FINAL REPORT

Public Transportation Information Reporting System Development

for

STATE OF MICHIGAN

Department of Commerce
Bureau of Transportation

prepared by:

The American Academy of Transportation

Public Transportation Information

Reporting System Development

For

State of Michigan - Department of Commerce

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Prepared by the

American Academy of Transportation

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SECTION ONE

SUMMARY

Introduction

Public transportation has been provided in the urban areas of our country for more than fifty years. During the early part of this period, cities were compact. Most of the work activity was situated in one central area and transit routes were easily established to serve the travel demands of the urban area residents. Few people at this time had purchased private automobiles so public transportation was badly needed, many people being totally dependent upon the service. During this time public transportation was highly successful, routes were well-placed, service was reliable and, patronage and revenues were increasing. However, the prosperity experienced during the 1950's altered conditions significantly enough to reverse the trend of success for public transportation. Automobile sales increased dramatically, urban residents began to migrate to the suburbs and many new businesses chose to locate their facilities outside of the central city area, all of which contributed to the gradual decline in public transit ridership. Also during this time, labor costs and costs of materials were increasing rapidly, making less money available for the provision of quality service.

By the early sixties many of the companies providing public transportation could no longer afford to stay in business, and after several attempts at service reduction, they chose to discontinue their operations. Municipal governments, determined to continue to provide service to their communities, took over the failing systems and began to manage, operate and financially support these public transportation systems. However, as expenses grew and revenue continued to decrease, cities faced with so many financial demands, became unable or unwilling to devote the large sums of money needed to improve the condition of public transportation systems. As a result although most urban areas continued to offer service, the policy of minimum service at minimum cost was adopted.

Recognizing the severity of this problem, the federal government passed the Urban Mass Transportation Act of 1964 and the Urban Mass Transportation Administration (UMTA) was subsequently established within the Department of Transportation. Under the auspices of UMTA, funds were made available to public transportation systems for the purchase of capital equipment, for the demonstration of transportation techniques and for technical study programs. Following the federal lead, many states have established agencies and programs to help mass transportation in recent years. In 1970 the State of Michigan created the Bureau of Transportation within the Department of Commerce and in the 1971 legislative session the Governor recommended an increase in gasoline tax to in part, assist Michigan public transit.

To properly administer a transit assistance program, information reflecting the current status of public transportation is needed at the state level. A transit assistance program such as the one being considered requires the collection of detailed operational data for each transportation system, in addition to the fundamental data such as income statements and balance sheets, currently collected by the Michigan Public Service Commission for other purposes. Additionally, the nature of the data required necessitates an on-going program for its collection. Based upon this requirement, the Bureau of Transportation has undertaken the task of designing and implementing an information reporting system for public transportation in Michigan.

Study Sequence and Program Development

The initial step in the preparation of recommendations for an information reporting system for public transportation was the determination of the types of data that would be most useful to accomplish a predetermined set of objectives. The Bureau of Transportation reviewed past and current practices in the establishment of state and local public transportation programs in selected states as well as with various Michigan administrators and policymakers. This review indicated that a public transportation information reporting system should be

developed and implemented to make possible these three broad objectives:

1. The continuous assessment of transit management practices including the identification and evaluation of transit management problems and an assessment of future trends.
2. The continuous assessment of the adequacy of service levels including the identification of service level needs.
3. The availability of transportation data to a wide variety of individuals and agencies that have needs for transit system data.

A preliminary course of action was defined in the following task items:

1. Investigate the transit information reporting systems used in the states which have formed Departments of Transportation and review the reporting procedures utilized by the U.S. Department of Transportation, other federal agencies, and selected metropolitan areas.
2. Inventory and evaluate the present school transportation information reporting systems and their adequacy in view of requirements for future study and improvement, including a survey of various state school transportation reporting systems.
3. Review and evaluate the various reports, documents, and records on Michigan transit firms available within the Bureau of Transportation and the Michigan Public Service Commission. Determine the requirements of the current reporting system for Michigan public transportation operators.
4. Review the usage requirements of all potential users of the Annual Report System, including transit management, government personnel, planning officials, and others with requirements for comparative status information on urban mass transit systems in the state.
5. Define the objectives of the Annual Report System utilizing

the information collected for the above tasks. Identify the specific output of the information reporting system which would be required in order to satisfy the objectives.

6. Design a reporting format based upon the defined objectives and the requirements specified by the potential users.
7. Recommend a system design which includes a review of input data, implementation procedures and operation of the information reporting system.
8. Inventory and evaluate the effects of statutory and administrative regulations on the recommended public transportation information reporting system.
9. Review and evaluate relevant records of the transit companies doing business in Michigan, obtain the necessary information to produce the first of the Annual Report series, and prepare the 1971 Reports.
10. Analyze the Annual Reports and prepare comparative data showing the present status of Michigan public transit.

