

REDEFINITION OF ROLES AND RESPONSIBILITIES IN U.S. TRANSPORTATION

by

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INTRODUCTION

Major shifts are occurring in the direction of transportation policy in the U.S. These changes constitute a significant reorientation in the way transportation is viewed and in approaches to dealing with transportation problems. A number of steps have already been taken to implement these policy shifts and many more are likely to occur.

Most importantly, there is a reassessment of the roles of different levels of government and the private sector in the provision of transportation services. This will likely result in a reallocation of the responsibilities of the different levels of government and a modification of the nature and extent of governmental intervention in the decisions of state and local governments and private operators.

In addition, the facility orientation in the provision of transportation is giving way to a focus on the delivery of service. Already, there is reduced concentration on building and expanding transportation facilities. Few new highways are being constructed or even planned. There will be construction of some new connector links and a few new highways in the growth areas of the country. But, by and large, the nation's highway system has been completed. This is basically true of the nation's urban rail transit systems as well. Of course, there will still be a few cities that will open or expand rail lines. But, the focus has already shifted to maintenance and rehabilitation of existing infrastructure. Overall, there is a growing emphasis on improving the use of existing facilities to move people and goods more efficiently and effectively.

To understand these emerging ideas, it is useful to review the current problems with the nation's highway and transit systems and some of the events which have brought the U.S. to this point. (1) Specific changes in policies and programs can then be viewed within this context.

PROBLEMS WITH THE TRANSPORTATION INFRASTRUCTURE

During the 1960's and 1970's, the U.S. concentrated on building and expanding the nation's highway and transit systems. Federal funding was directed towards completing the Interstate highway system and other major highways, several new urban rail transit systems (San Francisco's BART, Washington's Metro and Atlanta's MARTA), urban rail extensions (Lindenwood line, O'Hare extension) and new buses and related facilities. Federal outlays alone for highways and urban transit grew from over \$3 billion in 1960 to almost \$13 billion in 1980, an increase of more than 300 percent. (Table 1)

TABLE 1

FEDERAL TRANSPORTATION OUTLAYS
BY MODE 1960-1980
(\$ Millions)

	<u>Highway</u>	<u>Public Transportation</u>	<u>Total</u>
1960	3,132	--	3,132
1965	4,250	68	4,318
1970	4,632	122	4,754
1975	5,164	929	6,093
1976	6,840	1,490	8,330
1977	6,622	1,999	8,621
1978	6,538	2,176	8,714
1979	7,815	1,542	10,357
1980	9,671	3,306	12,977

Source: 1960-1965: 1972 National Transportation Report, U.S. Department of Transportation, July 1972.
1970-1980: Federal Transportation Financial Statistics Fiscal Years 1970-1980, International Business Services, Inc. for U.S. Department of Transportation, August 1981.

During this period, preservation of existing transportation facilities and equipment was neglected in deference to new construction. Compounding the problem has been higher than anticipated increases in vehicular traffic on the highway system particularly truck traffic. This caused the useable design life of these facilities to be reached earlier than planned. Consequently, the system has deteriorated and there is now a large and growing backlog of needed repair, rehabilitation and reconstruction.

The Interstate highway system was built most recently and is the system in the best condition. Even so, the proportion of Interstate highways that is in good condition dropped by 11 percentage points to 63 percent from 1975 to 1978. (Table 2) Nine percent of the system is in poor condition. Among the highways not included in the Interstate system, more than half of the mileage is rated fair or poor. It is projected that by 1995, over 90 percent of existing mileage of rural Primary highways, 216,000 miles, will require resurfacing or rehabilitation. This is also true for another 24,000 miles of urban Primary highways. During this same period, 95 percent of the Secondary system, 390,000 miles, and of the urban system, 118,000 miles, will also require at least resurfacing.(2)

Bridge deterioration is a growing concern as well. Bridge repair or replacement is much more expensive than other types of highway construction and the consequences of neglecting it can be catastrophic. Forty percent of the nation's bridges are more than 40 years old and the design life of most bridges is 50 years. Approximately one out of every five bridges was deficient in 1978. (Table 3) The total number of bridges which are deficient is approximately 67,700 on Federal-aid systems and another 180,800 which are not on Federal-aid systems.(2)

