Procedures for Financial Analysis of Transit Operating Assistance Grant Requests

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The increasing reliance of transit operations on financial support has caused funding agencies to begin to evaluate the operating expenses of transit operators seeking financial assistance. One possible evaluation approach involves comparing aggregate expense estimates of individual transit properties with industrywide performance. This paper reports on the development of an evaluation framework that uses this approach. The evaluation technique is discussed, and specific administrative actions are illustrated in response to the operating expense performance of individual operators.

During the last 3 decades, the transit industry has experienced a general financial decline from an industrywide net income in 1945 of $313 million to an industrywide deficit in 1975 (preliminary estimate) of $1663 million (1). This decline has been attributed to a set of related causes that include

1. An increase in use of the automobile, which caused initial patronage losses and revenue decline;
2. An industry reaction of fare increases and service reductions, which led to greater losses in patronage and revenue; and
3. The recent rapid increase of transit operating expenses.

Accompanying this general decline has been an accelerating trend toward public ownership of transit systems and an increasing involvement in the direct financial assistance of transit operations by local, state, and federal governments. By 1972, local assistance to transit amounted to $545 million (approximately 60 percent for operating subsidies), state assistance reached $177 million (also 60 percent for operating subsidies), and federal assistance amounted to $470 million (all for capital improvements) (2). In addition, as of November 1974, the federal government made a commitment to assist transit systems with direct operating subsidies through passage of the National Mass Transportation Assistance Act of 1974.

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Although this broad program of financial assistance has, in general, improved and expanded public transportation services, it has also resulted in an alarming consequence. Evidence suggests an increasing reliance of transit operations on public financial support.

As reported in the 1974 National Transportation Study, operating and maintenance costs for the transit industry are expected to increase 276 percent from $2.6 billion in 1972 to about $7.2 billion in 1990 (3). These estimates are reported in 1971 constant dollars and do not, therefore, account for escalation resulting from general inflationary trends. In the face of these increasing operating expenses, transit operators across the nation have been attempting to follow a policy of fare stabilization. (This intention has been moderated somewhat as evidenced by a fare increase in Washington, D.C., and similar fare hikes in New York City and other major metropolitan areas facing financial difficulties more pervasive than those represented by transit alone.) Together, these trends imply an expected sixfold increase in annual net operating deficits from $0.4 billion in 1972 to $2.5 billion in 1990 (3). This trend is likely to be reinforced with the establishment by the U.S. Department of Transportation of a multibillion dollar public transit operating assistance program. Under Section 5 of the National Mass Transportation Assistance Act of 1974, operating assistance grants are being approved even though there is virtually no means of evaluating the efficiency of a transit system in relation to quality and quantity of service provided.

Mounting deficits will, at least, focus public attention on the operational efficiency of individual transit systems. Most likely these deficits will also become catalysts for broad public policy discussions of the benefits of public transportation versus the benefits of private automobiles, the proper mix of transit and automobiles in urban communities, the total costs of each modal alternative for different modal mixes in different urban environments, and the appropriate financing mechanisms for transit investment and operation.

TRANSIT OPERATING ASSISTANCE IN PENNSYLVANIA

In 1967, Pennsylvania enacted the Pennsylvania Urban

Mass Transportation Assistance Law authorizing one of the nation's first urban public transportation assistance programs to offer financial assistance for the operating expenses of transit properties. This legislation was recognized as a response to the poor financial condition of the two largest transit operators in the state. Therefore, budgeting and distribution of funds for the program were straightforward, and the criterion for assistance was need. The only limitation was that the state's contribution cannot exceed two-thirds of the deficit.

Since 1967, however, the scope of this assistance program has broadened significantly. Now the Pennsylvania Department of Transportation receives grant requests from more than 20 operators, and individual requests range from $1500 to more than $40 million per annum. In 1974-75, the Pennsylvania DOT approved $74.2 million worth of public transportation assistance grants, most of which were used for transit operating assistance. In comparison, when the Pennsylvania DOT was created in 1970, its public transit operating assistance budget was less than $11 million. Accompanying this increase in the scope of financial assistance has been a trend toward greater state involvement in efforts to improve both the level and quality of transit services and the efficiency of transit operations.