Based on these objectives and itemized tasks, the Bureau of Transportation entered into a contract with the American Academy of Transportation to design and establish a public transportation management information system for the State of Michigan.

Summary of Study

The study objectives and the specified task items defined the scope of the program and structured the manner in which the annual reporting system was to be designed. The project began with an investigation of other transit reporting systems. Letters requesting information were mailed to the thirteen states that have formed Departments of Transportation. Visits were made to the U.S. Departments of Transportation (DOT), Health, Education and Welfare (HEW) and Housing and Urban Development (HUD), and to the transit trade

organization, the American Transit Association. In addition, contact was made with several major metropolitan areas. Nearly all of the reporting systems reviewed as part of this phase of the study were found to have been recently implemented and, as a result, most were still in experimental stages. None were found to be as all inclusive as that planned for this project, although the Urban Mass Transportation Administration has contracted with the Arthur Andersen Company for the purpose of developing a comprehensive nationwide information system for public transportation (this is known as FARE).

Following the investigation of transit reporting systems outside of the state, an in depth study was made of the reporting procedures utilized for school transportation. Interviews were held with people in the Michigan State Department of Education and the reporting forms used by Michigan school districts were obtained. In addition, letters requesting information were mailed to the state level agency in charge of public instruction for each of the other states. When this data was received, a comparative analysis was made of the respective reporting systems. Nearly every state responding to the requests was able to provide reporting forms utilized by school districts to report transportation data to the state. The largest percent of the forms were devoted to financial data for the purpose of calculating the amount of state reimbursement. Very few provided the type or the quantity of data needed for evaluation of transportation efficiencies.

Following this effort, a study was made of the present reporting requirements for transit operators doing business in the state of Michigan. This was accomplished by a review of all of the transit records on file at the Michigan Public Service Commission and at the Bureau of Transportation, and by an evaluation of the legislation under which the transit companies are permitted to operate in the state. Four legislative acts were reviewed: the Motor Carrier Act, the Home Rule Act, the Municipal Authorities Act and the Metropolitan Authorities Act. With the exception of the requirements of reporting

for Class I motor carriers under the Motor Carrier Act, virtually no transportation data is sent to a state level agency in Michigan on a regular basis nor is any required. Of the data reported by Class I carriers almost all is devoted to the financial status of the company, providing very little means of evaluating any other aspect of the operation.

When the survey of other transit reporting systems had been completed, attention was turned to the task of determining potential usage of the annual reporting system. Meetings were held with a number of state agencies and questionnaires were designed and sent to regional and municipal planners to ascertain what types of transit data would be useful in the planned system. In addition, a meeting of the Michigan urban transit operators was held to evaluate their interests as users of the results of the system and as suppliers of the input data to the system. The information gained from these meetings and from returned questionnaires helped formulate the design of the annual reporting format.

The next task concerned the specification of the output objectives and goals of the reporting system. These were defined based upon the administrative needs of the Bureau of Transportation and consist of three main areas of evaluation: the evaluation of the economic viability of public transportation systems, the evaluation of the system efficiencies, and the evaluation of the system service levels. For each of the three categories, the data and statistics necessary to measure performance were listed and from this list the items in the annual reporting format were selected.

In addition to the fomulation of the annual reporting format an analysis was made of the input data implicitly requested by the format. The major area of concern was the transit operators' capability to meet the requirements of collecting and recording the data internally. Several difficult areas were identified. However, in general it was concluded that all of the transit operators could meet the requirements specified with minimal assistance from the Bureau of Transportation.

The implementation of the proposed annual reporting system was the next topic of study. Several aspects of putting the system into operation were considered. The first was the schedule of implementation where it was recommended that the entire system should be instituted at one time. The second was the manpower and cost requirements of the Bureau of Transportation and the transit operators. It was essentially decided that accurate estimations could not be made at this time. The third was a recommendation to plan to automate the information system in several years and the last was to maintain communication with interested agencies that may interact with the proposed system.

The final phase of the study consisted of the preparation of the Annual Reports for 1971. Attempts were made to contact 39 Michigan transit operators. Of these 28 provided sufficient information to prepare an annual status report. Based upon the data assembled in the Annual Reports comparative data and statistics were then compiled giving an overall picture of the health and status of public mass transportation as it presently exists in the state of Michigan.