Urban transit systems also face critical needs for capital improvement and rehabilitation. Rail transit systems in some of the nation's largest cities are old and decaying. Deterioration has progressed so far on several rail systems as to seriously affect service reliability. This is the result of prolonged deferred maintenance and reinvestment. Sixty-six percent of the nation's rail track is in need of rehabilitation and modernization. Twenty percent of all rail transit cars are more than 25 years old and another 66 percent are over 15 years old. The design life of a rail transit car is typically 20 years. In addition, the nation's urban bus fleet of 50,000 vehicles will have to be replaced over the next ten years. Bus garages and other support facilities will also need modernization.

The cost to correct the deficiencies in the nation's highway and urban transit systems is huge. The estimate for the highway system alone is \$265 billion. Another \$62 billion would be needed to eliminate bridge deficiencies. Urban bus and rail transit reinvestment needs are estimated to be \$50 billion, with the largest portion needed to upgrade rail transit lines.(Table 4)

These needs represent a substantial national agenda requiring attention. The nation requires an adequate transport network for the efficient movement of people and goods to allow the economy to function and grow. National concern is now focused of the need to rebuild the transport infrastructure.

TABLE 2

HIGHWAY PAVEMENT CONDITION - 1978

Highway Functional Class	Total Miles	Rural			Total Miles	Urban		
		Percent by Miles				Percent by Miles		
		Poor	Fair	Good		Poor	Fair	Good
Interstate	31,500	9	28	63	9,400	8	34	58
Arterials	132,100	6	52	42	117,600	6	53	41
Collectors	734,500	9	66	25	67,300	8	59	34

Source: The Status of the Nation's Highways: Conditions and Performance
U.S. Department of Transportation, January 1981.

TABLE 3

BRIDGE CONDITION - 1978

Highway Functional Class	Rural		Urban	
	Total Number	% Deficient	Total Number	% Deficient
Interstate	26,500	5	18,400	7
Arterials	75,000	21	37,000	17
Collectors	136,000	30	6,700	24

Source: The Status of the Nation's Highways: Conditions and Performance,
U.S. Department of Transportation, January 1981.

TABLE 4

ESTIMATED COST TO CORRECT INFRASTRUCTURE DEFICIENCIES
(current dollars)

	<u>\$ Billion</u>
<u>Highway</u>	
Interstate System	\$ 61.9
Primary System	76.5
Secondary System	71.6
Urban System	54.7
Bridges	<u>62.3</u>
Highway Total	\$ 327.0
<u>Urban Transit</u>	
Buses	\$ 9.2
Bus Garages and Support Facilities	7.6
Rail Cars	7.6
Rail Track	18.0
Rail Support Facilities	<u>7.6</u>
Urban Transit Total	\$ 50.0

Sources: Highways- U.S. Department of Transportation, The Status of the Nation's Highways: Conditions and Performance, January 1981.

Urban Transit- U.S. Department of Transportation estimate

PROBLEMS WITH URBAN TRANSIT SYSTEMS

In recognition of the importance of transit to the nation's urban areas, the Federal government channeled large amounts of capital and operating assistance into bus and rail systems over the last decade. Major problems, however, have developed that have caused a reconsideration of the Federal role.(7)

First, transit operating deficits have sharply increased nationwide. In the ten-year period from 1970 to 1980, deficits rose from \$288 million to \$3,819 million, an increase of 1,226 percent.(3) It was estimated that the national transit deficit could have reached \$6,670 million by 1985 if trends continued. (8) To address the rising deficit, Federal operating assistance increased from \$311 million in 1975, the first year of the program, to \$1,100 million in 1980. By that year, Federal funds accounted for 30 percent of all operating subsidies and 17 percent of the cost to operate all transit systems in the nation. The proportion of operating costs paid for through fare box revenues dropped from 82 percent in 1970 to 38 percent in 1980.(3)