This involvement has resulted in a need for more accurate and detailed information regarding the financial and operating performance characteristics of individual transit operators. The effort to establish and monitor standards of transit performance requires the periodic flow of financial and operating statistics from each transit operator receiving state assistance. Evaluation of these financial and operating data requires procedures and guidelines for measuring the validity of expense estimates submitted by individual transit operators and the quality of transit service provided by these operators.

To measure the quality of transit service in Pennsylvania, standards and guidelines of performance for transit systems receiving state transportation assistance grants were developed and implemented. In 1973, Pennsylvania established an operating evaluation program (4), which included specification of precise service standards, a standardized transit operating data reporting system, and a quantitative procedure for evaluating public transit operations and services (5).

To evaluate the financial efficiency of transit operators, the Pennsylvania DOT is introducing a program that compares the aggregate expense estimates of individual transit properties with industrywide performance. This paper reports on the development of this financial evaluation framework.

GRANT EVALUATION PROCEDURES

The review of an application for transit operating assistance should include financial, operational, and legal or administrative evaluation procedures. Although separation of the financial, operational, and legal and administrative characteristics of transit systems is not precise, it is convenient to distinguish each of these three categories when individual grant applications are evaluated. The procedures that have been developed specifically for the financial evaluation of requests for operating assistance submitted to the Bureau of Mass Transit Systems are described below.

Overview of Evaluation Procedure

To analyze operating assistance grant requests, the Pennsylvania DOT has adopted a set of application and reporting forms that use the major categories of the Interstate Commerce Commission (ICC) expense reporting framework. In addition, in anticipation of federal reporting requirements, these ICC expense reporting categories have been defined in terms of the function-object code classification developed as part of the financial accounting and reporting elements (FARE) project (6).

Financial evaluation of grant applications is based on an assessment of the reasonableness of expense estimates included in the grant request made by the transit operator. The key to this analysis is a set of guidelines that express the relation between transit operating expenses and transit operating and financial characteristics.

Equipment maintenance and garage expenses, for example, may be related to the level of system operation (as measured by vehicle-kilometers operated) and the wage rate of maintenance personnel. Transportation expense may be related to the hours of system operation and the wage rate of transit operating personnel. Equations based on simple relations such as these may be developed to explain most of the variation in the aggregate operating expense performance of individual systems throughout the transit industry.

After expenses have been estimated, guideline relations for major expense categories permit reasonableness of expense estimates to be determined. Large expenses inappropriately allocated to cost categories may be detected at the outset of the financial evaluation process. If all expenses are based on allowable costs properly categorized into appropriate accounts, guideline analysis should detect inefficient levels of expenditures in relation to transportation service.

If unreasonable expenses are detected, further investigation is initiated. Unallowable costs in an expense category constitute one potential cause for unreasonable expense estimates. Although the investigation of this cause would not be complete without an audit, large-magnitude violations in expense categories may be attributed to this factor through a review of more detailed information, which may be requested of transit operators.

Another potential cause for unreasonable expense estimates results from either inefficient production of transit services or justifiable localized effects that are not accounted for in the guideline relations. An attempt should be made to verify that the guideline relations are applicable to the transit operator exhibiting unreasonable expense estimates. This too may be accomplished through evaluation of more detailed information. If it is determined that the guideline relations are in fact applicable, the questionable expense performance of the individual transit operator would result in administrative action.