SECTION TWO

CURRENT INFORMATION SYSTEMS REPORTING AND ANALYSIS

Public Transit Reporting Outside Michigan

Historically, state governments have dealt with the problems of transportation by establishing agencies and/or departments to oversee the operation of each mode of transportation. Most state governments have established agencies to supervise air transportation, highway administration, motor vehicle transportation, and mass transit. In addition, a state regulatory agency controls the operation of motor carriers. More often than not these various governmental groups operate independently of one another. In an attempt to consolidate resources and improve organizational efficiency, several states have, in the past several years, formed Departments of Transportation, with varying degrees of responsibility and authority. These states include:

California
Connecticut
Delaware
Florida
Hawaii
Illinois
Maine
Maryland
Massachusetts
New Jersey
New York
Pennsylvania
Oregon
Rhode Island
Wisconsin

Since transportation in general, and mass transit in particular, has received greater emphasis in these states, an investigation of reporting procedures utilized here was conducted. Letters requesting descriptions of reporting formats were mailed to each of the above states, and a visit was made to the Pennsylvania Department of Transportation. Similarly, an investigation was made of other reporting systems in use for public transportation. In order to accomplish this visits were made to the U.S. Departments of Transportation (DOT), Health,

Education and Welfare (HEW), the American Transit Association, Southeastern Pennsylvania Transportation Authority (SEPTA) and the Delaware River Port Authority in the Philadelphia area. In addition the metropolitan areas of Los Angeles, San Francisco, Chicago, Boston and New York were contacted. The following pages describe the findings of this phase of the study.

California

In the state of California, data concerning the operation of public transportation is reported to the California Public Utilities Commission (PUC) and to the Controller of the State of California. Privately owned transit systems are regulated by the PUC and are required to file reports with the State Controller and to their own municipalities. Although the California Business and Transportation Agency, has been established, mass transit operators do not report to this agency.

There are two annual reporting forms used by privately owned transit systems to report to the PUC. Class I carriers, defined as those having average annual operating revenues over the preceding three years of $1,000,000 or more, employ the standard ICC "Form D" annual report as shown in Exhibit 23. Class II carriers are those whose average annual operating revenues of at least $200,000, but less than $1,000,000. All operators with revenues less than $200,000 annually are termed Class III carriers. Both Class II and III carriers are required to file annual reports, using a 12-page form similar to the "Form D" report, but of considerably reduced scope. The bulk of this report is financial in nature, containing an income statement and balance sheet, with additional schedules requiring further descriptions of operating property, revenue equipment, debt structure, depreciation accounts, equity composition, and operating and maintenance expenses and rents. The report also requires a description of the carrier's personnel by position and annual compensation, and the presentation of certain "operating statistics", such as bus miles operated classified by type of service (intercity, local, charter), the number of revenue passengers carried, also classified by type of service, and a description of the route system over which the carrier operates. This annual report of California Class II and III

carriers is shown in its entirety in Exhibit 1.

In addition to these annual reports, the PUC has at various times issued "general orders" concerning the matter of reporting by transit operators. Several of these are noted below:

According to General Order No. 77-H, public utilities having gross annual operating revenues greater than $500,000 have been required to supply the following information to the PUC: the names, titles, duties, compensation, expense account amount, contingent bus or any other monies directly or indirectly paid to officers and employees receiving more than $25,000 per year in compensation. In addition, these firms are to report dues, donations, subscriptions, contributions and payments to attorneys and/or legal firms.

According to General Order No. 65-A, public utilities having annual gross operating revenues greater than $200,000 are required to file a financial statement, monthly or for "other definite period" showing the operating results for the period and the financial condition at the end of the period. Further, the corporation is required to file a copy of its annual report and other financial statements issued to its stockholders.

According to General Order No. 104-A, public utilities having gross annual operating revenues in excess of $50,000 shall include in their annual report information concerning persons owning material financial interest in any aspect of the operation of the system.

The State Controller of California is the authorized recipient of annual reports of financial transactions by "special districts" as required under state law. A special district is a governmental body established to perform specific activities within a specified area. It may be designed to perform exclusively in one functional area or it may be multidimensional in its activities. All special districts whose primary function is operating a public transit system are required to file the transit annual report with the State Controller, where it is entered into a data processing system to allow compiling into a consolidated annual form.

The special transit districts annual report information is almost exclu-

sively financial in nature. It includes a balance sheet, an income statement, detailed information requirements on special funds, general obligation and revenue bonds, special assessment bonds, construction expenditures, lease agreements, and taxes and assessments levied by the district. Information is also required on the organization and staffing of the district, but no transit operating statistics are requested. To facilitate standardization and compatibility in the reporting of transit districts, the State Controller has issued a "uniform system of accounts". As required by state law, these uniform procedures are to be adopted by all districts, except in certain cases where the system in use is considered satisfactory and that district is therefore exempt from the "uniform system". The explanatory material on this system of accounts isolates each balance sheet and income statement item and describes what should and should not be included in that item, and defines the components of standard funds accounts and their respective purposes. A complete copy of this uniform accounting system is shown in Exhibit 2.

The State Controller also receives annual reports from transit operations owned by cities. This municipal transportation report is a two page document which includes a statement of revenues and expenses and several items regarding operations, such as total route miles, number of buses owned and in regular service, and a description of the fare structure. This annual report is shown in Exhibit 3.

