

# PROJECT FARE TASK IV REPORT

## URBAN MASS TRANSPORTATION INDUSTRY FINANCIAL AND OPERATING DATA REPORTING SYSTEM



NOVEMBER 1973

TASK IV REPORT FOR JULY 1973 - NOVEMBER 1973 PERIOD  
AND PROJECT SUMMARY

VOLUME I - TASK AND PROJECT SUMMARY

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URBAN MASS TRANSPORTATION ADMINISTRATION  
400 SEVENTH STREET, S.W.  
WASHINGTON, D.C. 20590

ARTHUR ANDERSEN & CO.  
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ARTHUR ANDERSEN & CO.

1666 K STREET, N.W.  
WASHINGTON, D.C. 20006

November 30, 1973

The Honorable Frank C. Herringer  
Administrator  
Urban Mass Transportation Administration  
U. S. Department of Transportation  
400 Seventh Street, S. W.  
Washington, D. C. 20590

Dear Mr. Herringer:

This is the last of four major task reports developed on Project FARE. The primary objective of Project FARE (uniform Financial Accounting and Reporting Elements) was to develop and test a candidate reporting system to accumulate transit industry financial and operating results by uniform categories.

Throughout this project, we have worked closely with the 18-member Industry Control Board (ICB) and the Urban Mass Transportation Administration (UMTA) Project FARE Technical Director. At regular ICB working sessions, selected guests from other transit organizations, State Departments of Transportation and Regional Planning Agencies have also participated actively in the work performed.

The ICB represents a broad cross section of operating transit organizations, commuter railroads, the American Transit Association (ATA), the Institute for Rapid Transit (IRT), Transit Development Corporation (TDC), the U. S. Conference of Mayors, National League of Cities, and the National Governors' Conference. This Board has made an outstanding contribution to the project, devoting more than 500 man-days in regular ICB working sessions.

Since the beginning of this project in March 1972, we have presented an overview of Project FARE and its current status on a recurring basis to each of the ATA and IRT conferences. In addition, we have worked closely with individual transit organizations and interested agencies in the course of our surveys and

field tests. In summary, we believe that Project FARE has received the benefit of excellent coverage and responsive participation from all levels within the transit industry.

The objective of Task IV was to test the systems concepts included in the reporting framework developed in Task III. The test results have been favorable in the sense of validating the systems concepts developed. The general reaction to the FARE reporting structure has been favorable when viewed in the context of a design target to be properly implemented through a coordinated, on-going national program.

The work performed on Project FARE has provided unusual insight into the management tools available for the majority of transit organizations. With a few exceptions, the typical internal management reporting system was developed 15 to 20 years ago following a hybrid, one-dimensional reporting structure -- which does not take advantage of modern system techniques. Thus, the old structure contains a mixture of object classes and functional activities which tends to obscure both reporting dimensions and defies consistent analysis at any level. Recognizing limitations of the present structure, the ICB endorsed the system concepts and new reporting structure developed on Project FARE.

As noted above, most of the internal systems are not presently designed to report in the FARE format. In recent months, however, many local, regional and state organizations have expressed a strong interest in following the FARE information framework as a design guideline -- for both internal management and external reporting purposes. This poses special implementation problems and opportunities which must be recognized in the FARE implementation plan.

Implementation of the FARE Reporting System will require a long-range, coordinated program at the national level to -- (1) develop the FARE system software and processing plan, and (2) upgrade internal transit management systems to accommodate both internal management and external reporting requirements. We believe that this long-range program should be designed to effectively satisfy transit industry information requirements for operating transit entities and government agencies, as well -- at the local, regional, state and national levels.

In the ATA Annual Conference at Miami Beach, held in October 1973, the ATA Board of Directors endorsed the FARE system

and urged UMTA to favorably consider sponsoring the necessary implementation program. IRT is expected to take similar action in its next Board meeting to be held later this year.

Considering the significant requirements for such an implementation program, we recommend that the project organization include provision for active industry and government agency participation similar to that provided in Project FARE. We believe that such participation should be broadened slightly, however, to include more balanced representation from interested agencies at the regional, state and Federal levels.

Volume I of this report summarizes the work performed in each of the four Tasks. It concludes with our recommendation that the FARE Reporting System be implemented and that, concurrently, transit systems throughout the country be assisted in upgrading their internal information systems through a coordinated, nationwide program. Volumes II through V contain the documentation of the reporting system design. For continuity purposes, we have included background information from the Task I, II and III Reports in the Preface and Introduction of this report.

Very truly yours,

*Arthur Andersen & Co.*

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16. Abstract The report contains a description of the uniform reporting system for the urban mass transit industry designed and tested in Project FARE. It is presented in five volumes:  Volume I - TASK AND PROJECT SUMMARY contains a description of how Task IV was accomplished and the conclusions and recommendations reached at the end of the task. It also contains a summary of the conduct of the entire project.  Volume II - REPORTING SYSTEM INSTRUCTIONS contains general system instructions, prescribed accounting standards to be employed for this reporting and detailed definitions of all reporting categories in the system for transit operations other than commuter rail.  Volume III - REPORTING SYSTEM FORMS contains examples of all of the forms used in the system for transit operations other than commuter rail. Each form shows a cross reference to the applicable instructions in Volume II.  Volume IV - COMMUTER RAIL REPORTING SYSTEM INSTRUCTIONS contains general system instructions, prescribed accounting standards to be employed for this reporting and detailed definitions of all reporting categories in the system for commuter rail operations.  Volume V - COMMUTER RAIL REPORTING SYSTEM FORMS contains examples of all of the forms used in the system for commuter rail operations. Each form shows a cross reference to the applicable instructions in Volume IV.					
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## PREFACE

Prior to 1971, the Accounting Committee of the American Transit Association had recognized an urgent need for comparative operating and financial data for the urban mass transit industry. The need for reliable, comparative financial and operating data was also recognized and expressed by researchers involved in industry analysis and planning activities.

In the spring of 1971, the American Transit Association (ATA) and the Institute for Rapid Transit (IRT) submitted a grant request to the Urban Mass Transportation Administration (UMTA) defining a proposed project to develop a uniform industry reporting system. This industry proposal was eventually modified and refined by UMTA with industry participation and concurrence, into the formation of Project FARE (Uniform Financial Accounting and Reporting Elements). The project started on March 1, 1972, with a contract to Arthur Andersen & Co. as the prime contractor for Project FARE.

Under the contract, UMTA retained overall administrative control through its Project Technical Director who worked directly with the Industry Control Board (ICB) to provide policy direction for the project. The Industry Control Board provided direct input into the project through its eighteen members who represented a cross section of the urban mass transit industry. This Board

included representatives from mass transit systems, commuter rail operations, the ATA, the IRT, the National Governor's Conference, the National League of Cities and the U.S. Conference of Mayors. The UMTA Technical Director and the Board met with the contractor periodically to establish policy, provide direct input, evaluate progress and review future work plans for the project. The members of the ICB and the Project Team are listed on page iv of this preface.

The primary objective of Project FARE was to develop and test a reporting system which would accumulate transit industry financial and operating results by uniform categories. The system was to be designed so that it could be eventually implemented on an industry-wide basis. To ensure the feasibility of future implementation, the reporting system was tested for practicality and usefulness at selected operating sites.

The information ultimately collected through the industry-wide reporting system has been designed to address the needs of:

- Individual transit systems for comparing their performance with other transit systems with similar characteristics.
- Transit industry associations for monitoring industry performance.
- Federal, state and local government agencies for transit industry analysis and for financial assistance program administration.

Project FARE was divided into the following major tasks:

- Task I - Identify the information requirements of the potential users of the system.
- Task II - Survey the capability of selected transit systems to supply the information required.
- Task III - Develop a system of reporting elements for which implementation is currently feasible.
- Task IV - Field test the system concepts at selected transit systems.

Each of these tasks was to be concluded with the submission of a written task report by Arthur Andersen & Co. The report for Task I was submitted to UMTA in July, 1972, and contains a description of the proposed data considered useful for potential users of the system. The report for Task II was submitted to UMTA in November, 1972, and contains the findings of a survey of the industry's reporting capability. The report for Task III was submitted to UMTA in June, 1973, and contains the preliminary design of the reporting system. This is the report for Task IV. It contains in Volumes II through V a reissue of the reporting system documentation with significant changes from the Task III Report version.

FARE INDUSTRY CONTROL BOARD AND PROJECT TEAM

UMTA Project Technical Director

Mr. Thomas E. Hoadley

Industry Control Board

Mr. Fred Burke - National League of Cities/U.S. Conference of  
Mayors

Mr. Phil E. Fox - McDonald Transit Associates, Inc.