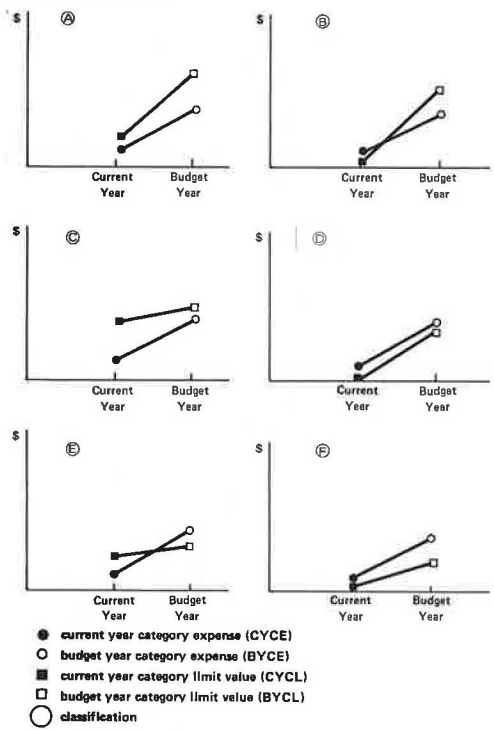
Application of Financial Guidelines

Financial analysis of operating assistance grant requests can be performed at two levels. The guideline relations may be used to ascertain the reasonableness of budgeted expense levels and of incremental expense levels between the current year and the budget year. The evaluation of transit operations expenses is initiated when guideline relations are used to calculate limit values for each major category of cost, and comparisons are made of the cost estimates submitted by the transit operator and these limit values. The limit value is a standard that is based on the aggregate statistics used to describe the operating character of each property and on the guideline relation between major cost categories and the aggregate statistic. Evaluation of incremental expenses involves comparing the estimated change in expense levels from the current year (based on the operator's own expense estimates) and the expected change in expense levels from the current year (based on the calculation of current year and a

Table 1. Performance classifications.

Classification	Exceeded Limit Value? Budget Year	Current Year	Rate of Change	Comment
A	No	No	<1.0	Excellent
B	No	Yes	<1.0	Costs controlled
C	No	No	>1.0	Potential future problem
D	Yes	Yes	<1.0	Current problem moving toward solution
E	Yes	No	>1.0	Emerging problem
F	Yes	Yes	>1.0	Continuing problem showing no signs of improvement

Figure 1. Performance classification for an individual expense category.



budget year limit value).

In the first step of the process, the limit for each major cost category is calculated for the budget year based on the financial and operating statistics submitted as a part of the operating assistance grant request. The second step involves the calculation of the limit values of cost for the current year's operation.

After the limit values for each cost category are determined, these values are compared with the operator's own expense estimates, and the rate of change reported by the operator is compared with the rate of change indicated by the limit values. This latter comparison provides the greatest insight into the relative performance of individual operators. The relative rate of change is calculated as follows:

$$ROC = \frac{BYCE}{CYCE} \Big/ \frac{BYCL}{CYCL}$$

where

ROC = rate of change,
BYCE = budget year category estimated expense,
CYCE = current year category actual expense,
BYCL = budget year category limit value, and
CYCL = current year category limit value.

Values greater than one indicate that the applicant's costs are rising faster than guideline values; if they are less than one, they are rising slower than guideline values.

Based on these three comparisons, an applicant's performance for a given expense category may be rated according to one of six classifications. These classifications, in increasing order of problem severity, are given in Table 1 and shown in Figure 1. Classification A indicates ideal performance. The operator is within limit values for both the budget and current years, and his incremental expense increases (if any) is lower than the guideline limit growth. Classification B also indicates good performance. In this case, the operator exceeded a limit value in the current year but has been able to control costs to below the limit value for the budget year. (By definition, his rate of change is less than one.) Classification C indicates a potential future problem in that, although both the current year and budget year limit values have not been exceeded, there is a trend toward higher costs, which may present a problem. Classification D represents a continuing problem that shows signs of solution because of a reduced incremental cost increase. Classification E shows that the applicant has exceeded the budget year limit value although in the past he was below the limit, indicating an emerging problem in this situation. The most severe condition is indicated in classification F. Both current year and budget year limit values have been exceeded, and the rate of change indicates an accelerating problem. Such a problem would warrant close attention by management.