Second, while deficits and Federal subsidies increased, transit operations have become less efficient. Operating costs, for example, increased 292 percent from \$1.06 per vehicle mile in 1970 to \$3.10 in 1980. This represents a rate of growth in excess of 10 percent a year over the decade.(4)

Third, the increase in passengers carried by transit was more modest than for deficits and operating costs. Unlinked transit passenger trips rose only 12.3 percent from 7.33 million in 1970 to 8.23 million in 1980.(3) The number of workers using transit actually dropped 10.6 percent during the decade from 6.81 million in 1970 to 6.09 million in 1980. The mode split for work trips by transit decreased from 8.9 percent in 1970 to 6.3 percent in 1980.(5)

These figures highlight chronic and growing problems with the nation's urban transit systems. Problems of this magnitude suggest that major changes are needed to correct them.

NEW POLICY PRINCIPLES

To respond, in part, to the problems and issues that have been identified, a new direction has been charted for Federal transportation activities. It is based on the premise that State and local governments and the private sector are closer to many of these issues and therefore in a better position to make decisions on these matters. The Federal government would reduce its intrusion into these local decisionmaking processes. Increasingly, transportation decisions should be guided by the marketplace rather than by government regulations and requirements. In support of this overall policy, the Federal government would follow a number of principles,

First, Federal transportation expenditures, wherever possible, would be financed through charges levied directly on the user or direct beneficiary of a transportation service or facility. This user charge policy would apply to all modes but especially freight modes, where users are typically

profit-making, commercial companies. This policy is based on both equity and efficiency considerations. In regard to equity, those receiving the benefits from transportation services should pay for them. Only in situations where there are significant external benefits should the costs be shared by non-users. From an efficiency viewpoint, the marketplace operates most efficiently when prices reflect full costs. Subsidies to one mode artificially reduces the price of that service which diverts traffic to that mode eventually resulting in uneconomic investment to accommodate the traffic increase. Further, users who pay full costs have an incentive to insist on the efficient provision of services.

Second, transportation functions which are not national in nature should be returned to the states and local governments. Federal involvement in transportation has been steadily increasing over the last two decades. It created many new programs, regulations and requirements to address transportation issues which are largely local in nature. The Federal role did not adequately reflect the wide range in conditions, capability, need and objectives that existed in the nation. Federal criteria were not well suited to the circumstances in any particular area and they interfered with each area's ability to address its own problems in an appropriate manner. Moreover, some of the consequences of Federal involvement were counterproductive and unintended. Federal operating assistance, for example, has increased the dependence of operators on subsidies rather than to adopt a realistic, business-like approach to the provision of service. The Federalism policy seeks to return to states and local governments these non-national transportation functions. The Federal government would retain those functions which are national such as maintenance of interstate commerce.

Third, the provision of transportation services by the private sector should be increased by returning transportation functions to private operators and by reducing Federal regulations. Over the past decade, the role of the private sector has been usurped and eroded by Federal programs, regulations and policies. This private enterprise policy seeks to reverse this trend by modifying Federal programs and regulations which interfere with private sector managerial and entrepreneurial incentives. Wherever feasible, transportation services should be left to private enterprise, functioning in a competitive market. Government subsidies to profit making providers would be eliminated unless there is a compelling reason to keep them. Federal transportation enterprises should operate more like private enterprises and recover capital and operating costs through user charges. It is recognized, however, that there is a Federal role in some matters with which the marketplace does not deal effectively, such as accounting for external environmental costs.

Fourth, Federal regulations should be modified or eliminated where their costs exceed the benefits, where they restrict competition or where they are not needed to accomplish national goals. This regulatory reform policy complements the Federalism and private enterprise policies to return transportation functions to the states and local governments and to place greater reliance on private market forces. Existing regulations are being reviewed and modified or eliminated to remove those which are not cost-effective, out of date, unnecessarily burdensome or duplicative. New regulations will be subjected to the same tests before they are implemented.