Connecticut

Motor bus carriers operating in the state of Connecticut are regulated by the State's Public Utility Commission. Both Class I carriers, defined as those having annual gross operating revenues of $100,000 or more, and Class II carriers, those with revenues less than $100,000, are required to file annual reports with the Commission. Copies of these reports are then used by the Connecticut Department of Transportation for administration and planning purposes.

Class I motor carriers are required to file using the standard ICC "Form

D" annual report, shown in Exhibit 23. Class II carriers file a much shorter annual report which requires basic data pertaining to carrier ownership and control, present financial status through the use of a balance sheet, operating revenues and expenses through an income statement, the composition and characteristics of the bus fleet, and certain transit operating information such as number of miles operated, number of passengers carried, and descriptions of routes operated and areas served.

Delaware

Delaware, being the forty-ninth state with respect to square mile ranking, has only one major urban area, that being the city of Wilmington. To ease the task of record-keeping even further, Wilmington has only one bus company. The Division of Transportation of the Department of Highways and Transportation receives filings of that transit operation which follow the ICC uniform system of accounts for common and contract motor carriers of passengers.

Florida

There is presently no formal reporting procedure under which individual transit operators file mass transit operating information with the Florida Department of Transportation. The state's Public Service Commission and State Revenue Commission receive various pieces of transit information in their administration of regulatory and fiscal matters. The Division of Transportation Planning of the state DOT, however, does frequently request certain financial and operating data where such are necessary for a specific planning project or study. Several of the forms used recently in such activities are shown in Exhibit 4.

Hawaii

In 1967, the Hawaii State Legislature granted broad powers to counties for the operation of county-based mass transit systems. The state has essentially one mass transit system, that operating within the City and County of Honolulu

under the franchise issued by the 1967 legislature. Recently, the city and county has decided to purchase the operations of the Honolulu Rapid Transit Company, Ltd. and has created a "Mass Transit Division" to operate the system. While under the jurisdiction of the Hawaii Public Utilities Commission the Honolulu Rapid Transit Company filed financial and operating reports utilizing forms of its own design, the latter being in accordance with the American Transit Association's "Uniform System of Accounts". The primary role of the State Department of Transportation in the area of mass transit has been and continues to be one of providing assistance in planning, with apparently no formalized program of reporting.

Massachusetts

Individual transit operators are required to submit an "annual return" to the Massachusetts Department of Public Utilities. The twelve-page format used for this purpose basically requires information similar to that covered in the ICC "Form D" report, as shown in Exhibit 23, but of much narrower scope. The annual return begins by requiring basic data on the carriers structure, ownership, and management. This is followed by a comparative balance sheet and several "schedules to support particular balance sheet accounts", such as those relating to operating and non-operating equipment and property, and depreciation reserves. These schedules are followed by an income statement which requires categorization of operating revenues and specifications of most of the detailed operating expenses seen in the "Form D" report. A schedule relating to the average number and annual compensation of all employees, categorized by classes of employment, then follows. The next portion of the format requires several operating statistics, including the number of bus miles operated and passengers carried, both being classified by type of service, that is, regular route and charter, school, or other special bus service. In addition, data providing measures of revenue per mile and average fare per passenger are further required. The final section of the annual return is an inventory of vehicles and other items of equipment, requiring data on age, seating capacity, cost and depreciation. The annual

return submitted to the Massachusetts Department of Public Utilities is shown in its entirety in Exhibit 5.

In addition to the reporting activities of the Department of Public Utilities as described above, the Massachusetts Bay Transportation Authority requires quarterly reports to be filed by the private carriers providing transit service within the seventy-nine cities and towns composing the authority district in eastern Massachusetts. This two-page quarterly report consists of a comparative balance sheet, a capsule income statement, and a section which requires certain transit operating statistics, such as total route miles, miles operated and passengers carried, both classified by type of service, average fares, revenues, expenses, and income per mile, and the number of buses owned and operated. A copy of the quarterly report filed with the Massachusetts Bay Transportation Authority is shown in Exhibit 6.

New Jersey

All bus operators in New Jersey having intrastate operating authority are under the jurisdiction of the Board of Public Utility Commissioners. Beginning on July 1, 1971, however, those carriers receiving subsidies from the state of New Jersey come under the jurisdiction of the state's Department of Transportation in regard to routes, rates, and schedules.

All carriers having gross revenues of $100,000 or more termed classes A and B, are required to report annually to the PUC using a very slight modification of the "Form D" annual report. Some additional operating statistics of interest which are required include a table entitled "passenger movements on all bus routes and operations during the year". Required in this section are number of bus trips, total number of passengers, total bus miles, and total revenue, all reported by route, along with a designation and description of each route operated accompanied by a measure of its round trip length. These data are required for all regular routes as well as all charter, school, and special operations performed. This section is shown in Exhibit 7.