Mr. Frank A. Gorman - Port Authority Trans-Hudson

Mr. David Gunn - Illinois Central Gulf Railroad

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Mr. James B. Huff - New York Metropolitan Transportation  
Authority

Mr. John R. Launie - Massachusetts Bay Transportation Authority

Mr. Terry O. Linger - National Governors' Conference

Mr. Alton McDonald - McDonald Transit Associates, Inc.

Mr. P.J. Meinardi - Chicago Transit Authority

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Mr. Robert W. Nelson (Chairman) - Metropolitan Atlanta Rapid  
Transit Authority

Mr. Thomas O. Prior - San Diego Transit Corporation

Mr. Leonard Ronis - Cleveland Transit System

Mr. Herbert J. Scheuer - American Transit Association

Mr. Kenneth C. Schnur - Independent transportation consultant

Mr. Henry L. Taylor - Atlanta Transit System

Mr. Kenneth S. Voigt - Transit Development Corporation, Inc.

Project Consultant

Dr. John D. Wells, Wells Research Co.

Arthur Andersen & Co.

Mr. David L. Harvey

Mr. William F. Meagher

Mr. Robert L. Elmore

Mr. John W. Nagel

Mr. Joe E. Kasperek

Mr. William T. Van Lieshout

Mr. Daniel Malachuk, Jr.

Mr. Charles G. Hunsaker

Mr. H. Paul Haldeman

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## 1. INTRODUCTION

The economic condition of the urban mass transit industry has experienced a steady deterioration over the past two decades.<sup>1</sup> During this period, operating costs have increased at a faster rate than fare box revenues. With this trend, an increasing number of transit systems have reached, or are fast approaching, the condition of not being able to cover operating costs with fare box revenues. In order to avoid or, at least, postpone this position, these systems have been forced to explore several alternatives. Among them are raising fares, reducing service levels, obtaining capital and operating subsidies and suspending operations. To avoid the dire consequences of insufficient service levels and suspended

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1. This deterioration has been well documented in other recent studies and is not described in depth in this report. For extensive description of the condition of the industry, refer to the following two studies:

- a. Feasibility of Federal Assistance for Urban Mass Transportation Operating Costs, U. S. Department of Transportation, November, 1971.
- b. Economic Characteristics of the Urban Public Transportation Industry, U. S. Department of Transportation, February, 1972.

operations, public authorities have been established in many urban areas to take over the transit operations. Generally, these public authorities are supported with public funds so that the transit operations are subsidized to a break-even position.

For urban planners in many communities, these trends have induced a fundamental reevaluation of the nature and basic objectives of the transit industry. The concept of transit systems as profit-making enterprises is becoming more obscure as more and more transit systems, both large and small, are becoming the operating responsibility of public agencies. In this context, transit systems are becoming regarded as an essential public service requiring public financial support, similar to the provision of streets, highways and fire and police protection services. With this approach to operating transit services, transit system managers can develop a broader view of the levels of service they are to provide.

The levels of service can be defined in the context of achieving social as well as economic goals. Thus, mobility of the people in the urban area can become a prime objective of the urban transit system. Increases in transit service can be directed toward workday automobile commuters in order to reduce traffic congestion and air pollution. The financial consequences of operating the increased service level will be borne by the general public, the beneficiary of the reduced



congestion and pollution. Increases in transit service can also be directed toward the needs of special groups within the community collectively known as the transportation disadvantaged--the young, the elderly, the poor and the handicapped.

To support these expanded transit services within the unfavorable economic circumstances of the industry, operating revenues have to be supplemented with public funds to cover costs. Such subsidies have come from local, state and Federal levels of government and have taken many forms. State and local subsidies have stimulated capital equipment expansion and replacement and have helped to cover current operating expenses. Federal aid has so far been restricted to capital, technical study, research and development, demonstration and educational grants. However, various types of operating assistance have been considered by the Congress for several years.

### 1.1 Need for Industry Information Base

The foregoing general description of the economic condition of the industry has been substantiated by several recent research efforts. However, in each of these efforts, a common observation has been that the basic research information is incomplete and lacking in comparability and consistency. Currently there is no procedure for collecting data in which all of the transit systems consistently apply the same standards for reporting their performance results.

Consequently, it has not been possible to get an accurate measure of the operating costs and revenues for the industry, to obtain comparable measures of the levels of service being provided by the various transit systems or to obtain other information necessary for making policy decisions. An improved information base which describes the economic and operating conditions in the industry is necessary for effective planning and administration of programs for assisting transit operations and for more effective management of those operations.

## 1.2 Existing Transit Industry Reporting Systems

The American Transit Association (ATA) system for collecting financial and operating statistics is the most widely used system, and its products are widely referenced in research projects. However, the ATA reporting system provides for voluntary submission of reports by all transit systems in the United States and Canada, and only 10-15% of the systems file reports. Further, the ATA system does not use a standard definition of reporting categories applied uniformly by all reporting entities.

A variety of internal accounting systems are being used by transit systems throughout the country. These include standard systems established by the Interstate Commerce Commission, the American Transit Accountants' Association and various state and local regulatory bodies.

In order to accommodate these differences in internal accounting practices, the ATA reporting system has different forms for the reports to be submitted according to Interstate Commerce Commission uniform charts of accounts or the American Transit Accountants' Association uniform charts of accounts. Other transit systems not using either of these accounting systems are permitted to report by their own format. Because there are substantial differences between the charts of accounts, a transit system using an ICC chart cannot be compared with a transit system using an ATA chart. Further, the reports of these two transit systems cannot be consolidated to accurately measure their aggregate financial performance.<sup>1</sup>

Another reporting system administered by the ATA is the Transit Pars Data Interchange, which is also based on voluntary reporting. However, this system does specify standard definitions for reporting categories. The data reported are used to calculate certain "derived ratios" and percentage relationships. The calculated data are arrayed to show comparisons among transit systems. The pars are standards developed by an ATA committee in the mid-fifties and revised in 1972. The pars now indicate the percentages of various expense classes to the total cost of operations. Its major deficiency is the limited participation by the nation's transit systems.

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<sup>1</sup>These limitations are fully recognized by the ATA. As previously noted, the Association has provided a major supporting role in the development and conduct of Project FARE.

Organizations other than the American Transit Association have also attempted to develop reporting systems for the collection of data describing transit operations. The Michigan Department of Commerce, Bureau of Transportation contracted with the American Academy of Transportation, Ann Arbor, Michigan, for the development of a reporting system for the State of Michigan. Similar efforts have been or are being conducted in the states of Wisconsin and Pennsylvania. The Michigan project stopped short of developing standard definitions for the reporting categories. These state systems would also be of limited jurisdiction.

Although many transit systems use the ICC chart of accounts, they are not all required to report operating results to the ICC. Those transit systems for which the ICC need not issue a certificate are not required to report their operating results to the ICC. The vast majority of transit systems do not report to the ICC, but many of them are required to report to their state department of transportation or state public utilities commission using the ICC reporting form or a variation thereof. The lack of centralized data collection and processing and the variations from state to state prevent this data collection effort from serving an industry-wide need.

Reporting under these various systems has had limited effectiveness. Some of the reporting systems are too narrow

in scope to meet the information needs of some of their potential users. Others are not based on uniform reporting categories. A reporting system should be comprehensive and based on a uniform application of standard reporting category definitions in order to provide the consistency and reliability necessary to permit useful analyses of operating performance data for the transit industry.

### 1.3 Objectives of Project FARE

To fulfill the need for an improved transit industry reporting system, Project FARE was defined through the joint efforts of the ATA, the IRT and UMTA. One objective of this project as stated in the contract is to "improve the consistency and reliability of financial and operating data on transit companies." The product of Project FARE is a candidate reporting system designed to overcome the deficiencies in existing reporting systems.

Other projects being performed by the U. S. Department of Transportation (DOT) may bear some relationship to Project FARE. The distinctions between the objectives of these projects should be clearly understood. The TOMS Program (Transit Operations & Management Systems) and its associated projects, SIMS (Service, Inventory and Maintenance System - formerly TRANSMAN), RUCUS (Run Cutting and Scheduling), and MPS (Maintenance Planning System for rail rapid transit operations) are intended to develop improved internal information systems

for transit system management. The FARE Reporting System was designed as an external reporting system. The other projects may complement Project FARE by enhancing the transit system's capability of supplying the FARE data.

#### 1.4 Organization of this Report

As noted in the PREFACE, this report covers the last of the four major tasks of Project FARE. The purpose of this task was to validate the reporting system design, i.e., to test and modify as necessary the reporting system designed in Task III. The report also covers a brief recap of the entire project.

