

## REFERENCES

1. J. E. Burkhardt. Evaluation of Performance: Specific Guidelines and Measures for Monitoring. Transportation Institute, Pennsylvania State Univ., June 1978.
2. A. Kidder and others. Costs of Alternative Transportation Systems for the Elderly and the Handicapped in Small Urban Areas. TRB, Transportation Research Record 660, 1977, pp. 34-38.
3. G. J. Fielding, R. E. Glauthier, and C. A. Lave. Applying Performance Indicators in Transit Management. Proc., 1st National Conference on Transit Performance, Public Technology and Urban Mass Transportation Administration, Jan. 1978.
4. R. Briggs. Specialized Transportation Providers in the Context of the Transportation Complex: The Characteristics of Local Passenger Transportation Providers in Texas. Paper presented at the 57th Annual Meeting, TRB, 1978.
5. K. P. Ceglowski, A. M. Lago, and J. E. Burkhardt. Rural Transportation Costs. TRB, Transportation Research Record 661, 1978, pp. 15-20.
6. Rural Transportation in Pennsylvania: Problems and Prospects. Governor's Task Force in Rural Transportation, Harrisburg, PA, May 1974, p. 127.
7. Section 147 Rural Highway Public Transportation Demonstration Tabulations, January-March 1978. Federal Highway Administration, mimeo, Aug. 1978.
8. J. De Weille. Quantification of Road User Savings. Johns Hopkins Press, Baltimore, World Bank Occasional Paper 2, 1976.
9. Trends in Transit Performance: A Statistical Summary. Proc., 1st National Conference on Transit Performance, Urban Mass Transportation Administration, Sept. 1977.
10. A. M. Lago, K. P. Ceglowski, and J. E. Burkhardt. A Study of Nonurbanized Area Transit Assistance Requirements. Ecosometrics and Urban Mass Transportation Administration, May 1977, pp. 67-71.
11. W. M. Millar and W. R. Kline. Operating Costs and Characteristics of Selected Specialized Transportation Services for Elderly and Handicapped Persons in Rural and Urban Areas. Proc., Transportation Research Forum, Vol. 17, No. 1, 1976.
12. D. Chen, A. Saltzman, and J. Johnson. A Cost Analysis of Rural Public Transportation Systems. North Carolina A&T State Univ., April 1978, p. 28.

## Nonfederal Funds for Public Transportation: Special Reference to Nonurban Areas

Alice E. Kidder, Department of Economics, North Carolina A&T State University

From a sample of 25 states, it was observed that only 3 percent of the nonfederal funds for public transportation that serve the general public are expended in nonurban areas. Furthermore, the extent of support for public transportation in rural areas varies widely; the more affluent states are more likely to support programs for the nonurban sectors. Thus, the more wealthy sections are likely to benefit from a federal support program that requires substantial local contributions. Far more important from a dollar standpoint is the social service agency nonfederal support, which in many rural areas is the only source of funds for transportation, albeit client-oriented mobility. Evidently the need for mobility support for disadvantaged groups is recognized by state and local groups. However, there has been little coordination among social service funds for public transportation by state governments; congressional action to provide stronger incentives for such coordination would be advantageous.

There appears to be a growing financial commitment to public transportation on the part of state legislatures, as reflected in the dollar outlays for this purpose from nonfederal sources. However, unlike the federal level, the states for the most part do not distinguish between urban and nonurban areas in the formulas by which their transit funds are allocated. A recent study by the Transportation Institute of North Carolina A&T State University (1) explored the extent to which a random sample of 25 states contribute funds to public transit purposes, particularly in nonurban areas. It is the purpose of this paper to report the major findings of that study.

As of FY 1976, 13 of the sample 25 states were spending state funds on public transportation. Annual state funds from these sample areas totaled more than \$400 000 000. Furthermore, in states for which there are data for FY 1974 through FY 1976, it is apparent that the trend in state expenditures has been upward. In California, the 3 years showed a growth index of 224 percent in the constant dollar value of the state contribution to public transportation. In Michigan, the growth index was 144 percent; in New York, 149 percent; and in Wisconsin, 157 percent. The largest growth index—419 percent—was recorded by Oregon. In three states—Indiana, Ohio, and Pennsylvania—state-paid transit programs were begun in those 3 years (see Tables 1 and 2).

In the overwhelming majority of cases, these funds are spent for travel in urban areas. Only \$3/\$100 of state assistance goes to nonurban areas. However, several states have significant expenditures for public transportation in nonurban areas. As indicated in Table 1, Michigan alone accounts for more than half of the funding going from sample state sources into general public transportation in nonurban areas. More than four-fifths of all the funds identified from these 25 sample states come from three states alone: Michigan, California, and Pennsylvania.