An additional section of interest in the annual report of carriers grossing

$100,000 or more requires the calculation and filing of certain operating ratios. These ratios compare the amount of passenger revenue, total revenue, and total expenses, as well as the number of revenue passengers to the number of bus miles and bus hours operated and the number of passengers carried. This operating ratio section is shown in Exhibit 8.

Transit operators whose gross revenues are less than $100,000 termed Class C, file a two-page annual report with the PUC which provides very basic information concerning ownership and control, a capsule balance sheet and income statement, the latter classifying total operating revenue by type of service, and a vehicle inventory requiring model, year, serial number, seating capacity, depreciated value, and date acquired. In addition, information is requested on each route operated including designations of termini, round trip route length, number of bus trips operated on each route, the number of fare zones per route, and the adult fare per zone. This annual report for smaller New Jersey carriers is shown in Exhibit 9.

New York

All major regulated mass transit operators within the State of New York are required to file annual reports. In the past, these reports have been filed with the New York State Public Service Commission, but on March 1, 1971 all regulatory functions of that agency were transferred to the authority of the New York State Department of Transportation. At present, the reporting system used by the Department of Transportation is the same as that previously employed by the PSC.

A sample copy of the annual report is very similar to the ICC "Form D". In addition, information is required on contract bus services indicating the contracting party, the number of trips operated, the total mileage, the number of hours, and the total revenue collected, all classified by contract.

The annual report also includes a section requesting certain operating statistics by month. The data requested include bus miles and bus hours categorized by regular service, chartered, contract, excursion, and deadhead miles.

Also to be included are monthly statistics for intrastate and interstate revenue, special bus revenue, number of passengers classified by fare paid (cash, token or ticket, children and school) number of transfer passengers, and number of free riders. This section of the annual report relating to monthly statistics is shown in Exhibit 10.

It should be noted that transit operators in certain metropolitan areas, New York City among them, are exempt from regulation by and reporting to the Department of Transportation.

Oregon

The Mass Transit Division of the Oregon Department of Transportation does not have a formalized reporting procedure. The agency gathered public transportation data from its six transit systems for the first time last year by personal interviews with management officials. Plans to update this information consist of returning the present report to the transit companies with a request that each transit office revise the data in the original report and return it to the Mass Transit Division. The Oregon Public Utility Commission does not receive data from the public transportation systems in the state.

Pennsylvania

Two state-level agencies within the Commonwealth of Pennsylvania receive reports from mass transit operators. These agencies are the Pennsylvania Department of Transportation and the Pennsylvania Public Utility Commission. However, this procedure and the forms utilized are currently being reviewed. A capsule annual report is filed with the DOT's Bureau of Mass Transit Systems on or before April 15th. This report, entitled the "Census of Motor Bus Carriers in Pennsylvania", provides "not only statistical data by operator but general information which indicates an overall picture of inter and intra city bus transportation".

The financial information requested in the annual bus census includes the level of investment in plant and equipment, the amount of capital expenditures

made during the past year, year-ending depreciation reserves, as well as a summary income statement for the past year's operations. Operational data required include a vehicle inventory by age, the number of passengers and amount of passenger revenue classified by "inter-city", "local", "local electric", "charter" and "other", the number of routes and route miles, and the base fare. Also requested are copies of all current schedules. The actual form used for the annual bus census by the Pennsylvania DOT is shown in Exhibit 11.

The annual report filed by transit operators with the Pennsylvania Public Utility Commission deals extensively with financial information. It is in scope and format very similar to the ICC "Form D" annual report, requiring detailed descriptions of the carrier's ownership structure, balance sheet accounts, and an income statement with detailed cost categories. Operational information required includes employee and payroll data, annual route mileage, annual charter mileage, and the numbers of revenue passengers carried in regular and charter service. This annual report is filed with the Public Utility Commission on or before March 31st.

Rhode Island

The Rhode Island Public Transit Authority (RIPTA) is an independent arm of the state government with considerable autonomy of operation. While RIPTA does come within the confines of the Rhode Island Department of Transportation, the authority's operations are not included in the state budget. Any financial assistance received from the state must come as a result of special legislation.

The state DOT is of recent development and as yet no formal procedures have been established governing the reporting of financial and operating statistics. Special projects and studies, however, generate frequent interchanges of information between RIPTA and the DOT. The continuing flow of information is apparently strong due to the fact that while the authority is not strictly defined as a state agency, its degree of involvement at the state level is quite extensive.

Wisconsin

The Wisconsin Department of Transportation utilizes information collected by the Public Service Commission of Wisconsin on the operations of the state's mass transit systems. Those carriers whose gross revenues are $1 million or more report to the Public Service Commission using the standard ICC "Form D" annual report, see Exhibit 23. In addition, the PSCW has added a page, "Form 3MTD" which requires information on bus miles operated classified by type of service and by the ownership status of the fleet (owned, leased, or purchased transportation), the number of revenue passengers classified as either intercity or urban, the number of intercity revenue passenger miles, and a complete map or description of the existing route structure. This addition to the ICC Form D is shown in Exhibit 12.