This report is presented in five separate volumes. The first volume covers the performance of Task IV and the summary of the whole project. It includes a summary of the work performed during the project (Chapter 2), a description of the procedures followed to achieve the purpose of Task IV (Chapter 3), a statement of the results of the Task IV work (Chapter 4) and the conclusions and recommendations upon completion of the project (Chapter 5). The second and third volumes document the design of the reporting system for transit systems other than commuter rail operations. These two volumes constitute the material to be sent to the reporting transit systems when the reporting procedure is

implemented. They contain all of the instructions, definitions and forms that the transit system will need in order to prepare its reports. The fourth and fifth volumes are comparable to the second and third volumes, except that they pertain to commuter rail operations.

## 2. PROJECT SUMMARY

The following paragraphs present a brief description of the performance of the project. This description is organized by the project's four major tasks. That is also a nearly chronological organization, except for the overlap of Tasks I and II. A more detailed explanation of the performance of Tasks I, II and III and of the status of the project upon the conclusion of those tasks can be obtained from the interim task reports previously published.

- Project FARE Task I Report  
Urban Mass Transportation Industry Information  
Requirements  
July, 1972
  
- Project FARE Task II Report  
Urban Mass Transportation Industry Survey  
of Reporting Capability  
November, 1972
  
- Project FARE Task III Report  
Urban Mass Transportation Industry Reporting  
System Design  
June, 1973

### 2.1 Task I Summary

The purpose of Task I was to identify the anticipated information requirements of the potential users of the information system.



As with any system development project, it was necessary to establish the scope of the project at an early stage. The following points were key elements in the definition of what Project FARE was intended (and was not intended) to accomplish.

1. The reporting system was to provide for collection and analysis of data describing the periodic financial and operating results of the nation's urban mass transit industry.
2. The data are to be reported by uniform application of standard definitions for all reporting categories.
3. In order to meet the needs of a variety of potential users, the data structure was to be defined at the lowest feasible level of "building blocks."
4. The system was to cover data available from operating transit properties. (Note: This excluded from Project FARE some significant data pertinent to urban mass transit, but obtainable from urban planners, manufacturers, etc., who are not affiliated with transit systems.)
5. Although the data structure of the reporting system was expected to be useful for internal management of transit operations, the primary thrust of the system design was to be an external data set rather than an internal data set. More specifically, the responsibility structure and project control structure necessary for internal management were not intended to be within the scope of Project FARE.

Within the context of these limitations, the definition of the system's information requirements was undertaken. This effort was intended to insure that the system would supply all data for which a genuine need exists, as long as it could be done

within the limitations. The basic approach for this task was to establish direct contact with a broad cross section of individuals in the industry who were expected to have valid input to the definition of the information requirements. The people contacted were those with acknowledged experience and expertise in one or more of the following areas:

- Transit system operations
- Federal government transportation program planning
- Projects similar or complementary to Project FARE
- Regulation of transit operations.

A preliminary statement of a complete set of information elements required for proper analysis of the industry was developed. (See Exhibit 2.1A.) It was based on a classical economic model of the inputs and outputs of a production system. However, this outline encompassed some data that was beyond the scope of Project FARE. All further efforts in Project FARE were confined to dealing with category I of Exhibit 2.1A -- information about existing transit system operations.

The remainder of the Task I effort was spent on developing a list of prospective information categories to be obtained from operating transit systems. Some of the data elements in the list have not survived as the project progressed through Tasks II, III and IV because of the

inability of the transit operators to supply the data. For example, at the conclusion of Task I, the expense data structure was oriented to the operation, maintenance and consumption of various classes of capital assets. This type of expense data structure was regarded as impractical by most of the transit industry. Ultimately a consensus was reached on a functional data structure for expenses. A detailed explanation of the perceived data requirements upon conclusion of Task I is contained in the Task I Report.

Exhibit 2.1A

General Structure of Urban Mass Transit  
Industry Information Requirements

- I. Information about existing transit system operations
  - A. Resources used in producing transit services - physical measures and cost.
  - B. Transit services offered - physical measures.
  - C. Transit services consumed - physical measures and revenues.
  - D. Social effects of transit system operation - physical measures and cost.
  - E. Financial condition of the transit system.
  
- II. Information about potential demand for transit services
  - A. Characteristics of transit service consumers, actual and potential.
  - B. Consumer behavior in transit services market.
  - C. External effects of changes in consumption patterns.
  
- III. Information about potential supply of resources for producing transit services
  - A. Characteristics of labor and capital supplied to the transit industry, actual and potential.
  - B. Supplier behavior in resources market.
  - C. External effects of changes in resource supply patterns.
  
- IV. Information about development of technology for producing transit services
  - A. Implications of fundamental scientific discoveries on the technology of producing transit services.

- B. Research and development efforts and findings
  - 1. for transit service production
  - 2. for resource allocation
  - 3. for consumer behavior
  
- C. External effects of technological developments

## 2.2 Task II Summary

The objectives of Task II were twofold:

1. Provide the Project Team with a breadth of knowledge of transit systems from which to draw general conclusions about the industry and
2. Assess the industry's capability of meeting the information requirements defined in Task I.

Two approaches were used to achieve these objectives. A large segment of the industry was surveyed with a questionnaire designed to provide a general impression of industry reporting capabilities. Secondly, detailed field studies were conducted within a smaller segment of the industry to obtain in-depth analyses of reporting capabilities and firsthand knowledge of transit operations.

Because of the substantial differences in the nature of commuter rail systems and transit systems, two different questionnaires were used for the mail survey. The questionnaires were distributed and responses received as shown in Exhibit 2.2A. Full coverage was intentionally given to the larger transit systems that carry the major proportion of the nation's transit passengers. Since about 85% of these passengers are carried in urban areas of 250,000 or more people, the principal transit systems in all urban areas of this size were circularized. The remainder of the industry was circularized on a random sampling basis.

The composition of the field study participants is shown in Exhibit 2.2B. Field studies were also conducted at one state department of transportation and a holding company that provides management services for its own transit systems and for publicly owned systems. In line with the approach used in the mail survey, the selection of field study participants was biased toward the large systems that serve a high percentage of transit passengers.

The work performed in Task II provided the Project Team with invaluable insight into transit operations. The industry survey helped to pinpoint the similarities and differences among transit operators that had to be considered and accommodated in designing the industry-wide reporting system. Through the survey, a better understanding of problems regarding size, modes of operation, ownership and financing, cost allocations, subsidies-in-kind, accounting practices, passenger statistics, etc., was obtained.

EXHIBIT 2.2A: QUESTIONNAIRE DISTRIBUTION AND RESPONSE RATE

<u>Mode</u>	<u>Number of Systems</u>	<u>Questionnaires Sent</u>	<u>Questionnaires Received</u>		
			<u>Total</u>	<u>Percent of Those Sent</u>	<u>Percent of Total Systems</u>
Bus Systems:					
Large: Over 400 Buses	20	20	19	95	95
Medium: 100 - 400 Buses	35	35	29	83	83
Small: Under 100 Buses	490	95	59	62	12
Rail Rapid Systems	10	10	10	100	100
Streetcar Systems	6	6	6	100	100
Trolleybus Systems	6	6	6	100	100
Commuter Rail Systems	17	17	14	82	82

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Note: The individual modes within multi-mode systems are treated as separate systems.



EXHIBIT 2.2B: FIELD STUDY PARTICIPANTS

<u>Mode</u>	<u>Number of Systems</u>	<u>Responses to Questionnaires</u>	<u>Field Study Systems</u>	
			<u>Number</u>	<u>Percent of Responses</u>
Bus Systems:				
Large: Over 400 Buses	20	19	17	89
Medium: 100 - 400 Buses	35	29	11	38
Small: Under 100 Buses	490	59	5	8
Rail Rapid Systems	10	10	8	80
Streetcar Systems	6	6	5	83
Trolleybus Systems	6	6	5	83
Commuter Rail Systems	17	14	6	43

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Note: The individual modes within multi-mode systems are treated as separate systems.

### 2.3 Task III Summary

The objective of Task III was to develop documentation of a complete reporting system for the urban mass transit industry. The system was to be based on the industry's information requirements defined in Task I and on the understanding of the industry's present reporting practices, capabilities, problems, inconsistencies and differences obtained in Task II.

The process for developing the FARE Reporting System consisted of the following general steps:

- A. Review the industry information requirements specified in the Task I Report and the industry's capability of supplying the information as determined in Task II.
- B. Document the data structure (i.e., identify the data categories) to be incorporated into the reporting system. Review this proposed data structure with the Industry Control Board.
- C. Develop definitions for each reporting category in the data structure, cross reference guides to the ICC chart of accounts and forms on which the data are to be reported. Review these documents with the Industry Control Board.

