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Report to Secretary, Department of Transportation; by Henry Eschwege, Director, Community and Economic Development Div.

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Contact: Community and Economic Development Div.

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Organization Concerned: Urban Mass Transportation Administration.

Congressional Relevance: House Committee on Public Works and Transportation; Senate Committee on Banking, Housing and Urban Affairs.

Authority: Urban Mass Transportation Act of 1964 (49 U.S.C. 1601).

The Urban Mass Transportation Administration's (UMTA's) program of formula assistance grants to States and local public agencies was surveyed to determine what effect the grants have had on mass transportation services and what has been done to improve efficiency and effectiveness in mass transit performance. Under section 5 of the Urban Mass Transportation Act, assistance has been provided for both operating and capital expenses. Generally, transit systems in urban areas with over-200,000 populations used section 5 funds exclusively to offset operating deficits, while some transit systems in urban areas with under-200,000 populations have used section 5 funds to purchase capital items. There were no specific improvements in service, ridership, or fare structures directly attributable to section 5 assistance. Considering the increasing amount of Federal funds being devoted to transit improvements, UMTA should take the lead in accurately measuring whether transit systems receiving such funds are efficiently and effectively operating their systems. UMTA should: work with the transit industry, State and local governments, and other interested parties to arrive at the most appropriate performance indicators for use by transit operators; insure that the operators use these indicators to fully implement performance evaluations; and evaluate the effectiveness of performance evaluations in identifying weaknesses in transit performance. (RBS)



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

COMMUNITY AND ECONOMIC
DEVELOPMENT DIVISION

B-169491

April 25, 1978

The Honorable
The Secretary of Transportation

Dear Mr. Secretary:

We have surveyed the Urban Mass Transportation Administration (UMTA) program of formula assistance grants to States and local public agencies to determine what effect the grants have had on mass transportation services and what has been done to improve efficiency and effectiveness in mass transit performance.

We found that:

--Most of the transit systems contacted believed that the assistance grants had enabled them to continue service and stabilize fares, but they were unable to identify specific transit improvements attributed directly to that assistance.

--UMTA needs to help more in developing transit performance measures so that (1) the efficiency and effectiveness of individual mass transit systems can be determined and (2) UMTA has a basis for assuring the most productive use of Federal mass transportation funds.

Our survey was conducted at UMTA headquarters, Washington, D.C.; its regional offices in Atlanta, Philadelphia, and San Francisco; the State departments of transportation in California, Florida, Georgia, and Pennsylvania; and local governments, planning agencies, and transit systems in 15 urban areas. We reviewed the applicable Federal mass transportation laws and regulations for the formula assistance grants. We also interviewed UMTA, State and local mass transportation officials and transit operators, and reviewed their records and reports. The report was discussed with UMTA program officials. Their comments were considered in preparing the report.

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EFFECT OF FEDERAL FORMULA
ASSISTANCE GRANTS

In 1964 the Congress passed the Urban Mass Transportation (UMT) Act of 1964 (49 U.S.C. 1601 et seq.), which established a comprehensive program of Federal assistance for urban mass transportation that enabled public bodies to take over the financially unstable private operations and permitted much-needed expansion and upgrading to take place.

From 1964 to 1974 public transit authorities had to face a growing financial burden because of the increasing gap between escalating operating costs and relatively stable operating revenues. Between 1964 and 1974, operating deficits of all types of transit systems rose from \$12 million to \$1.3 billion nationwide.

Recognizing that mass transit capital assistance alone was not reversing the continuing trend of financial deterioration of the public transit systems, the Congress amended the UMT Act in November 1974 to authorize a \$4 billion, 6-year program under section 5 of the act, which provided assistance for both operating and capital expenses. The gap between operating costs and revenues, however, has continued to widen since Federal financial operating assistance became available. Between 1974 and 1976 operating deficits nationwide rose by more than \$500 million--to \$1.86 billion.

Although these funds are available for both operating expenses and capital projects, section 5 assistance has been used mostly for operating expenses. Through fiscal year 1977 UMTA approved 596 section 5 operating assistance project grants for \$1.18 billion--94 percent of the funds. During this same period only 111 capital assistance project grants have been approved for about \$81 million.