Fifth, Federal transportation investments should be subjected to rigorous analysis to assure that their benefits exceed the costs. In absence of the market allocation mechanism in the private sector, the public sector must base its decisions on this investment policy. The benefit-cost analysis must include a full range of alternatives. All important benefits and costs must be counted. Only the most cost-effective alternatives should be undertaken and only if the benefits exceed the costs. Although many transportation decisions are made at the state and local level, the Federal government can foster the use of this investment policy by combining categorical grant programs into block grant programs. This would broaden the competition for funds and increase the likelihood that such benefit-cost analyses would be undertaken and the best projects implemented.

THE CHANGING ROLES IN HIGHWAYS AND URBAN TRANSIT

The Federal role in transportation in the U.S. has been steadily increasing. By 1980, the Federal government accounted for 27 percent of the \$41 billion spent on highways in the nation and 64 percent of the nation's \$20 billion expenditure on construction and reconstruction of highways.(6) Federal involvement in urban transit had become even greater than it was for highways and had increased sharply over the decade. (Table 5) The Federal share of capital assistance increased from 67 percent in 1970 to 81 percent in 1980. The Federal role in operating assistance did not begin until 1975 when it accounted for 21 percent of operating subsidies nationwide. It rose to 30 percent in 1980. The local share dropped from 91 percent in 1970 to 47 percent in 1980.(4)

The current shift in policy direction seeks to reverse the trend of increased Federal involvement in transportation. The Federal government would retain those transportation functions which have national objectives. The remainder would be returned to the states and local governments and the private sector.

In the highway area, the Federal government would concentrate on the heavily travelled intercity and interstate routes. Local urban and rural roads would be turned back to the states to administer. Under the Administration's New Federalism initiative, it is proposed that a portion of the revenues raised from Federal highway user charges would also be returned to assist in funding the local roads' programs. Eventually, these local road programs would be abolished at the Federal level and a portion of the Federal user charge on fuel would be removed. The states would have the option of continuing these programs with their own funds or abandoning them. The highway program at the Federal level would focus on completing the national system of Interstate highways and on the reconstruction, rehabilitation, resurfacing and restoration of the highways and bridges which would remain under Federal responsibility.

The recently passed Surface Transportation Assistance Act of 1982 will substantially increase the level of funding for the Interstate and Primary highway systems and for bridge replacement and rehabilitation.(Table 6) The revenue will be raised by an increase in highway user charges of an equivalent of four cents a gallon on fuel, in addition to the existing

TABLE 5

URBAN TRANSIT EXPENDITURES BY LEVEL OF GOVERNMENT

Capital Expenditures

	<u>1970</u>		<u>1980</u>	
	<u>Expenditures (Millions)</u>	<u>Percent</u>	<u>Expenditures (Millions)</u>	<u>Percent</u>
Federal	\$ 133	67	\$ 2,787	81
State and Local	<u>67</u>	<u>33</u>	<u>647</u>	<u>19</u>
	\$ 200	100	\$ 3,434	100

Operating Expenditures

	<u>1970</u>		<u>1980</u>	
	<u>Expenditures (Millions)</u>	<u>Percent</u>	<u>Expenditures (Millions)</u>	<u>Percent</u>
Federal	\$ 0	0	\$ 1,324	30
State	30	9	992	23
Local	<u>288</u>	<u>91</u>	<u>2,062</u>	<u>47</u>
	\$ 318	100	\$ 4,378	100

Source: Pucher, Markstedt and Hirschman, "Impacts of Subsidies on the Cost of Urban Public Transport," Journal of Transport Economics and Policy, 1983.

four cent charge. An additional increase on one cent a gallon will fund urban transit programs.

In the transit area, it is proposed to phase out Federal operating assistance because it has proved to be counterproductive. Federal involvement in this area has been accompanied by excessive regulation and requirements which has limited local options. Local transit operators need greater flexibility in choosing appropriate fare and service levels, increasing operating efficiency and generating local financial support. Federal regulations have also hampered negotiations with labor to bring compensation levels in line with productivity. Instead, the Federal government would concentrate transit assistance on capital projects, primarily replacement, rehabilitation and modernization of existing transit systems.

The Surface Transportation Assistance Act of 1982 restructured urban transit programs at the Federal level. A new Block Grant program was created which allows expenditures on capital and operating items, although there are limitations on the use of funds for operating expenses. (Table 6) The funds are apportioned by a complex formula which uses factors such as population, density, vehicle miles and route miles. The administration is proposing, however, to phase out the use of these funds for operating assistance over a three year period.