In order to break the task into more manageable units, the total reporting structure was divided into four parts (identified below), and the above steps were performed on each of the four parts.

- (1) Expense reporting, including detailed subsidiary schedules and auxiliary questionnaires relating to expenses.

- (2) Balance sheet reporting, including detailed subsidiary schedules for reporting tangible property used in transit operations.
- (3) Revenue and passenger statistics reporting.
- (4) Other nonfinancial operating data reporting.

The most complex reporting requirement is for expenses. Three days of the October, 1972 ICB meeting were devoted to discussing the data structure for expenses. Further discussion of the structure and the definitions and forms for expense reporting were major parts of the December, 1972, January, 1973 and April, 1973 ICB meetings.

The proposed structure for the balance sheet, property, revenue and passenger count reporting was discussed in the January, 1973 ICB meeting. Definitions and forms for reporting these categories were discussed at length in the April, 1973 and May, 1973 ICB meetings.

The proposed structure for nonfinancial operating data, other than passenger statistics, was discussed in the May, 1973 ICB meeting. The definitions and reporting forms for these categories were covered in the June, 1973 ICB meeting.

The documentation of the complete reporting system was reviewed in the June, 1973 ICB meeting. The Board approved the system as the one to be tested in Task IV.

As the development of the reporting system proceeded, the suitability of the reporting structure for commuter rail

systems was questioned. Commuter rail systems were revisited and the issue was investigated with the Industry Control Board members representing commuter rail and rail rapid transit systems. The decision to develop a separate reporting requirement for commuter rail systems was based on three considerations.

- (1) Commuter rail system costs include an unusually large component of allocated costs, so the comparability of data with rail rapid transit systems under identical data structures would be elusive at best.
- (2) The commuter rail systems are already subject to a substantial reporting requirement under Interstate Commerce Commission regulation. A modification of this reporting could meet the information needs concerning commuter rail reporting much easier than adoption of the totally new FARE structure.
- (3) The private railroads are unlikely to implement the FARE structure voluntarily. They are reluctant to take on new external reporting beyond their ICC commitments, and they are reluctant to change their internal accounting in the interests of such a small part of their business as commuter operations represent.

Upon conclusion of the task, documentation had been developed for the reporting system that was to be tested in Task IV. Some system design points (reporting frequency, certain function definitions, etc.) had been tentatively stated subject to more detailed evaluation in the Task IV field work. More generally, the whole system documentation was subject to review and modification in Task IV.

## 2.4 Task IV Summary

The purpose of Task IV was to test and evaluate the system concepts and information framework incorporated in the reporting system. This was to be done by testing at individual transit systems to determine their capability to be responsive to the reporting system designed in Task III. The performance of the tests is described in detail in Chapters 3 (Task IV Methodology) and 4 (Task IV Results) of this volume.

In general, it was necessary to make some minor revisions to the reporting system design. These changes have been incorporated into the documentation of the system presented in Volumes II through V of this report. The basic structure of the candidate system is valid and useful and is, in the opinions of transit managements involved in the tests, a very desirable improvement on present practices. More definitive conclusions are presented in Chapter 5.

### 3. TASK IV METHODOLOGY

The process for validating the reporting system designed in Task III consisted of preparing the required reports for a quarter for a variety of transit systems. In order to get a broad coverage of the industry in the testing, the members of the Industry Control Board (ICB) were asked to conduct tests to supplement the testing done by the Project Team. Accordingly, the reporting system was tested at twenty-three different operating transit systems. In some of the more complex situations, the Project Team provided some assistance to the ICB members in conducting these tests. The ICB test sites included:

Chicago Transit Authority  
1,180 rail rapid transit cars and 2,470  
motor buses  
Municipal entity with own management

City Transit of Fort Worth  
122 motor buses  
Municipal entity with contract management

Cleveland Transit System  
117 rail rapid transit cars and 733  
motor buses  
Municipally owned agency with own management

Illinois Central Gulf Railroad  
200 commuter rail cars  
Private railroad company with own management

Massachusetts Bay Transportation Authority  
353 rail rapid transit cars, 329 streetcars,  
55 trolley buses and 1,269 motor buses  
Regional authority with own management

Metropolitan Atlanta Rapid Transit Authority  
628 motor buses  
Regional authority with own management

New York State Metropolitan Transportation Authority  
1,171 commuter rail cars, 7,000 rail rapid transit  
cars and 4,400 motor buses  
Public authority with own management. The MTA is  
subdivided into the following operating entities,  
each of which was considered a separate test site:

Long Island Railroad  
Manhattan and Bronx Surface Transit Operating  
Authority  
New York City Transit Authority  
Staten Island Rapid Transit Operating Authority

Port Authority Trans-Hudson  
298 rail rapid transit cars  
Public authority with own management

San Diego Transit Corporation  
258 motor buses  
Municipal agency with own management

Toronto Transit Commission  
410 rail rapid transit cars, 422 streetcars,  
152 trolley buses and 963 motor buses  
Public authority with own management

The transit systems tested by the Project Team  
were selected on the following criteria:

- modes of service operated,
- geographic distribution,
- size of the transit system,
- ownership/management and
- expected support for the test effort.

Further, the Project Team test sites were selected from those systems at which Task II field studies had been conducted in order to take advantage of the Project Team's familiarity with those operations. The sites actually tested were those proposed in the Task III Report, except that Portland was substituted for Seattle when Seattle management found they could not participate at the scheduled time. The Project Team test sites included:

Denver Metro Transit  
214 motor buses  
Municipal entity with contract management

Southeastern Pennsylvania Transportation Authority  
510 rail rapid transit cars, 278 streetcars, 92  
trolley buses and 1,687 motor buses  
Regional authority with own management

Tri-County Metropolitan Transportation District  
of Oregon  
311 motor buses  
Regional authority with own management

Las Vegas Transit System, Inc.  
20 motor buses  
Private company with own management

Southern California Rapid Transit District  
1,616 motor buses  
Regional authority with own management

City Utilities, Springfield, Missouri  
65 motor buses  
Department of a municipal power company with own  
management

American Transit Corporation  
Holding company owning and/or operating  
28 bus systems, generally with fewer than  
50 buses per system. Centralized accounting  
in St. Louis.  
The operating system tested was Phoenix  
Transit Corporation, 89 motor buses



New York City Department of Marine and  
Aviation, i.e., Staten Island Ferries  
8 ferryboats  
Part of a department of the city with own  
management

Ann Arbor Transportation Authority  
20 motor buses  
Department of the city with own management

Transport of New Jersey  
30 streetcars and 2,353 motor buses  
Private with own management

Pilot tests were conducted by the Project Team at Denver and Philadelphia. Then the work program for the remaining tests was solidified and distributed to the other Project Team test sites and to the ICB test sites. A copy of that work program is shown in Exhibit 3A.

Upon conclusion of the field work for the tests, the ICB met with the Project Team to discuss their respective testing experiences and their recommendations for changes in the reporting system design. On the basis of these discussions, the Project Team revised the documentation for the reporting system and prepared this report. The report was reviewed and approved for submission to UMTA by the Industry Control Board in October, 1973.

PROJECT FARE  
TASK IV SYSTEM TEST  
WORK PROGRAM RECOMMENDATIONS

I. General Instructions

As documentation of your test work, complete the following:

1. One complete set of input forms (two blank sets have been provided) using a recent quarter's financial and operating data.
2. A Forms Analysis Sheet for each report form.
3. The "Recommended Reporting Frequency" form provided.
4. Where applicable, copies of internal schedules, worksheets and other subsidiary records which provide detailed documentation for amounts reported on the FARE input forms.

II. Recommendations For Balance Sheet Reporting  
(Forms 100, 200, 300)

1. List the balance sheet accounts in your account number sequence on work paper headed with the columns shown below.

<u>Your Account</u>	<u>FARE Account</u>	<u>A/C Balance</u>	<u>AJE's</u>		<u>Adjusted Balance</u>	<u>Comments</u>
			<u>Dr.</u>	<u>Cr.</u>		
(1)	(2)	(3)	(4)	(5)	(6)	(7)

2. Enter the account balance as of the end of the reporting period in column 3. Total the amounts to insure that it balances.
  
3. Assign the appropriate FARE account code to each of your accounts in column 2. To do so, you must know what transactions actually have been entered in each of your accounts, and you must know to which FARE accounts those transactions should be entered. (The ICC-FARE X-ref guides will help. However, to the extent that your accountants interpret the ICC accounting differently from our interpretation, the guides are of limited value.) For each of your accounts that translates to two or more FARE accounts, a page reference number should be entered in column 2. On a separate page, headed with that page reference number, show an analysis of your account balance and the FARE account to which each transaction (or analytical element) applies.
  