Administrative Action

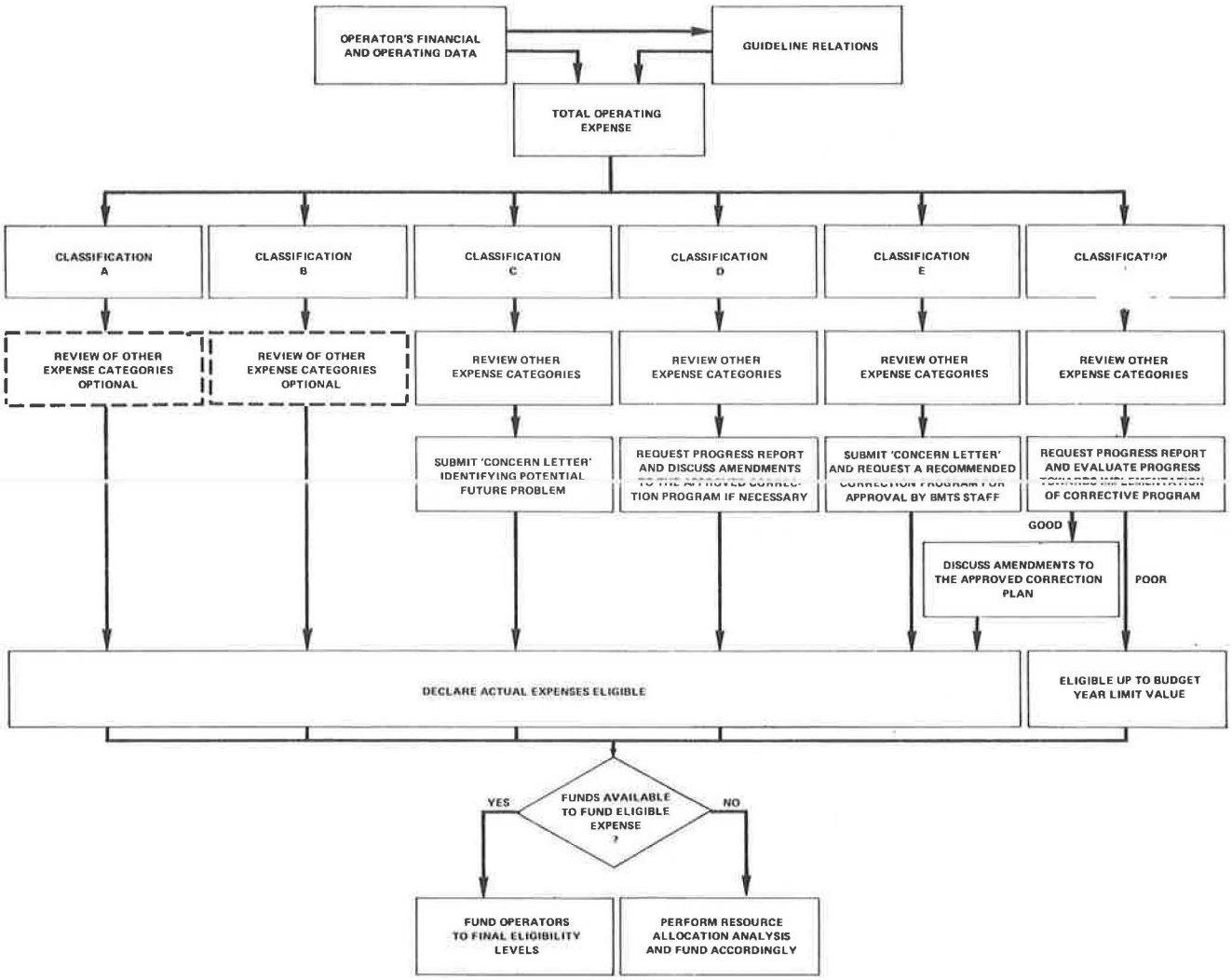
Subsequent to the calculation of limit values and the classification of the financial performance of individual transit operators, specific administrative actions would be taken. The administrative actions associated with the financial performance evaluation of transit operators in Pennsylvania are based on the following underlying principles:

1. The provision of transit services satisfies an important public need in the state;
2. Existing transit operations may provide services inefficiently for many reasons, some of which are not easily remedied by simple corrections to the production process; and
3. The purpose of the state's operating assistance program is to assist in the provision of efficient and effective public transportation services.