The funds from the one cent increase in highway user charges would be placed into a Mass Transit Account of the Highway Trust Fund. This revenue would be allocated by a formula in fiscal year 1983 but would be discretionary in later years. The funds can only be used for capital projects. The Surface Transportation Assistance Act also provides that a substantial number of Federal requirements can be self-certified by the applicants and that other requirements can be consolidated to reduce paperwork.

TRANSPORTATION FINANCE AT THE STATE AND LOCAL LEVEL

The reaction to the changing role of the Federal government in transportation matters has generally been favorable. There is widespread support for the reduction in Federal requirements and prescription. There is, however, some concern whether the states and local government have adequate financial resources and capability to deal with their transportation problems.

State highway agencies have been facing a worsening financial situation through the decade of the 1970's. Although the average motor fuel user charge increased from 7.0 to 8.3 cents and receipts increased 48 percent in current dollars, in real terms receipts actually dropped by 47 percent. This was the result of a leveling in fuel consumption due to the energy crises of 1973-74 and 1979 and the huge increase in inflation during this period. Motor fuel consumption increased only 23 percent from 1970 to 1980. Highway revenue clearly did not keep pace with highway program needs during the 1970s.(9)

With Federal funds decreasing in real terms, states pressed for additional revenue to meet their growing financial needs. They also sought revenue mechanisms which would increase automatically. These variable tax mechanisms are generally ad valorem taxes tied to the increasing price of motor fuel. In 1979, 10 states increased their motor fuel tax rate. In 1980,

TABLE 6

SURFACE TRANSPORTATION ASSISTANCE ACT OF 1982

	<u>Funding Levels by Fiscal Year (\$ Millions)</u>			
	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
<u>Highway Programs</u>				
Interstate-Construction	4,000.0	4,000.0	4,000.0	4,000.0
Interstate-Rehabilitation	1,950.0	2,400.0	2,800.0	3,150.0
Interstate Highway Substitutions	257.0	700.0	700.0	725.0
Primary System	1,883.4	2,147.2	2,351.8	2,505.1
Secondary System	650.0	650.0	650.0	650.0
Urban System	800.0	800.0	800.0	800.0
Other Highway Programs	1,183.6	1,120.0	1,154.0	1,106.0
Bridge Replacement & Rehabilitation	<u>1,600.0</u>	<u>1,650.0</u>	<u>1,750.0</u>	<u>2,050.0</u>
Subtotal-Highway	12,324.0	13,467.2	14,205.8	14,986.1
<u>Urban Transit Programs</u>				
Discretionary Capital Grants	779.0	1,250.0	1,100.0	1,100.0
Block Grants	-----	2,750.0	2,950.0	3,050.0
Interstate Transit Substitutions	365.0	380.0	390.0	400.0
R&D, Admin. & Misc.	<u>86.3</u>	<u>91.0</u>	<u>100.0</u>	<u>100.0</u>
Subtotal-Urban Transit	1,230.3	4,471.0	4,540.0	4,650.0
Total-Highway & Urban Transit	13,554.3	17,938.2	18,745.8	19,636.1

another 12 states increased their tax rate with five of them made variable. This brought the total number of states with variable rates to nine by the end of 1980. In 1981, 40 states sought increases of which 35 were to be variable. By October 1981, 27 had succeeded in obtaining the increase, five were variable.(9)

These increases in highway revenues have strengthened the financial picture in those states that have obtained them. The recognition of highway deterioration problems has improved the climate for increases in motor fuel tax rates in other states. If inflation rates continue to be high, more states will need variable tax mechanisms to maintain adequate highway programs. States are not prepared to accept responsibility for local rural and urban highway programs from the Federal government without adequate finances.