The PSCW also requires from carriers grossing $1 million or more quarterly reports of revenues, expenses, and several other data items. This quarterly report, entitled "Form 8MTD", requests operating revenues classified by service type, categorized operations and maintenance expenses, other expense and income items, as well as operating statistics such as vehicle miles operated by service type, and number of revenue passengers carried. This quarterly report form is shown in Exhibit 13.

Those carriers whose gross revenues are less than $1 million file a somewhat shorter annual report with the PSCW entitled "Form 11 MTD". The major types of operating information required include detailed route descriptions including length and highways traveled, a statement of the hours of service, number of intrastate and interstate passengers carried, revenue bus miles operated, and revenue passenger miles performed. Financial data required include a balance sheet, a vehicle inventory requiring year of manufacture, gross weight, capacity, date of purchase, original cost, and depreciation charges, and a categorized listing of operating revenues and expenses followed by a summarized listing in an income statement.

The final form used for mass transit reporting to the State of Wisconsin

is a monthly report which must be filed by all carriers, regardless of size. This monthly report, "Form 35MTD", is divided into three sections covering intercity routes, urban routes, and other operations, such as charter and school bus activities. In the intercity section, the information requested are the points served, the number of passengers carried, the amount of passenger revenue collected, and the total bus miles operated. The required data on urban routes include the area served, total bus hours and total bus miles operated, the number of passengers carried, and the amount of passenger revenue collected. In addition, the carrier is requested to report the monthly dollar total of tickets and tokens collected, as well as the sales volume of weekly or monthly passes sold. Regarding other bus operations, the report requires a total bus miles figure for all such operations. This monthly report required of all Wisconsin bus system operators is shown in Exhibit 14.

Other Reporting Systems

The first of the federal agencies contacted was the Department of Transportation, Urban Mass Transportation Administration. Under the auspices of UMTA there is one established reporting system and, one that is planned for the future. The former is called TOMS, an acronym for the Transit Operations and Management System which was sponsored by UMTA and developed by the MITRE Corporation. Its primary purpose is to set efficiency standards for transit companies. Part of this system is a management information system called TRANSMAN. The purpose of TRANSMAN is to provide various levels of transit management with cost information and operating statistics and, includes an accounting mechanism for overall control of bus operations. The reports generated by this system fall into two categories: service, inventory and maintenance, and secondly, operations. The first series of reports relate to daily servicing of vehicles, maintenance inspections, major report maintenance and inventory control. The second group of reports deals with accounting information which relates costs of operation to revenues and other performance indicators.

The reporting system planned for the future is called FARE and is being

developed by the Arthur Andersen and Company in Washington, D.C. The objectives of the project as stated by the DOT is to determine the information requirements of the potential users of the data system, to develop candidate reporting standards and, to test these standards against the capabilities of the industry to abide by them. The study is planned to conclude in the fall of 1973.

The two other federal agencies contacted were the U.S. Department of Health, Education and Welfare which has no public transportation services under its direction and, the U.S. Department of Housing and Urban Development which oversees the Model Cities transit programs. All transit management for Model Cities is handled at the local level and no special reporting procedures are required by HUD.

Lastly, the American Transit Association a national trade organization representing the transit industry was visited. In its capacity to provide data to its members, the ATA collects and distributes periodic reports concerning fares, ridership, expenses, vehicle mileage, labor contracts, etc. The data is received on a voluntary basis from the members of the organization (approximately 80% of the industry). The most valuable element of their reporting mechanism is in the area of labor contracts.

Five metropolitan areas were contacted and asked to describe their reporting procedures for public transportation. The first was the Philadelphia area where contact was made with the Southeastern Pennsylvania Transportation Authority (SEPTA). SEPTA was established in 1966 in order to take over the Philadelphia bus system and subway system. Since that time they have added two commuter railroad lines and soon will be adding a third. Their reporting system is in the process of being automated. No specifics were available, however, the system plans are comprehensive. The Delaware River Port Authority, also in the Philadelphia area, was visited. The Delaware River Port Authority through the Port Authority Transit Corporation operates the Lindenwold Line, a high speed commuter service running from Philadelphia to New Jersey. The reporting system utilized for the Lindenwold Line is highly automated. Input data to the reporting system, such as passenger counts, fares, revenue etc. are collected

by automatic recording devices. Further, maintenance measures such as bearing tolerances and wear characteristics are also automatically collected. Reports are issued weekly.