4. Review the accounting treatment for each of your accounts. Wherever the treatment differs from that specified in the FARE System, post the required adjustments in columns 4 and 5. Number the adjusting entries and document the calculation and explanation of each adjustment.

5. Develop the adjusted balance for each of your accounts and enter it in column 6.
6. Summarize the adjusted balances by FARE account number and enter FARE account balances on the FARE forms.

III. Recommendations for Property Reporting  
(Forms 110, 111, 112, 113)

1. Complete the property input forms for reporting a first-time inventory. Where time does not permit a complete reporting, carefully document the procedures and effort which would be required to report the complete inventory.
2. In classifying your property items by FARE property categories on Form 112, document the type of property (stop signs, benches, fare boxes, etc.) you have included under each category to help us improve our definitions of the categories.

IV. Recommendations for Revenue Reporting (Form 400)

Use basically the same approach as for balance sheet reporting. Analysis of your account balances, however, may be through a subsidiary ledger or record rather than a transaction analysis of the general ledger accounts.

V. Recommendations for Expense Reporting (Forms 500 A, B or M)

Generally, the transit system expense accounts do not bear as direct a correspondence to the FARE accounts as do the balance sheet and revenue accounts. On the two pilot tests (Denver and Philadelphia), it was necessary to perform a detailed transaction analysis of almost all transit system expense accounts and to then reaccount for each transaction by the FARE functions and object classes.

1. Where your expense accounts do not relate directly to a FARE object class and function, prepare a subsidiary account analysis schedule identifying detail charges by FARE object class and function. You will probably find this to be a time-consuming task. In some cases, it may not be possible in the time available. However, the results of this exercise will be important in ascertaining the significance and materiality of dollars to be reported under each FARE object class and function.
  
2. In distributing labor charges to the FARE functions, you may find it helpful to use a personnel roster or organization chart along with a quarterly payroll register (or FICA report) to assist in identifying people and related labor expense with the FARE functions.

3. Ensure your total FARE expenses (including reconciling items) agrees with total expenses reported on your published expense statements for the quarter.

VI. Recommendations for Nonfinancial Operating Data Reporting  
(600 Series Forms)

It will not be necessary for you to complete Form 655, as it will be based on the results of the periodic passenger questionnaire survey. In lieu of completing this form, discuss the FARE passenger questionnaire survey approach with your people to ascertain any problems in conducting the survey.

Forms Analysis Sheet

Test Site: \_\_\_\_\_ Form No. \_\_\_\_\_

\_\_\_\_\_ Form Name \_\_\_\_\_

Preparers  
(AA & Co.) \_\_\_\_\_

(Test Site) \_\_\_\_\_  
(Name and Position)

Procedure for Obtaining Data

Estimated Man-Hours to Produce Schedule \_\_\_\_\_

Problem Areas

Part II References Needing Clarification

Form Design Recommendations

PROJECT FARE

RECOMMENDED REPORTING FREQUENCY FORM

FORM NUMBER AND NAME	CHECK RECOMMENDED FREQUENCY			
	Quarterly	Semi-Annual	Annual	Other (Specify)
TRANSIT SYSTEM IDENTIFICATION SHEET				
ASSET REPORTING FORMS				
100 Asset Summary Schedule . . . . .				
110 Property Subsidiary Schedule Control Summary . . . . .				
111 Property Subsidiary Schedule Revenue Vehicles . . . . .				
112 Property Subsidiary Schedule Fixed Assets Other Than Revenue Vehicles . . . . .				
113 Property Subsidiary Schedule Related- Parties Lease Property . . . . .				
LIABILITY REPORTING FORMS				
200 Liability Summary Schedule . . . . .				
210 Long-Term Debt Subsidiary Schedule . . . . .				
CAPITAL REPORTING FORMS				
300 Capital Summary Schedule . . . . .				
REVENUE REPORTING FORMS				
400 Revenue Summary Schedule . . . . .				
EXPENSE REPORTING FORMS				
500 A Single Mode Level A Expenses and Functions Schedule . . . . .				
500 B Single Mode Level B Expenses and Functions Schedule . . . . .				
500 M Multi-Mode Expenses and Functions Summary Schedule . . . . .				



FORM NUMBER AND NAME		CHECK RECOMMENDED FREQUENCY			
		Quarterly	Semi-Annual	Annual	Other (Specify)
EXPENSE REPORTING FORMS (Continued)					
501 M	Multi-Mode Expenses and Functions Subsidiary Schedule . . . . .				
510	Operators' Wages Subsidiary Schedule . . . . .				
520	Other Hourly Wages Subsidiary Schedule . . . . .				
530	Fringe Benefits Subsidiary Schedule . . . . .				
591	Data Processing Questionnaire . . . . .				
592	Sales and Excise Taxes Questionnaire . . . . .				
593	Subsidies-in-Kind and Forgiven Indebtedness Questionnaire . . . . .				
594	Pension Plan Questionnaire . . . . .				
NONFINANCIAL OPERATING DATA REPORTING FORMS					
600	Weekday Time Period Schedule . . . . .				
610	Transit Way Descriptors Schedule . . . . .				
611	Transit System Stop Descriptors Schedule . . . . .				
620	Revenue Vehicle Inventory Schedule . . . . .				
625	Energy Consumption Schedule . . . . .				
630	Transit Service Personnel Schedule . . . . .				
635	Transit System Employee Count Schedule . . . . .				
640	Revenue Vehicle Maintenance Performance Measures Schedule . . . . .				
645	Revenue Vehicle Collision Accidents Schedule . . . . .				
646	Noncollision Vehicle Occupants' Accidents Schedule . . . . .				
647	Rail Rapid Transit Station Accidents Schedule . . . . .				
650	Transit Service Supplied Schedule . . . . .				
655	Transit Service Consumed Schedule . . . . .				

## 4. TASK IV RESULTS

The reporting system tested during Task IV is documented in Volumes II through IV of the Task III Report. The modified reporting system resulting from the testing is documented in Volumes II through V of this report. Below are presented the key findings of the test work and the changes to the system design that resulted from those findings. The findings for transit systems are presented in Section 4.1; those for the commuter rail reporting system are presented in Section 4.2.

### 4.1 Transit System Findings

#### 4.1.1 Additional Modes

Finding from Field Work:

In Ann Arbor, Michigan, a dial-a-ride system is in operation. In Springfield, Missouri, a school bus system is in operation. These services were substantially different from the motor bus transit service. They tended to obscure the data for motor bus operations.

System Revision Required:

Dial-a-Ride and School Bus have been set up as separate modes of transit service. Throughout the system, wherever mode is an element in the definition of a reporting category, these two new modes are to be distinguished.

System Documentation References:

Volume II - Reporting System Instructions  
Chapter 1 - General Instructions  
Section 1.1 - Classifications of Reporting Transit Systems

Volume III - Reporting System Forms  
Chapter 5 - Expense Reporting Forms  
Forms 500 (A, B or M) - Expenses and Functions Schedules  
Forms 501 (A or B) - Expenses and Functions Subsidiary  
Schedules

#### 4.1.2 Levels A and B Requirements

##### Finding from Field Work:

Some of the transit systems operating only the motor bus mode and having less than 300 buses were found to be readily capable of providing level A expense information.

##### System Revision Required:

As it is desirable to get as much detail as possible into this system to better serve the needs of the various users, the cutoff point for level A expense reporting for a single mode transit system was lowered from 300 revenue vehicles to 100.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 1 - General Instructions.  
Section 1.1 - Classification of Reporting Transit  
Systems

#### 4.1.3 Frequency of Reporting

##### Finding from Field Work:

The effort required to prepare the reports was found to be greater than some had anticipated and more than they are willing to go through four times per year.

##### System Revision Required:

The reporting period was changed from quarterly to annually for all FARE reports. Systems are to prepare all reports on a calendar-year basis for submission 90 days after the close of each calendar year.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 1 - General Instructions  
Section 1.3 - Accounting and Reporting Period

#### 4.1.4 Claim Administration Services

##### Finding from Field Work:

Some transit systems contract with an insurance company for the processing of their casualty liability claims. They make a monthly payment to the insurance company covering their claims processing fee, their estimated loss settlements and the premium on their excess insurance. In this arrangement, the insurance company is simply administering the transit system's self-insurance reserve. The accounting treatment for this situation had not been specified in the system documentation.