**Table 1. Nonfederal funds for public transportation by type of state assistance: general public transportation only—FY 1976.**

State	Statewide Funds (\$000s)			Total State Funds for Nonurban General Transportation (\$000s)	Nonurban Share (percentage of statewide total)
	Capital	Operating	Total		
Alabama	0	0	0	0	
Arizona	0	0	0	0	
California			150 727	2 199	1.5
Florida		0	4 863	42.5	0.9
Idaho	0	0	0	0 <sup>a</sup>	
Indiana	300	1 700	2 000	500	25.0
Kansas	0	0	0	0 <sup>a</sup>	
Kentucky	1 900	0	1 900	— <sup>b</sup>	
Louisiana					
Maine	0	0	0	0	
Massachusetts			19 465	300	1.5
Michigan	14 400	15 700	30 100	6 397	21.2
Montana	0	56.5	56.5	40	70.8
Nevada	0	0	0	0	
New Hampshire	0	0	0	0	
New Mexico			50		
New York	14 280	103 000	117 280	492	0.5
North Dakota	0	0	0	0	
Ohio	5 000	1 000	6 000	100	1.7
Oklahoma	0	0	0	0	
Oregon			640	56	8.7
Pennsylvania			76 040	1 453	1.9
South Carolina	0	0	0	0 <sup>a</sup>	
Vermont	0	0	0	0	
Wisconsin	300	3 237	3 538	863	24.4
Total (25 states)			412 659.5	12 442.5	3.1

<sup>a</sup>Idaho, Kansas, and South Carolina as of 12/77 have new state programs that fund public transportation including rural areas.

<sup>b</sup>Kentucky's funds could not be identified by area but are a significant proportion of total state funds.

**Table 2. Trends in expenditures by states for general public transportation in nonurban areas: selected states—1974-1976.**

State	FY 74 (\$000s)		FY 75 (\$000s)		FY 76 (\$000s)		Index of Growth: 1974-1976
	Actual	Constant <sup>a</sup>	Actual	Constant <sup>a</sup>	Actual	Constant <sup>a</sup>	
California	857	857	668	612	2199	1925	256.6 224.7
Indiana			500		500	437	Significant <sup>b</sup>
Michigan	3881	3881	4314	3951	6397	5600	164.8 144.3
New York	289	289	1483	1358	492	431	165.1 149.2
Ohio			15		100		Significant <sup>b</sup>
Oregon	134	134	642	588	642	562	479.1 419.4
Pennsylvania					1453		Significant <sup>b</sup>
Wisconsin	294	294	692	634	863	755	293.5 256.8
Average (selected states)							271.8 238.9

<sup>a</sup>Deflated by wholesale price index for all commodities: 1974 = 100.

<sup>b</sup>Rapid growth but cannot be computed mathematically.

**Table 3. Comparison of fiscal indicators of states that do and do not have state funds for general public transportation in nonurban areas: sample states—FY 1976.**

Fiscal Indicator	States That Have Transit Funds (%) (N = 12)	States That Do Not Have Transit Funds (%) (N = 13)
More than 8 percent of state population below poverty level: 1969	50	85
Income per capita less than \$4600: 1969	17	46
More than 0.75 automobiles per capita	7	55
High fiscal capacity <sup>a</sup>	50	27
High levels of state expenditure for education and public welfare <sup>b</sup>	58	18
High levels of expenditure for highways <sup>c</sup>	17	55

<sup>a</sup>Measured by revenue per \$1000 of personal income and property (FY 75) in excess of \$50 (Facts and Figures on Government Finance, Tax Foundation, New York, 19th biennial Ed., 1977).

<sup>b</sup>Measured by expenditures per \$1000 of personal income in excess of \$125 (FY 75) (1970 Census of Population, U.S. Summary, Bureau of Census, Dec. 1971).

<sup>c</sup>Measured by expenditures per \$1000 of personal income in excess of \$25 (FY 75). This figure is inclusive of federal funds.

## INEQUALITY IN STATE FUNDS FOR RURAL AREAS

Ironically, it is the states that have higher levels of need (measured by income per capita or poverty level) that are least likely to provide state funds for public transportation. States that significantly support public transportation in nonurban areas are characterized by lower poverty levels, higher income per capita, higher levels of fiscal effort, and higher than average expenditures per capita for human services such as education and public welfare (see Table 3). For example, 17 percent of the states that have transit funds from state sources had an average income per capita of less than \$4600 in 1969; almost half (46 percent) of the states that did not have funds had an average income per capita of less than \$4600 in 1969.