The Chicago Transit Authority and Southern California Rapid Transit District did not respond to requests for information. However, according to other sources it was learned that these authorities are utilizing accounting systems developed by Arthur Andersen and Company and do not have a reporting system of the nature of the one planned under this project. In the San Francisco area, it was learned that the BART System is planning to implement an automated reporting system, designed by Arthur Andersen and Company and will include some management information type of reporting. Lastly, for the Boston and New York areas no data was provided.

Conclusions

The existing status of information reporting systems in the area of public transportation has been given specific attention in the preceding survey of individual state, federal, and municipal reporting mechanisms. An evaluation of these systems is based on their respective capabilities of achieving the objectives for which they have been designed. Since a major portion of the recommended reporting system is directed at operating data and transit service information, the lack of such statistics in existing systems, highlighted by the emphasis on financial reporting, has reinforced the necessity of evaluation based on the objectives of the system.

The traditional public transportation reporting function has developed under the influence of the definition of the passenger carrier as a regulated public utility. The recipients of the carriers' reports have generally been the state regulatory agencies and the informational emphasis has logically been on financial management. As previously noted, the ICC "Form D" report and the many highly similar report formats presently in use provide extremely detailed information on the financial condition and practices of a passenger carrier. They contain, however, neither the quantity nor sufficient detail of operating and service

statistics for analysis of adequacy and management of transit within a specific urban area. The latter function, however, has not been a major goal of traditional transit reporting systems, and the absence of such information cannot be legitimately regarded as a failure of these systems.

The contemporary advances in public transportation information reporting are beginning to deal with the gap in operational and service data. The contributions being made by several of the state Departments of Transportation and by a number of federal programs are indicative of this present effort. It must be noted, however, that the majority of these reporting systems are developmental, even experimental, in nature. There is as yet no single operating and service data collection system which has been in use for a sufficient length of time to have gathered a historical data base suitable for detailed transit planning. In line with this finding, it is felt that continued contact with these agencies is of utmost importance in order for the Bureau of Transportation to keep abreast of new developments.

In summary, the task of evaluating the present status of public transportation reporting systems is highly affected by two major factors. Primarily, the traditional nature of transit reporting has been centered on the regulation of public transportation carriers rather than the planning and management of urban transit services. In terms of that traditional emphasis, the existing systems appear to be generally adequate. Secondly, the recent development of reporting systems designed to facilitate transit planning and management are to date virtually unverified by empirical field testing. Many of these developmental formats appear to promise a significant and beneficial yield of practicable data. Since, however, the test for evaluation purposes must be the success of the reporting tool in achieving the objectives of its design, that being the actual collection of the necessary information, the absence of such field testing substantially negates the potentials for detailed evaluation.

School Reporting

Historically, the transportation of students between home and school has been considered as a necessary function of the educational process, and the responsibility of school districts providing education. In line with this concept, most school districts have purchased, operated, and maintained their own vehicles to provide bus service to those students residing beyond a reasonable walking distance.

As the emphasis in improving public transportation in Michigan urban areas has increased, resulting in a more regionalized approach to transportation, the concept of combining school transportation with mass transit has become a possibility. With this in mind, one of the tasks included in the development of a public transportation information reporting system is an investigation of the transportation reporting procedures utilized by the school districts to report to the Michigan Department of Education.

In order to complete this task, key personnel at the State Department of Education were interviewed and current reporting forms obtained. In addition, in order to make a comparative evaluation of Michigan's school reporting system, information was collected from all other states in which school transportation data is reported to a state-level agency. Using this information, an inventory and comparative analysis was made of reporting procedures used in Michigan.

School Reporting in Michigan

According to the Michigan rules and regulations on the transportation of students shown in Exhibit 15, each school district providing transportation, and each intermediate district is required to report certain statistics annually to the State Department of Education in order to qualify for transportation allowances, which can amount to as much as 75% of the total cost of student transportation. The calculation of these allowances is based upon the criteria outlined in the rules and regulations. Since this report is mainly concerned with transportation in Michigan's urban areas it is important to note that according to the criteria,

urban school districts are usually not eligible for transportation aid for regular students and therefore school transportation services are usually not offered in Michigan cities, and as a result these students often utilize public transportation facilities.

As is the case in many reporting systems, the advent of using computerized equipment to collect and process data has had a drastic impact on the quantity and format of the data reported. In Michigan, all of the school transportation data reported to the state is gradually being stored on computer files, resulting in certain changes in reporting procedures. The following description is reflective of the procedures utilized during the 1970-71 school year.

The Michigan Department of Education requires that the following forms be submitted by each school district:

1. Annual School District Financial Report (Form #DS-4169 Form B) See Exhibit 16.
2. Annual Report of School District Transportation Expense (Form #DS-4094) See Exhibit 17.
3. Special Education Transportation Report (Form #DS-4095) See Exhibit 18.
4. Bus Revision Report (Form #DS 4107A) See Exhibit 19.
5. School Bus Service Report (Form #SM-4108) See Exhibit 20.
6. Accident Reports See Exhibit 21.