##### System Revision Required:

The documentation covering casualty liability accounting was clarified to cover this situation. The amount of the monthly payment is to be split into its components. The claims processing fee is to be reported as Professional and Technical Services in the Injuries and Damages function. The estimated loss settlements are to be treated as a provision for uninsured public liability settlements, and the excess insurance premium is to be treated as any other insurance premium.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 2 - Accounting Practice Instructions  
Section 2.5 - Accounting for Physical Damage, Public  
Liability and Property Damage and  
Other Corporate Losses

#### 4.1.5 Rail Mode Passenger Surveys

##### Finding from Field Work:

The procedure for surveying trips and passengers to develop the service supplied and service consumed measures was found to require revision in order to be applicable for rail rapid transit operations.

##### System Revision Required:

A modified procedure for obtaining these measures for rail rapid transit has been incorporated into the Accounting Practice Instruction for Passenger Statistics. It provides for surveying passengers on a sampling basis rather than on a 100% basis for the trip.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 2 - Accounting Practice Instructions  
Section 2.11 - Passenger Statistics

#### 4.1.6 Labor Capitalization

##### Finding from Field Work:

Different practices were found at different test sites with respect to the capitalization of in-house labor and overhead on development projects. A standard treatment for this topic had not been specified in the reporting system.

##### System Revision Required:

Through much discussion, the Industry Control Board concluded that a standard could not be specified. An Accounting Practice Instruction was added to the documentation providing that capitalization should be reported as it is being practiced by the transit system.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 2 - Accounting Practice Instructions  
Section 2.12 - Capitalization of Labor and Overhead

#### 4.1.7 Additional Asset Object Classes

##### Finding from Field Work:

Some asset categories are used by transit systems that were not provided in the list of FARE asset object classes. Some of them pertain to significant monetary amounts that should not be embedded in other categories.

##### System Revision Required:

The below-listed asset object classes have been added:

- Receivables for Capital Grants
- Receivables for Operating Assistance
- Work-in-Process for Reimbursable Projects
- Work-in-Process for Capital Projects
- Special Funds for Pensions
- Goodwill

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 3 - Asset Reporting  
Section 3.1 - List of Asset Object Classes  
Section 3.2 - Definitions of Asset Object Classes

Volume III - Reporting System Forms  
Chapter 1 - Asset Reporting Forms  
Form 100 - Asset Summary Schedule

#### 4.1.8 Special Deposits vs. Special Funds

##### Finding from Field Work:

The distinction between "special deposits" and "special funds" was not documented well enough to avoid confusion in the preparation of the reports.

##### System Revision Required:

The respective definitions were clarified. Special deposits are now defined as being directly related to specific current liabilities recorded on the balance sheet.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 3 - Asset Reporting  
Section 3.2 - Definitions of Asset Object Classes

#### 4.1.9 Used Vehicle Valuation

##### Finding from Field Work:

The instructions regarding the value at which to report used vehicles in the property report were found to be ambiguous.

##### System Revision Required:

The pertinent instructions were clarified. Used revenue vehicles are to be reported at their purchase price to the reporting transit system rather than at their original cost to the purchaser of the vehicle when it was new.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 3 - Asset Reporting  
Section 3.4 - Property Subsidiary Schedule Instructions

#### 4.1.10 Fixed Asset Reporting Format

##### Finding from Field Work:

Transit systems generally keep their property values by Land, Buildings and Structures, Equipment, etc., rather than by the proposed transit capital classes. It will be easier to complete the form and retain control over property reporting if Land, Buildings and Structures, Equipment, etc., are made the major sequence rather than the minor sequence on the form.

##### System Revision Required:

The Property Subsidiary Schedule for Fixed Assets Other Than Revenue Vehicles has been modified so that, for example, Buildings and Structures is reported as a major category and is subdivided by Transit Way, Passenger Stations, Operating Yards and Stations, etc.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 3 - Asset Reporting  
Section 3.4 - Property Subsidiary Schedule Instructions

Volume III - Reporting System Forms  
Chapter 1 - Asset Reporting Forms  
Form 112 - Property Subsidiary Schedule Fixed Assets  
Other Than Revenue Vehicles

#### 4.1.11 Building Cost Allocation

##### Finding from Field Work:

In several instances, a building is used for more than one function; thus, it should be reported as being subdivided into several transit capital classes in the property report. No guidelines were given for allocating the cost of the building to the transit capital classes.

##### System Revision Required:

The instructions for classifying property were modified to provide that the cost of the building is to be allocated on the basis of square feet of floor space devoted to each transit capital classification.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 3 - Asset Reporting  
Section 3.4 - Property Subsidiary Schedule Instructions

#### 4.1.12 Classification of Specific Fixed Assets

Finding from Field Work:

Questions arose about the classification of certain physical assets.

System Revision Required:

The documentation of the physical assets to be included in each property category has been expanded to provide that escalators and elevators are to be included in passenger station equipment, and benches and stop signs are to be included in passenger station buildings and structures.

System Documentation References:

Volume II - Reporting System Instructions  
Chapter 3 - Asset Reporting  
Section 3.4 - Property Subsidiary Schedule Instructions

#### 4.1.13 Additional Liability Object Classes

Finding from Field Work:

Some liability categories are used by transit systems that were not provided in the list of FARE liability object classes. Some of them pertain to significant monetary amounts that should not be included in other categories.

System Revision required:

The below-listed liability object classes have been added:

- Short-Term Debt for Construction Liabilities
- Long-Term Debt for Construction Liabilities

The definitions of these accounts specifically include contract retentions.

System Documentation References:

Volume II - Reporting System Instructions  
Chapter 4 - Liability Reporting  
Section 4.1 - List of Liability Object Classes  
Section 4.2 - Definitions of Liability Object Classes

Volume III - Reporting System Forms  
Chapter 2 - Liability Reporting Forms  
Form 200 - Liability Summary Schedule



#### 4.1.14 Classification of Reserves

##### Finding from Field Work:

The appropriated reserves for self-insurance and other purposes are generally reflected as liabilities rather than capital. A category of restricted retained earnings is used to reflect accumulated earnings that cannot be paid out as dividends because of security covenants, etc.

##### System Revision Required:

The appropriated reserves in major object class 305 have been recategorized as liabilities. The title and definition of object class 306.03, Appropriations to Reserves, have been modified to clarify the intention that restricted retained earnings are to be included therein.

##### System Documentation References:

- Volume II - Reporting System Instructions
- Chapter 4 - Liability Reporting
- Section 4.1 - List of Liability Object Classes
- Section 4.2 - Definitions of Liability Object Classes
- Chapter 5 - Capital Reporting
- Section 5.1 - List of Capital Object Classes
- Section 5.2 - Definitions of Capital Object Classes

- Volume III - Reporting System Forms
- Chapter 2 - Liability Reporting Forms
- Form 200 - Liability Summary Schedule
- Chapter 3 - Capital Reporting Forms
- Form 300 - Capital Summary Schedule

#### 4.1.15 Additional Revenue Object Classes

##### Finding from Field Work:

Some revenue categories that are used by transit systems were not provided in the list of FARE revenue object classes. Some of them pertain to significant monetary amounts that should not be embedded in other categories.

##### System Revision Required:

The below-listed revenue object classes have been added:

- Special Noncontract Service Passenger Fares
- Automotive Vehicle Ferriage

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 6 - Revenue Reporting  
Section 6.1 - List of Revenue Object Classes  
Section 6.2 - Definitions of Revenue Object Classes

Volume III - Reporting System Forms  
Chapter 4 - Revenue Reporting Forms  
Form 400 - Revenue Summary Schedule

#### 4.1.16 Sources of Government Assistance

##### Finding from Field Work:

Representatives of some of the transit systems tested suggested that it would be useful to try to identify the kinds of taxes that are used to generate funds for state and local assistance to transit operations.

##### System Revision Required:

A new questionnaire has been added to the revenue reporting structure. It covers the sources to state and local governments of funds that are being used for capital or operating assistance to transit.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 6 - Revenue Reporting  
Section 6.4 - State/Local Government Transit Funding  
Questionnaire Instructions  
Section 6.5 - Old Section 6.4 renumbered

Volume III - Reporting System Forms  
Chapter 4 - Revenue Reporting  
Form 491 - State/Local Government Transit Funding Questionnaire

#### 4.1.17 Labor Object Classes

##### Finding from Field Work:

No distinction was made between salaries, operators' wages and other hourly wages at several of the test sites. Further, the employees at two different transit systems performing the same work may be salaried at one system and hourly at the other.

