63 0.42
Colorado Connecticut Delaware Florida Georgia	15,608 20,449 5,013 44,802 23,597	16,431 14,805 3,669 56,354 36,494	0 5,643 1,343 0 0	105.3 100.0 100.0 125.8 154.7	822 0 11,553 12,896	-0.1 0.0 0.0 -0.2 -0.4	0.26 0.00 1.08 2.25
Hawaii Idaho Illinois Indiana Iowa	5,013 5,345 57,491 26,798 17,730	3,320 5,155 51,237 28,793 14,023	1,693 191 6,254 0 3,706	100.0 100.0 100.0 107.4 100.0	0 0 1,995 0	0.0 0.0 -0.1 0.0	0.00 0.00 0.36 0.00
Kansas Keniucky Louisiana Maine Maryland	18,322 14,527 23,892 5,799 23,340	14,557 20,597 25,824 6,181 21,934	3,766 0 0 1,407	100.0 141.8 108.1 106.6 100.0	0 6,070 1,931 382 0	0.0 -0.3 -0.1 -0.1 0.0	0.00 1.63 0.44 0.33 0.00
Massachusetts Michigan Minnesota Mississippi Missouri	32,806 35,965 18,547 15,084 34,397	25,572 38,086 22,680 14,556 29,895	7,234 0 528 4,501	100.0 105.9 122.3 100.0 100.0	0 2,121 4,132 0 0	0.0 -0.1 -0.2 0.0 0.0	0.00 0.23 1.00 0.00 0.00
Montana Nebraska Nevada New Hampshire New Jersey	7,854 12,088 5,013 6,862 53,941	5,538 8,494 5,827 4,498 38,457	2,315 3,594 0 2,364 15,484	100.0 100.0 116.2 100.0 100.0	0 0 814 0 0	0.0 0.0 -0.2 0.0 0.0	0.00 0.00 0.91 0.00 0.00
New Mexico New York North Carolina North Dakota Ohio	5,798 111,104 25,049 6,175 50,343	9,102 59,334 34,496 4,443 52,189	0 51,770 0 1,732 0	157.0 100.0 137.7 100.0 103.7	3,304 0 9,447 0 1,846	-0.4 0.0 -0.3 0.0 -0.0	2.36 0.00 1.55 0.00 0.17
Oklahoma Oregon Pennsylvania Rhode Island South Carolina	18,297 12,157 64,310 5,587 10,783	22,424 15,216 52,882 3,922 18,697	0 0 11,429 1,666 0	122.6 125.2 100.0 100.0 173.4	4,127 3,060 0 7,914	-0.2 -0.2 0.0 0.0 -0.5	1.25 1.15 0.00 0.00 2.42
South Dakota Tennessee Texas Utah Vermont	6,212 26,930 68,582 6,613 6,247	4,229 28,078 100,647 8,244 2,751	1,983 0 0 0 3,495	100.0 104.3 146.8 124.7 100.0	0 1,148 32,064 1,631 0	0.0 -0.0 -0.3 -0.2 0.0	0.00 0.24 2.04 1.01 0.00
Virginia Washington West Virginia Wisconsin Wyoming	22,235 21,653 11,971 23,212 5,013	30,302 22,315 9,468 23,750 4,525	0 0 2,503 0 487	136.3 103.1 100.0 102.3 100.0	8,068 662 0 539 0	-0.3 -0.0 0.0 -0.0 0.0	1.45 0.15 0.00 0.11 0.00

(after transition; data from FYs 84-86)

Source: ACIR staff estimates; see explanatory notes.

Explanatory Notes: Tables A1 and A2

- Column A-Program responsibilities turned back to each state in thousands of dollars.
- **Column B**—Tax resources turned back to each state, assuming that the post-transition combined levy is at the current rate (i.e., that the states exactly pick up on the relinquished federal tax so there is no net increase or decrease in combined tax burdens).
- Column C-The "hold harmless" grant could be provided in different ways. It might be awarded by the Congress. Alternatively, if present financing trends continue, construction on the Interstate system will be completed in 1990 with a large unobligated balance in the Highway Trust Fund, perhaps as much as \$20 billion. Some of that balance could be awarded on a contractual basis to a consortium of state and local governments that would administer the hold harmless grant independently of the Congressional appropriations process. The Trust Fund balance is forecast to be large enough so that, very likely, the interest on a portion of it could finance the hold harmless grant indefinitely.
- Column D-It is important to identify occurrences of fiscal mismatch (a state's revenues and responsibilities unequal to each other). But mismatch may be calculated in different ways and so several columns of the table present alternative mismatch measures. Column D

large trucks that rarely use Secondary and Urban highways when an Interstate route is available. The states would assume responsibility for the Secondary and Urban highway programs, 34 percent of the bridge replacement and rehabilitation program (about equivalent to the share of that program currently serving Secondary, Urban, and "off-system" bridges) and miscellaneous other programs administered by the Federal Highway Administration. These small programs (none exceed \$200 million annually) are those for gradecrossing elimination and upgrading; hazard elimination funds; miscellaneous highway safety funds; is one yardstick: the percentage of current program funding replaced, that is, tax turnbacks (plus any grant) divided by program turnbacks.