States that in 1976 did not use their own state funds for public transportation are less likely to have a high fiscal capacity [measured by revenue per \$1000 of personal income and property (FY 1975) in excess of

**Table 4. Comparison of nonfederal state funding for general and special public transportation in nonurban areas: selected states—FY 1976.**

State	State Funds for Nonurban General Transportation		Identified State Funds for Nonurban Special Services Transportation		Total (\$000s)
	Value (\$000s)	Percentage of Total	Value (\$000s)	Percentage of Total	
Alabama	0	0.0	242	100.0	242
Arizona	0	0.0	315	100.0	315
California	2 199				<sup>b</sup>
Florida	42.5	24.4	132	75.6	174.5
Idaho	0				<sup>b</sup>
Indiana	500				<sup>b</sup>
Kansas	0	0.0	76	100.0	76
Kentucky			3 160		<sup>b</sup>
Louisiana			810		<sup>b</sup>
Maine	0				<sup>b</sup>
Massachusetts	300	49.3	309	50.8	609
Michigan	6 397	86.8	974	13.2	7 371
Montana	40	69.0	18	31.0	58
Nevada	0				0
New Hampshire	0	0.0	157	100.0	157
New Mexico			75.7		<sup>b</sup>
New York	492	4.1	11 520 <sup>a</sup>	95.9	12 012
North Dakota	0	0.0	506	100.0	506
Ohio	100				<sup>b</sup>
Oklahoma	0	0.0	606	100.0	606
Oregon	56	22.3	195 <sup>a</sup>	77.7	251
Pennsylvania	1 453	35.0	2 700	65.0	4 153
South Carolina	0	0.0	596	100.0	596
Vermont	0	0.0	39	100.0	39
Wisconsin	863	36.3	1 516	63.7	2 379
Total (25 states)	12 442	34.2	23 946.7	65.8	36 389.2 <sup>b</sup>

<sup>a</sup>Prorating of total expenditures for special transportation by percentage of nonurban population.

<sup>b</sup>Total shown is sum of known funds; totals within each state are not shown if part of the information is not available.

\$50 000]. There is a correlation between expenditures for transit and expenditures for education and public welfare. More than half of the states that have transit funds (58 percent) spent more than \$125/\$1000 of personal income on education; only a quarter of the other states did so.

Interestingly, states that do not have funds for public transportation in nonurban areas have higher than average rates of automobile ownership per capita and higher than average expenditures per capita for highways. The southern states in particular have large proportions of rural populations and low levels of income per capita but, for the most part, do not appropriate state funds for public transportation. It may be that the desire of rural communities to attract industry based on low local tax rates lowers the fiscal capacities of such rural states and, despite the presence of a transit-dependent population, sends transportation dollars in the direction of highways rather than of transit.

The regressive character of the state funding allocations suggests that the Urban Mass Transportation Administration (UMTA) program to support capital funds in nonurban areas will result in monies flowing to the relatively more wealthy states rather than to those states that have the larger proportion of isolated, transportation-disadvantaged rural poor. It should be noted, however, that two forces offset this regressive effect: there are numerically large rural populations in the predominantly urban states, many of whom may be elderly and in need; and furthermore, the bulk of state transportation money, as is discussed below, flows not from department of transportation budgets, but from state social service agency budgets.

#### STATE FUNDS FOR SPECIALIZED TRANSPORTATION

State funds for special, client-oriented transportation services are large in proportion to the funds spent on general transportation in nonurban areas. As shown in Table 4, states such as Kentucky that have comprehensively reviewed the availability of these funds have found

millions of dollars. During the current survey, an attempt was made to contact various social service agencies at the state level to determine the value of state funds used as a match for the transportation components of federal programs operating in nonurban areas. Agencies contacted included the bureaus of aging and those that administer titles XIX and XX of the Social Security Act of 1974 and titles III and VII of the Older Americans Act of 1965; other items included are the value of drivers' time paid out of funds from the U.S. Department of Labor under the Comprehensive Employment and Training Act of 1973 and the Federal Highway Administration programs administered as rural transit demonstrations under section 147 of the Federal-Aid Highway Act of 1973. The figures shown in Table 4 represent a minimum (and probably severely understated) estimation of the value of nonfederal contributions to specialized client-based transportation. No one has been able to gather complete data for any state on the full extent of these travel funds, because the expenditures are often blurred with "other services." Nonetheless, it is striking to note that about twice the amount of state funds for general transit are being spent annually for special transit in nonurban areas. In many cases, these funds are spent in a fashion totally uncoordinated with the transit plan process cultivated by federal and state governments.