Together, these principles support a range of administrative actions that emphasize corrective rather than punitive intervention by the state. These actions are shown in Figure 2, which details the state's operating assistance review procedures.

As shown in Figure 2, transit operators submitting grant requests that have been evaluated and classified as either A or B require neither corrective nor punitive administrative action. These transit operators provide transit services at a reasonable level of expense in relation to the financial and operating characteristics of their systems. The only action required is the declaration of the actual expense estimates of these operators

Figure 2. Financial review procedures.



as eligible for grant determination (subject to verification by audit).

A transit operator receiving a classification C expense performance evaluation represents a situation in which both budget year and current year expense estimates fall within the limit value, but the rate of change is greater than one, indicating an extraordinary rate of increase in expense. This situation serves as a warning that a future problem may emerge. Consequently, the administrative action for this situation involves notifying the operator (by a letter of concern) that a potential problem was indicated in a review of his grant request. Classification C operators would then have their actual expenses declared eligible because they have not exceeded the limit value established by the guideline relation. The classification E expense performance illustrates the situation in which a transit operation has moved from a potential problem to a current, identified problem. In this situation, both the rate of change and the budget year expense estimates indicate unreasonable changes in the cost experience of the operator. This situation would be followed by administrative action as follows:

1. A concern letter is submitted to the operator indicating that, as a result of the review of the grant request, a problem has been observed;
2. The transit operator is requested to submit a recommended correction program for approval of the Pennsylvania DOT; and
3. The operator's actual expenses are declared eligible after the correction program has been approved.

A transit operator that receives classification D represents a property that has a current, identified problem and is moving toward a solution. Although both budget year and current year expense estimates exceed the limit values, the rate of change estimate is less than one, indicating that the cost experience of this operator is converging on the limit value. An operator in this situation will already have an approved program of corrective action. Therefore, the administrative actions resulting from this classification include a request for a progress report and consideration of possible amendments to the correction program as necessary. Because such an operator is making progress toward meeting the financial guidelines of the Pennsylvania DOT, actual expenses would be declared eligible.

As previously indicated, classification F represents the situation of most concern to the Pennsylvania DOT. In this circumstance, a continuing problem exists, which shows no signs of evident improvement. An operator in this category would already have an approved program of corrective action. An operator currently placed in classification F would have been in either classification D or

E during the previous year. Both of these classifications require that an improvement program be on file. Therefore, the first action required in this situation is to evaluate the operator's progress toward implementing the corrective program. If the operator has made a significant effort to adopt the recommended corrective program and the problem shows no signs of improvement, an amended correction plan should be considered. A concerted effort by the operator to improve the efficiency of transit service production according to the approved plan should result in a declaration of actual expenses as eligible. If, on the other hand, the operator has made no effort to adopt the provisions of the corrective plan, expenses would be declared eligible up to the budget year limit value only. This is the only situation in which administrative action includes the imposition of a policy constraint on expense eligibility.

Having determined the level of expense eligibility for all transit operators submitting requests, the Pennsylvania DOT approves operating assistance grant requests according to the availability of financial resources. If sufficient funds are available, the Pennsylvania DOT provides funds to operators to the final eligibility levels determined in the review of grant applications. If, however, funds are insufficient, the Pennsylvania DOT analyzes resource allocations and provides funds according to the results of this analysis.

CONCLUSION

With the development and implementation of these financial guidelines and evaluation procedures, the Pennsylvania DOT will have established a comprehensive program to (a) collect and analyze transit operating and financial data on a uniform basis; (b) measure the performance of transit systems seeking state operating and capital assistance grants; and (c) determine the allocation of state public transit grants based on the transit agency's operating and financial performance and the availability of funds.

This program should prove to be an effective approach in assisting to improve and expand public transit services and operations throughout Pennsylvania.

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