- Column E-The net, state-local balance is another indicator of fiscal mismatch. The figures in Column E are simply Cols. B plus C, minus Column A.
- Column F-The states with fiscal gains (roughly, some of the "donor states" to the highway trust fund) have negative numbers in this column: they need not pick up all of the tax that the federal government would relinquish. For example, Virginia can reduce its gas tax by 0.3 cents per gallon relative to the existing combined tax rate (i.e., state plus current federal levies); that is, it need pick up only 0.7 cents per gallon, not the relinquished one cent. With the hold harmless grant, no state need pick up more than the one cent per gallon that is relinguished.
- Column G-interprets gains in per capita, rather than per gallon terms. Suppose the citizens of each state wanted to replace current funding exactly through sources other than net changes in gasoline taxation. After picking up the relinquished federal tax, Virginia, for example, could maintain current funding and *reduce* other taxes, user charges, or fees (e.g., vehicle registrations) by an amount equal to \$1.45 per capita.

and metropolitan planning. Statutory apportionments for the programs that would be devolved total about 2 cents per gallon.

The hold harmless grant of \$259 million per year (equivalent to about 0.2 cent per gallon) would be awarded to those thirty states with revenue collections amounting to less than the devolved responsibilities.

Table A2 presents the state-by-state fiscal features of this turnback package after transition is completed; the table notes above apply to this table, too.

State	Program Turnback (\$000) (A)	Tax Turnback (\$000) (B)	"Hoid Harmiess" Grant (\$000) (C)	Percent Of Program Funding Replaced (D)	Net State- Local Gain or (Loss) (\$000) (E)	Change In Gas Tax For 100% Replacement (cents/gallon) (F)	Per Capita Change (\$) (G)
United States	2,473,089	2,473,089	258,693	110.5%	258,693	-0.2	1.11
Alabama Alaska Arizona Arkansas California	45,303 45,315 28,669 33,158 186,128	46,372 6,306 34,512 29,620 254,231	0 39,008 0 3,539 0	102.4% 100.0% 120.4% 100.0% 136.6%	1,068 (0) 5,843 0 68,102	-0.1 0.0 -0.4 0.0 -0.6	0.27 -0.00 1.97 0.00 2.71
Colorado Connecticut Delaware Florida Georgia	35,682 32,036 10,876 81,290 56,425	33,861 30,512 7,562 116,138 75,208	1,821 1,524 3,314 0 0	100.0% 100.0% 142.9% 133.3%	0 0 34,847 18,783	0.0 0.0 0.0 -0.7 -0.6	0.00 0.00 0.00 3.26 3.28
Hawaii Idaho Illinois Indiana Iowa	10,760 17,956 105,917 59,120 44,520	6,842 10,623 105,593 59,338 28,900	3,917 7,333 325 0 15,620	100.0% 100.0% 100.0% 100.4% 100.0%	0 0 218 0	0.0 0.0 0.0 -0.0 0.0	0.00 0.00 0.00 0.04 0.00
Kansas Kentucky Louisiana Maine Maryland	44,991 38,126 47,068 14,827 38,689	29,999 42,447 53,219 12,738 45,202	14,992 0 2,089 0	100.0% 111.3% 113.1% 100.0% 116.8%	0 4,321 6,151 0 6,514	0.0 -0.2 -0.3 0.0 -0.3	0.00 1.16 1.39 0.00 1.51
Massachusetts Michigan Minnesota Mississippi Missouri	51,811 77,512 48,679 36,095 69,049	52,700 78,491 46,739 29,998 61,610	0 0 1,939 6,097 7,439	101.7% 101.3% 100.0% 100.0% 100.0%	889 978 0 0 0	-0.0 -0.0 0.0 0.0 0.0	0.15 0.11 0.00 0.00 0.00
Montana Nebraska Nevada New Hampshire New Jersey	25,324 31,360 15,859 13,303 78,147	11,414 17,505 12,008 9,269 79,254	13,910 13,855 3,851 4,034 0	100.0% 100.0% 100.0% 100.0% 101.4%	0 0 0 1,108	0.0 0.0 0.0 0.0 -0.0	0.00 0.00 0.00 0.00 0.15
New Mexico New York North Carolina North Dakota Ohio	20,450 172,028 60,945 20,698 96,578	18,757 122,278 71,092 9,155 107,554	1,692 49,750 0 11,542 0	100.0% 100.0% 116.6% 100.0% 111.4%	0 0 10,147 0 10,976	0.0 0.0 -0.3 0.0 -0.2	$0.00 \\ 0.00 \\ 1.67 \\ 0.00 \\ 1.02$
Oklahoma Oregon Pennsylvania Rhode Island South Carolina South Dakota	42,864 32,418 118,251 11,534 29,626 19,940	46,213 31,359 108,981 8,082 38,532 8,715	0 1,059 9,270 3,452 0 11,225	107.8% 100.0% 100.0% 100.0% 130.1% 100.0%	3,350 0 0 8,905 0	-0.2 0.0 0.0 -0.5 0.0	$1.02 \\ 0.00 \\ 0.00 \\ 2.73 \\ 0.00$
Tennessee Texas Utah Vermont	55,822 148,188 17,968 12,528	57,864 207,418 16,989 5,670	0 0 979 6,858	103.7% 140.0% 100.0% 100.0%	2,042 59,230 0 0	-0.1 -0.6 0.0 0.0	0.44 3.77 0.00 0.00
Virginia Washington West Virginia Wisconsin Wyoming	48,568 44,649 27,029 52,944 16,071	62,449 45,989 19,513 48,946 9,326	0 0 7,517 3,998 6,745	128.6% 103.0% 100.0% 100.0% 100.0%	13,881 1,340 0 0	-0.5 -0.1 0.0 0.0 0.0	2.50 0.31 0.00 0.00 0.00

Table A2 Federal Relinquishment of 2 Cents of the Gas Tax and the Turnback of Secondary Highway, Urban Highway and Miscellaneous Programs (after transition; data from FYs 84–86)

Source: ACIR staff estimates; see explanatory notes.

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