A number of states are attempting to dovetail their planning for general and special transit. In Kentucky, for example, an attempt was made to identify a lead agency in each area that would receive transportation funds on behalf of all social service agencies. State agencies were encouraged to purchase vehicles through the capital assistance available under section 16b2 of the Urban Mass Transportation Act of 1964, thus freeing agency budgets for spending on operating costs, not currently available from federal sources to nonurban areas. The state of Maine also provides a good illustration of consolidation of funding. Several states, notably Massachusetts and Kansas, reported that they were using demonstration funds to study the potential benefits of the current survey. Few states had any mechanism for en-



forcing consolidation of expenditures of social service funds for transportation. However, because the various agencies depend heavily on disparate federal sources that have differing funding cycles, reporting requirements, and auditing practices, it seems unlikely that the states will initiate consolidation in the absence of federal legislation that makes it financially attractive to do so.

The potential payoff to such consolidation of funding at the local level is evident from an example of local funding consolidation supplied by the National Association of Counties. The table below (2) (1 km = 0.6 mile) illustrates the possibility of funding realized from nine sources, as well as fares, in Miami County, Ohio.

Source of Funding	Amount (\$)
CETA (7 drivers)	31 399.00
Charitable donations	200.00
Fares [from public at 9¢/km (15¢/mile)]	59.15
Title XX	4 722.92
Children's services	41.55
Rehabilitation Programming, Incorporated	309.75
Welfare Department compact	10 106.50
Board of Mental Retardation (Riverside School)	492.00
Community Action Council	
Title III of Older Americans Act	723.60
Program account 05 of Community Service Administration	685.45
Total	48 765.64

The benefits of forming a rural transportation authority are derived from the enlargement of the fleet size, the increased ability to handle dispatching, and the possibility of increased ridership per vehicle.

#### SUMMARY AND CONCLUSION

The purpose of the current study was to determine the extent to which states are spending nonfederal funds in support of public transportation in nonurban areas. Nearly half of the states in the sample used state funds for these purposes. In the states where these funds had already been appropriated, the trend over the last 3 years has been sharply upward.

The upward trend in expenditures for public transportation in nonurban areas should not obscure the great diversity among states in funding levels, legal restric-

tions on fund use, and future outlook on funding for public transportation. States that do not have funds (and thus cannot, except at the local level, match federal funds) are characterized by lower incomes per capita, lower tax efforts, and lower percentages of urban population and are likely to be located in the South or the West. The have-not states have higher than average expenditures per capita for highways and have been experiencing a decline in public transportation in the private sector and, consequently, have an increasingly transportation-dependent population in the rural communities.

The special needs of the transportation dependent are most frequently met through large outlays of state and federal funds for specialized client-oriented transportation. These systems are typically unrelated to the overall state transportation planning process; indeed, many state transportation planners do not know how much special transportation occurs in rural areas nor how much money supports it. The figures given in the current study were derived by direct communication with the social service agencies in a variety of states in 1977.

The findings of the study suggest the following needs: (a) a Congressional inquiry into the total funding picture in isolated rural communities; (b) legislation that would make transportation more evenly available throughout the country; and (c) incentives that would bring the unrelated facets of transportation into a broader, connected system. Multicounty programs to provide coordinated service for a variety of social service agencies' clients should be costed out against current single-agency approaches. New legislation to make funds available for public transportation in nonurban areas may be the means for bringing about such service improvements.

#### REFERENCES

1. A. E. Kidder. Sources of Nonfederal Support for Public Transportation Programs in Nonurbanized Areas. Transportation Institute, North Carolina A&T State Univ., Greensboro, 1978; NTIS, Springfield, VA, PB 284 410.
2. A Nonurbanized Area Transportation Program Description: Miami County, Ohio. National Association of Counties Research Foundation, Washington, DC, June 1977, p. 25.

## Private Enterprise Techniques Improve Productivity of Rural Transit Systems in Iowa

Terrence L. Fritz, \* Marketing Passenger Services, Trailways, Dallas

The primary objective of the Iowa Department of Transportation rural transit program is increased productivity—to be able to produce more output (passengers carried) while using less input (money). When the department assumed control of rural transit in 1976, it

became obvious that traditional methods of developing rural transit would hinder, if not actually negate, progress toward the objective of improved productivity. Consequently, the private enterprise philosophy of management was implemented. This philosophy dictated the