Urban transit operators are facing difficult choices in response to reductions in Federal assistance and local pressures for fiscal austerity. In response to the loss of funds, operators have taken a number of steps to maintain or restore financial stability. These include increases in fares, reductions in service, cutting operating costs, seeking increases in funds from state and local sources and improving efficiency.(10)

After a period of relative stability during the mid-1970s, transit fares have been rising.(11) In 1980, 66 percent of the systems surveyed had requested fare increases.(12) As of October 1982, 48 percent of a sample of 141 transit systems had increased their fares within the previous twelve months.(13) The nationwide average fare increased 13.3 percent between June of 1981 and 1982.

With regard to state and local government revenue sources, there has been an increasing tendency to use dedicated taxes to finance urban transit. From 1970 to 1980, 15 of the 26 largest cities adopted such taxes.(4) Of 101 cities surveyed in 1980, 46 already had dedicated state or local taxes and 21 more were planning to implement them.(12) States have primarily used revenues from sales taxes (44 percent) and income taxes (30 percent) to finance transit. Local governments have relied on sales taxes (42 percent) and property taxes (40 percent).(14) As the proportion of transit subsidies shifts to lower level governments, the sources of those funds will shift from the more progressive Federal and state income taxes, to less progressive sales and property taxes.(15,16)

THE PRIVATE SECTOR

The private sector has been gradually assuming a greater role in the provision of transportation services. Recently, the Federal government has been actively promoting the return of transportation enterprises to the private sector. The Department of Transportation has been vigorously supporting the deregulation of transportation industries to increase competition, strengthen management flexibility and eliminate unnecessary and costly regulatory requirements.(17)

In the highway area, the public sector has largely been responsible for constructing and maintaining the system. But, the private sector is increasingly sharing in the cost of improving or providing access

to land and resources under development. The scale of private support varies greatly. At one extreme, developers of shopping centers have paid for the signalized intersections and entrances to their centers. At the other extreme, the Alyeska Pipeline Company constructed the Dalton Highway, over 400 miles in length, in Alaska which may be open for public use. It has been general practice for developers of housing developments to include the cost of the local road system in the cost of the homes and to turn over those roads to the local jurisdiction. Some developers are now funding improvements to major highways to improve access to their developments.(18)

The Department of Transportation has been encouraging greater private sector involvement in public transportation using paratransit services. An increasing number of companies operate ridesharing programs for their employees using carpools, vanpools and subscription buses.(19) Some public agencies are now contracting with private operators to provide public transportation service, such as taxicab companies to provide service in low density areas and private bus operators to provide peak period supplements. Such approaches are less costly than using buses on fixed routes and can provide higher quality service. The role of the private sector in the provision of public transportation services is in an embryonic stage. Many options and opportunities will not be evident until the governmental role declines and the regulatory environment is more conducive to innovation.

Cooperative ventures between the public and private sector are also increasing. Private businesses and public agencies are working together on joint strategies to stimulate urban economic development in such cities as Portland, Buffalo, Denver and Pittsburgh.(18,20,21) In Dallas, a group of private developers has offered to share the cost of building a 23-mile light rail line.(18) This type of linkage is a relatively new phenomena in the U.S. but will likely grow as local jurisdictions take on a greater role in the development of their areas.

CONCLUSIONS

The U.S. is going through a major transition period in which the roles of the various levels of government and the private sector in transportation activities are being redefined. The Federal government is concentrating on transportation functions which are national in scope and returning the other functions to state and local governments. The private sector is being encouraged to actively participate in the provision of transportation service by removing barriers to their involvement. Greater reliance is being placed on using the marketplace as the arbitrator of transportation decisions and for users to pay the cost of their service. With increased competition and greater financial involvement of the users, the efficiency and effectiveness of the system has the best chance of improving.

Much remains to be known about this realignment of roles and functions. There will likely be a period of experimentation with new techniques and institutional arrangements to provide transportation. Better information is needed on techniques to manage transportation enterprises, innovative financing techniques, organizing public-private cooperation, approaches to infrastructure renovation and new approaches to service delivery.

Many of the questions on the quality, effectiveness, efficiency, and equity of transportation service will have to be revisited in this new framework.

AUTHOR'S NOTE

The views expressed in this paper are those of the author and do not necessarily represent any policy or position of the U.S. Department of Transportation.

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