UMTA officials have been concerned that many transit operators were depending too heavily on Federal funds in meeting operating expenses because section 5 assistance had been used almost exclusively to meet operating expenses in the initial years. However, we found that most Florida and Georgia operators visited (except the large systems of Atlanta and Miami that relied on section 3 discretionary capital improvement grants) had capital projects planned for future section 5 funding. For example, Savannah, Georgia, had plans to purchase 13 buses and 5 shelters in 1978, 12 buses in 1979, and 145 shelters in 1980.

Generally, the transit systems in urban areas with over-200,000 populations used section 5 funds exclusively to offset operating deficits. Large operators, such as those in Atlanta and Miami, said that since both their capital requirements and operating deficits were large, they needed to use UMTA section 3 grants--discretionary capital improvement grants--for their capital needs and section 5 grants for operating expenses.

On the other hand, some transit systems in urban areas with under-200,000 populations have used section 5 funds not only to offset operating deficits, but to purchase capital items that, according to the transit operators, have led to increased levels of service. For example, the Seaside-Monterey, California, operator said that section 5 capital assistance had enabled it to run more buses with shorter headways and extend service into new areas sooner than if they did not have the funds. The operator in York, Pennsylvania, also said that the capital assistance enabled it to purchase buses that had improved service.

The legislative goal of the section 5 operating grants is to assist transit systems in meeting operating expenses. Although these operating assistance grants comprised only about 12 percent of transit operating expenses nationwide by 1977, most of the operators contacted during our survey believed that section 5 assistance had enabled them to continue service and stabilize fares. For example, the operator in Atlanta, Georgia, stated that the loss of section 5 assistance, which covered about 10 percent of the system's operating expenses by 1977, would adversely affect its transit operations--resulting in service cuts and fare increases.

We were unable, however, to identify any specific improvements in service, ridership, or fare structures attributed directly to section 5 assistance. One reason specific improvements cannot be determined is that UMTA does not link section 5 to specific transit goals, but requires, as a condition for receiving Federal capital and operating assistance, each urban area's comprehensive planning process to establish broad transit goals such as relieving auto congestion and reducing pollution. Another reason specific improvements could not be determined was because the transit systems planned and programed their operations from total funds available for use and did not differentiate between their various revenue sources, including the fare box, local taxes, and Federal, State, and local subsidies.

EVALUATION MEASURES SHOULD BE USED
TO IMPROVE TRANSIT PERFORMANCE

Section 5(d)(2) authorizes the Secretary of Transportation to issue regulations requiring efficiency improvements in transit services. Specific transit efficiency regulations have not been issued. According to UMTA officials, the Transportation System Management (TSM) element of an urban area's transportation plan and the programing for its implementation supports the requirement to improve the efficiency of mass transportation services pursuant to section 5(d)(2). TSM is supposed to provide for the short-range transportation needs of an area by making more efficient use of existing transportation resources. It may include traffic engineering; public transportation; and regulatory, pricing, management, operations, and other improvements to the existing urban transportation network. A San Francisco-Oakland operator's planned TSM projects included a technical study of bus maintenance, service, and garage facilities, a driver training program, and a shelter and bench installation program. In Seaside-Monterey, California, the operator initiated TSM projects related to bus loading zones, sign relocation, tree trimming, and right turn exemptions. While some of these TSM elements may produce greater transportation efficiency in an urban area, specific mass transit efficiency measurement requirements have not been mandated.

Considering the increasing amount of Federal funds being devoted to transit improvements, UMTA should take the lead in accurately measuring whether transit systems receiving such funds are efficiently and effectively operating their systems. Section 15 of the act requires that by July 1978 each transit system receiving Federal mass transit funds must have adopted the UMTA reporting requirement to uniformly accumulate mass transportation financial and operating data. Such data should provide UMTA with reliable operating and financial information to evaluate transit system performance. For example, once a reasonable service standard is established, UMTA could require a certain service level from a transit system if it expects to get Federal funds.

In an October 1977 policy statement, the American Public Transit Association (APTA), which represents the Nation's transit systems, urged all its members to use performance indicators to measure progress toward internal goals, to assist in the evaluation of the system from year to year, to evaluate individual service improvements as implemented, and to communicate with Government agencies and the public.