##### System Revision Required:

The labor object classes have been restructured to provide the following breakdown:

- 501.01 - Operators' Salaries and Wages
- 502.02 - Other Salaries and Wages

##### System Documentation References:

- Volume II - Reporting System Instructions
- Chapter 2 - Accounting Practice Instructions
- Section 2.1 - Labor Distribution Accounting
- Chapter 7 - Expense Reporting
- Section 7.1 - List of Expense Object Classes
- Section 7.2 - Definitions of Expense Object Classes
- Section 7.4 - Definitions of Expense Functions

#### 4.1.18 Additional Expense Object Class

##### Finding from Field Work:

In some transit systems, the amount paid for tolls to use bridges, highways and tunnels is significant and should not be included in other expense object classes.

##### System Revision Required:

A new subclass has been added within the Services object class:

- Bridge, Tunnel and Highway Tolls

##### System Documentation References:

- Volume II - Reporting System Instructions
- Chapter 7 - Expense Reporting
- Section 7.1 - List of Expense Object Classes
- Section 7.2 - Definitions of Expense Object Classes
- Section 7.4 - Definitions of Expense Functions

#### 4.1.19 Clarification of "Property Damage"

##### Finding from Field Work:

Confusion arose over the usage of the term, "Property Damage." It was used in Project FARE to refer to damage to the transit system's own property. The industry conventionally uses the term in conjunction with public liability to refer to damage to others' property.

##### System Revision Required:

The subclasses in object class 505, Casualty and Liability Costs, have been renamed. "Physical Damage" has been substituted for "Property Damage" in 505.01 and 505.02. "Public Liability and Property Damage" has been substituted for "Public Liability" in 505.03 through 505.07.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 7 - Expense Reporting  
Section 7.1 - List of Expense Object Classes  
Section 7.2 - Definitions of Expense Object Classes  
Section 7.4 - Definitions of Expense Functions

#### 4.1.20 Level A Functions

##### Finding from Field Work:

There was difficulty in achieving a standard split of costs between certain level A functions.

##### System Revision Required:

Function 061, Inspection and Light Maintenance of Revenue Vehicles, and function 062, Heavy Maintenance of Revenue Vehicles, have been combined. Similarly, function 144, Maintenance of Electric Power Generation and Distribution Facilities, and function 161, Generation and Distribution of Electric Power, have been combined.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 7 - Expense Reporting  
Section 7.3 - List of Expense Functions  
Section 7.4 - Definitions of Expense Functions

#### 4.1.21 Level B Functions

##### Finding from Field Work:

For level B transit systems, the level B functions were found to be poorly defined. Different patterns of aggregating level A functions into level B functions were recommended.

##### System Revision Required:

Former level B functions 040,080 and 130 have been combined into a single maintenance administration function. Former level A function 022 (scheduling) has been retained as a separate level B function. Former level A functions 021 and 031 have been combined in the level B function for transportation administration. The former level B functions 090, 100 and 140 have been combined into a single level B function for maintenance of buildings, grounds and equipment, except that the former level A functions 091 and 141 have retained their identity in the new level B functions. Finally, former level B functions 180, 190, 200, 210 and 220 have been combined to form a single level B function for general administration.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 7 - Expense Reporting  
Section 7.3 - List of Expense Functions  
Section 7.4 - Definitions of Expense Functions

#### 4.1.22 Level B Multi-Mode Operations

##### Finding from Field Work:

As previously mentioned, Dial-a-Ride and School Bus are now to be treated as separate modes. Some transit systems offering either or both of these services and motor bus transit service are small enough that they should submit level B reports.

##### System Revision Required:

Level B multi-mode expense forms have been added to the system.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 7 - Expense Reporting  
Section 7.5 - Expense Reporting Forms Instructions

#### 4.1.23 Operators' Wages Data

##### Finding from Field Work:

The systems tested did not segregate their operators' wages information by scheduled, unscheduled and charter and contract service, except for the platform time pay component.

##### System Revision Required:

The Operators' Wages Subsidiary Schedule has been modified to combine into one section the three major sections for scheduled, unscheduled and charter and contract service time. Within the new major section, platform time has been subdivided by line service vs. charter and special service.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 7 - Expense Reporting  
Section 7.6 - Operators' Wages Subsidiary Schedule  
Instructions

Volume III - Reporting System Forms  
Chapter 5 - Expense Reporting Forms  
Form 510 - Operators' Wages Subsidiary Schedule

#### 4.1.24 Other Hourly Wages Data

##### Finding from Field Work:

The data for the Other Hourly Wages Subsidiary Schedule was not obtainable on a uniform basis. Some people covered by the schedule at one site were not covered at another site because they were salaried personnel. The need for the schedule was challenged at many test sites.

##### System Revision Required:

The Other Hourly Wages Subsidiary Schedule was deleted from the reporting system.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 7 - Expense Reporting  
Section 7.7 - Other Hourly Wages Subsidiary Schedule  
Instructions

Volume III - Reporting System Forms  
Chapter 5 - Expense Reporting Forms  
Form 520 - Other Hourly Wages Subsidiary Schedule

#### 4.1.25 Fringe Benefits Data

##### Finding from Field Work:

Some of the fringe benefits were not reportable by employee classification, except with great difficulty. Further, the disparity of fringe benefits as a percentage of salaries and wages between employee classifications was found to be insignificant.

##### System Revision Required:

Fringe benefits are no longer to be subdivided by employee classifications.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 7 - Expense Reporting  
Section 7.8 - Fringe Benefits Subsidiary Schedule  
Instructions

Volume III - Reporting System Forms  
Chapter 5 - Expense Reporting Forms  
Form 530 - Fringe Benefits Subsidiary Schedule

#### 4.1.26 Expense-Related Questionnaires

##### Finding from Field Work:

All of the questionnaires related to expense reporting contained certain ambiguities that resulted in nonuniform reporting.

##### System Revision Required:

All of the expense-related questionnaires have been modified to clarify their intent and to eliminate the reporting inconsistencies.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 7 - Expense Reporting  
Section 7.9 - Data Processing Questionnaire Instructions  
Section 7.10 - Sales and Excise Taxes Questionnaire  
Instructions  
Section 7.11 - Subsidies-in-Kind and Forgiven Indebtedness  
Questionnaire Instructions  
Section 7.12 - Pension Plan Questionnaire Instructions

Volume III - Reporting System Forms  
Chapter 5 - Expense Reporting Forms  
Form 591 - Data Processing Questionnaire  
Form 592 - Sales and Excise Taxes Questionnaire  
Form 593 - Subsidies-in-Kind and Forgiven Indebtedness  
Questionnaire  
Form 594 - Pension Plan Questionnaire

#### 4.1.27 Transit Way Descriptors

##### Finding from Field Work:

The data requested for a description of transit way was deficient in that:

- the length of ferryboat routes was omitted and
- the number of crossings for the streetcar mode for mixed traffic transit way is an infinite number

##### System Revision Required:

The form for reporting transit way descriptors has been modified to accommodate the above points.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 8 - Nonfinancial Operating Data Reporting  
Section 8.3 - Definitions and Instructions for Reporting  
Transit Way Descriptors

Volume III - Reporting System Forms  
Chapter 6 - Nonfinancial Operating Data Forms  
Form 610 - Transit Way Descriptors Schedule

#### 4.1.28 Transit System Stop Descriptors

##### Finding from Field Work:

Some persons interpreted the reporting requirement for stop descriptors to mean the number of pick-up/discharge stops that all revenue vehicles make during the period rather than an inventory of the locations at which revenue vehicles make stops.

##### System Revision Required:

The instructions for the schedule have been clarified. The stop descriptors schedule is to contain a count of locations rather than a count of pick-up/discharge actions.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 8 - Nonfinancial Operating Data Reporting  
Section 8.4 - Definitions and Instructions for Reporting  
Transit System Stop Descriptors



#### 4.1.29 Revenue Vehicle Inventory

##### Finding from Field Work:

The form and procedures for reporting the inventory of revenue vehicles erroneously omitted the identification and reporting of leased revenue vehicles.

##### System Revision Required:

The instructions and form have been modified to provide for reporting leased revenue vehicles.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 8 - Nonfinancial Operating Data Reporting  
Section 8.5 - Definitions and Instructions for Reporting  
Revenue Vehicle Inventory

Volume III - Reporting System Forms  
Chapter 6 - Nonfinancial Operating Data Forms  
Form 620 - Revenue Vehicle Inventory

#### 4.1.30 Maintenance Labor Hours

##### Finding from Field Work:

Most transit systems are unable to obtain maintenance labor hours broken down by light vs. heavy maintenance as those functions had been defined.