Transit performance embraces two quite different concepts--efficiency and effectiveness. Efficiency is concerned with the costs of providing service and the relation of service outputs to resource inputs, and includes such measures as cost per passenger and cost per vehicle mile. Effectiveness relates to the quality of service provided, and considers the amount of service offered and its convenience to users and includes such measures as ridership and vehicle miles of service. Of course, no single indicator can truly reflect system performance. Further, these indicators are of limited use unless the system's goals and objectives are explicitly stated.

According to APTA nationwide data between 1972 and 1976, efficiency indicators have worsened and effectiveness indicators have improved slightly. Trends in transit efficiency showed that, between 1972 and 1976, the operating cost per passenger trip increased 25 percent (from \$.32 to \$.40 per passenger in constant dollars) and the operating cost per vehicle mile increased 17 percent (from \$1.21 to \$1.42 per mile in constant dollars). Effectiveness indicators showed that between 1972 and 1976, the number of revenue passengers increased 8 percent (from 5.25 billion to 5.67 billion) and vehicle miles of service increased 15 percent (from 1.76 billion to 2.03 billion).

APTA stated, however, that there is disagreement about the validity and utility of many of the indicators now in common use, and that a concentrated effort was needed to better define these concepts. In September 1977 UMTA and APTA co-sponsored a conference on transit performance for transit management and labor; planning organizations; and Federal, State, and local government agencies to more fully understand the nature of transit performance and to develop the means of measuring and evaluating it. During the conference, five issues needing attention emerged:

- Effectiveness of transit cannot be evaluated without well-defined goals.
- Transit management and labor should work together toward a better understanding of performance.
- There is a need for the interchange of information on all facets of transit management and operations.

--There is a need for better training programs for transit managers.

--Fare policy should be determined locally.

As of April 1978 UMTA was seeking answers to some of the issues identified at the performance conference. In discussing this report, UMTA officials stated that 5 regional performance conferences have been scheduled for late 1978 and 1979. They also noted UMTA's continuing support of university research of performance measures.

The use of performance indicators to make comparisons among transit systems has been recognized by APTA and UMTA as extremely difficult and possibly misleading because much depends on variables at the local levels over which transit operators and funding agencies like UMTA have no control. For example, systems operating in densely populated or mountainous areas may have higher operating costs. An individual performance audit is a possible future alternative method of not only measuring a transit system's efficiency and effectiveness at different points in time, but also recognizing the difference in each system's operating characteristics. Laws for the State of California require an annual performance audit of each transit system receiving State funds. However, as of December 1977 no transit operator in California had received a full performance audit because criteria for such an audit had not been completely developed. San Diego's metropolitan planning organization had begun an audit of the four San Diego operators while San Francisco's metropolitan planning organization was working on guidelines for transit system audits to be conducted in 1978 and 1979.

CONCLUSIONS

Increased attention is being given to the transit performance measures of efficiency and effectiveness as useful tools for internal transit management and for enhancing communication with Government agencies and the public. Because more Federal funds will be devoted to future transit service improvements, UMTA needs to take the lead in accurately measuring whether transit systems receiving such funds are efficiently and effectively operating their systems. UMTA, working with APTA through the performance conference, has improved the state-of-the-art of performance evaluation by making transit systems' management more aware of the importance of individual performance evaluations and by laying the groundwork for developing a consensus of the most appropriate performance indicators for the transit industry.

RECOMMENDATIONS

If improvements in transit efficiency and effectiveness are going to occur, UMTA needs to take further steps to address the kinds of issues identified at the performance conference. With the accumulation of section 15's uniform financial and operating data, UMTA should take steps to

- work with the transit industry, State and local governments, and other interested parties to arrive at the most appropriate performance indicators for use by transit operators,
- insure that the transit operators use these indicators to fully implement performance evaluations, and
- evaluate the effectiveness of performance evaluations in identifying weaknesses in transit performance.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the Senate and House Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

Copies of this report are being sent to the Senate and House Committees on Appropriations; the Senate Committee on Banking, Housing and Urban Affairs; the House Committee on Public Works and Transportation; the Senate Committee on Governmental Affairs; the House Committee on Government Operations; and the Director, Office of Management and Budget.

Sincerely yours,



Henry Eschwege
Director