##### System Revision Required:

As previously noted, the light and heavy maintenance functions have been combined into a single maintenance function. Labor hours for revenue vehicle maintenance will now be reported as a single figure for each mode.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 8 - Nonfinancial Operating Data Reporting  
Section 8.9 - Definitions and Instructions for Reporting  
Revenue Vehicle Maintenance Performance  
Measures

Volume III - Reporting System Forms  
Chapter 6 - Nonfinancial Operating Data Forms  
Form 640 - Revenue Vehicle Maintenance Performance  
Measures Schedule

#### 4.1.31 Accident Reporting Categories

##### Finding from Field Work:

The definitions of the columns on the accident reporting forms caused some problems. For example, it was not clear in which column to report a collision between a revenue vehicle and a bicycle, or between a revenue vehicle and a dog. Because of these ambiguities, the columns on the form were not mutually exclusive.

##### System Revision Required:

Some of the columns on the forms have been retitled. The definitions for the categories have been modified to clarify the proposed reporting treatment. The objective has been to make each category mutually exclusive.

##### System Documentation References:

Volume II - Reporting System Instructions  
Chapter 8 - Nonfinancial Operating Data Reporting  
Section 8.10 - Definitions and Instructions for Reporting Revenue Vehicle Collision Accidents  
Section 8.11 - Definitions and Instructions for Reporting Noncollision Passenger Accidents  
Section 8.12 - Definitions and Instructions for Reporting Rail Rapid Transit Station Accidents

Volume III - Reporting System Forms  
Chapter 6 - Nonfinancial Operating Data Forms  
Form 645 - Revenue Vehicle Collision Accidents Schedule  
Form 646 - Noncollision Passenger Accidents Schedule  
Form 647 - Rail Rapid Transit Station Accidents Schedule

#### 4.2 Commuter Rail System Findings

As noted in the Task III Report, a separate reporting requirement was established for commuter rail systems. This evolved because of the following factors:

- (1) Commuter rail services are generally a small part of a large railroad operation. Thus a significant part of commuter rail costs are allocations of joint costs, and this situation does not prevail in other transit operations.

- (2) The railroads providing commuter rail service already generate reports under a uniform accounting system, i.e., their ICC reports. A modification of the ICC requirements to provide a report covering only commuter rail operations could achieve the objectives for FARE reporting for commuter rail operations.
- (3) The ICC reporting structure is a second accounting system for most railroads. They generally use a responsibility accounting system for their internal management. Imposing a third significantly different information structure on the railroads was considered impractical.

The Task III Report therefore contained a proposal for modifying the ICC reporting requirements in lieu of adopting the FARE structure designed for other transit systems. In general, the modifications to the ICC Form A report encompassed the following points:

- (1) The report is to cover only the commuter rail operations of the railroad.
- (2) A separate report is to be required for each urban area in which the railroad operates commuter service.
- (3) A statement of the bases for allocating common costs is to accompany each report.
- (4) As the report covers only part of the railroad's operations, only the costs, revenues and nonfinancial operating data pertaining to those operations are to be reported. A balance sheet is not to be reported.

The Task III Report gave a more detailed description of the proposed expense reporting structure, a key part of the commuter rail reporting requirement. It provided for the

distinction of functions and object classes in a manner similar to that for other transit systems. However, the categories to be used were the ICC expense categories. Each category was to be identified as an object class or a function. Those identified as functions were to be further subdivided by labor, materials, services and leases components.

As this structure was tested, it was found that many of the ICC categories that had been identified as object classes should have been identified as functions, since they contained in-house labor charges. For example, account 214--Rails--contained labor charges covering the welding of rails into continuous strips in maintenance-of-way shops. Similarly, the accounts for stationery and printing contained in-house labor charges. These labor charges in accounts that were expected to be object classes tend to obscure the distinction between functions and object classes.

Further, it was found in the testing that the split of costs within a function into labor, materials, services and leases requires analysis of a large volume of payable vouchers. Alternatively, the commuter rail systems could change their accounting distribution on vouchers as they are initially processed to provide the required information. To impose either of these burdens on the railroads is considered impractical.

As a result of the Task IV testing, the expense structure for the commuter rail systems has been further modified. The distinction between functions and object classes has been eliminated. The ICC accounts are to be reported as they are now defined by the ICC. However, each account is to be split into labor and other costs components.

One other major change to the commuter rail reporting proposed in the Task III Report has been made. The requirement for reporting a detailed inventory of tangible operating property has been eliminated because of the joint usage of many railroad assets.

The documentation of the reporting requirements for commuter rail systems is contained in Volumes IV and V of this report.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The objective of Task IV was to test the systems concepts included in the reporting framework developed in Task III. The test results have been favorable in the sense of validating the systems concepts developed. The minor modifications identified in the field tests have been described in Chapter 4 and incorporated into the system documentation presented in Volumes II through V. The general reaction to the FARE reporting structure has been favorable when viewed in the context of a design target to be properly implemented through a coordinated, on-going national program.

The work performed on Project FARE has provided unusual insight into the management tools available for the majority of transit organizations. With a few exceptions, the typical internal management reporting system was developed 15 to 20 years ago following a hybrid, one-dimensional reporting structure -- which does not take advantage of modern system techniques. Thus, the old structure contains a mixture of object classes and functional activities which tends to obscure both reporting dimensions and defies consistent analysis at any level. Recognizing limitations of the present structure, the ICB endorsed the system concepts and new reporting structure developed during Project FARE.

As noted above, most of the internal systems are not presently designed to report in the FARE format. In recent months,

however, many local, regional and state organizations have expressed a strong interest in following the FARE information framework as a design guideline -- for both internal management and external reporting purposes. This poses special implementation problems and opportunities which must be recognized in the FARE implementation plan.

Implementation of the FARE Reporting System will require a long-range, coordinated program at the national level to -- (1) develop the FARE system software and processing plan, and (2) upgrade internal transit management systems to accommodate both internal management and external reporting requirements. We believe that this long-range program should be designed to effectively satisfy transit industry information requirements for operating transit entities and government agencies, as well -- at the local, regional, state and national levels.

In the ATA Annual Conference at Miami Beach, held in October, 1973, the ATA Board of Directors endorsed the FARE system and urged UMTA to favorably consider sponsoring the necessary implementation program. IRT is expected to take similar action in its next Board meeting to be held later this year.

Considering the significant requirements for such an implementation program, we recommend that the project organiza-

tion include provision for active industry and government agency participation similar to that provided in Project FARE. We believe that such participation should be broadened slightly, however, to include more balanced representation from interested agencies at the regional, state and Federal levels.

### Implementation Considerations

Implementation of the FARE Reporting System will require a long-range coordinated program at the national level to accomplish the following work activities:

1. Identify and define a series of related systems development projects to upgrade the internal management systems used in the transit community for both internal and external reporting requirements.
2. Develop a processing plan for the uniform industry reporting system for use at the national, state and regional levels.
3. Complete the general design of the uniform reporting system for review and approval by interested agencies and transit organizations.
4. Working with interested government agencies, transit organizations and the ICB, obtain concurrence and support of the uniform industry reporting system for use by all agencies concerned with the administration of urban mass transit programs.
5. Terminate conflicting systems development efforts, where feasible.
6. Initiate a coordinated, on-going program to monitor and control the related transit management systems development projects defined in items 1 through 4.



7. Design and test the systems software required for implementation of the uniform industry reporting system.
8. Develop an implementation plan for the uniform industry reporting system coordinated with the other projects included in the overall program.
9. Implement the uniform industry reporting system at the national, state and regional levels, and provide coordinating assistance to government agencies and transit organizations, as appropriate.

### The Core Project

In order to establish the necessary planning linkage between Project FARE and the on-going program previously described, we recommend that a "core project" be authorized to bridge the short-term planning and development requirement. This project, which may be viewed as an extension of Project FARE, could logically include work activities 1 through 4, 7 and 8, outlined in the preceding section.

This approach would make full and effective use of the carryover benefits, experience and insights which accrue from Project FARE. The project definitions, guidelines, processing plan, software and implementation plans developed in this project would establish a firm foundation for the overall program. This program could be initiated after completion of the first work activity (definition of related projects). Thus, the "core project" could fold directly into the overall program -- and proceed concurrently with other related projects covered by the program.

## Conclusion

The prototype industry reporting system developed in Project FARE has been conceptually validated in Task IV. Also, the work performed in this project has highlighted an urgent industry need for effective management information and control systems for both internal and external reporting purposes. The reporting structure and working relationships developed on this project should have a carryover benefit in the future development and implementation of these internal management and industry reporting systems.

The ICB and the ATA Board of Directors have endorsed this approach. Similar endorsement is expected from the IRT in its next Board meeting. We join with these industry groups in recommending this course of action for UMTA's consideration.