In addition to these forms the school districts are required to submit a map of each bus route, accompanied by the names of students riding on the bus, to the intermediate school district. Utilizing this information, the intermediate district submits a summarized report to the state entitled: Intermediate District Bus Route Certification (Form #DS-4159) See Exhibit 22.

The data transmitted to the state via these seven reporting forms is then processed so that the transportation allowances can be determined for the current year. Using the first form, each school district is required to submit a complete financial statement, reflective of all phases of the school operation. Page nine

concerns the expenses incurred in transportation services. The transportation expense items include, salaries of transportation personnel, supplies, such as gasoline, tires, oil, etc., maintenance expenses, contracted services, rental of equipment, purchase of vehicles, etc. Using the second form, the transportation expenses are itemized according to transportation services for regular pupils, non-resident pupils, and pupils transported by parents. It should be noted here, that the second page of this form has recently been made obsolete by the use of data processing equipment. The information is now collected from Form DS 4169-Form B and is input to a computer. Based on this data, Form # DP R1017 is printed and sent back to the school districts for reconciliation and verification. The third form is used to report the cost and operational statistics concerning transportation for special education students. Included in this report is a section for reporting vehicle information for those buses used exclusively for special education transportation. The bus revision form is used to report purchases and sales of vehicles during the current year. A complete record of each school district fleet is kept on computer files at the state and is updated annually by the data reported on this form. According to state regulations, all school buses must be inspected specifically for this report in addition to December and March inspections required by the State Police. The Bus Service Form is used to submit the results of this inspection to the state. The Accident Report Forms are completed by the school districts and are sent to the state after the occurrence of an accident. The last form is used to report route data. The intermediate district is required to submit one form for each school district under its authority. The data reported on this form includes daily mileage and number of pupils transported, both being classified by vehicle. The 1967-68 operating summary is shown in table 1 taken from the DOE annual handbook.

Comparative Analysis

Following the inspection of the reporting procedures utilized in the State of Michigan, a similar inspection was made for each of the other states in which school transportation data is transmitted from school districts to a state-level

Table 1

SUMMARY OF 1967-68 TRANSPORTATION REPORT

$22,000,000 Limitation Paid Out at 91.1530925% in 1968-69

CA-51

No. of Districts	No. of Buses		No. of Pupils Transported			
526	Contract	63	Residents	742,436.9	Public	700,011.5
	School Owned	8,868	Non-residents	3,443.6	Non-public	45,869.0
	Station Wagon	117	Total	745,880.5	Total	745,880.5
	Total	9,048				

Not Reimbursable 113,695.0

Total Miles (Based on School Days)	88,484,470.6
Extra Trip Miles	7,450,476.1
Per Cent of Total	8.4

Total Transported	
CA-51 Buses	745,880.5
CA-51A Contract	2,806.0
Private	581.5
Spec. Education	15,564.1
Total	764,832.1

Total Cost:	$32,144,280.40
Allowance	21,986,906.94

Room and Board

No.	Cost	Allowance	Per Child
7	$1,087.50	$930.00	$132.86

CA-51a

Section	No. Pupils	Cost	Allowance	Public	Non-Public	Private
A	2,284.5	$130,066.32	$ 78,918.22	2,051.5	233	
B	2,806	132,655.54	100,022.01	1,581	1,225	
C	581.5	50,114.98	22,406.03	431	150.5	581.5

SPECIAL EDUCATION TRANSPORTATION

	No. Pupils	Cost	Allowance
Mentally H.	10,318.05	$1,611,681.07	$1,024,517.03
Physically H.	4,627.78	1,800,747.30	828,321.24
Emotion. Dist.	618.27	159,381.52	93,198.55

Reimbursable Residents: 628,741.9

TOTAL COST AND ALLOWANCE OF TRANSPORTATION

CA-51 and CA-51a

	Cost	Allowance
CA-51	$32,144,280.40	$21,986,906.94
CA-51a:B	132,655.54	100,022.01
C	50,114.98	22,406.03
Spec. Ed.	3,571,809.89	1,946,037.42
Rm. & Bd.	1,087.50	930.00
Total	$35,899,948.31	$24,056,302.40

CA-51 Cost $32,144,280.40
Less Sec. A 130,066.32
Net Cost $32,014,214.08 ÷ 628,741.9 = $50.92 Cost per Pupil
Allowance $21,986,906.94 ÷ 628,741.9 = $34.97 Allowance per Pupil
Per Mi. Cost $32,144,280.40 ÷ 88,484,470.6 = $ .363 Per Mile
Allow. for residents $21,986,906.94
Allow. for non-res. 120,422.69 (3,443.6 x $34.91)
$22,107,329.63 ÷ 88,484,470.6 = $ .25 per mile allow.

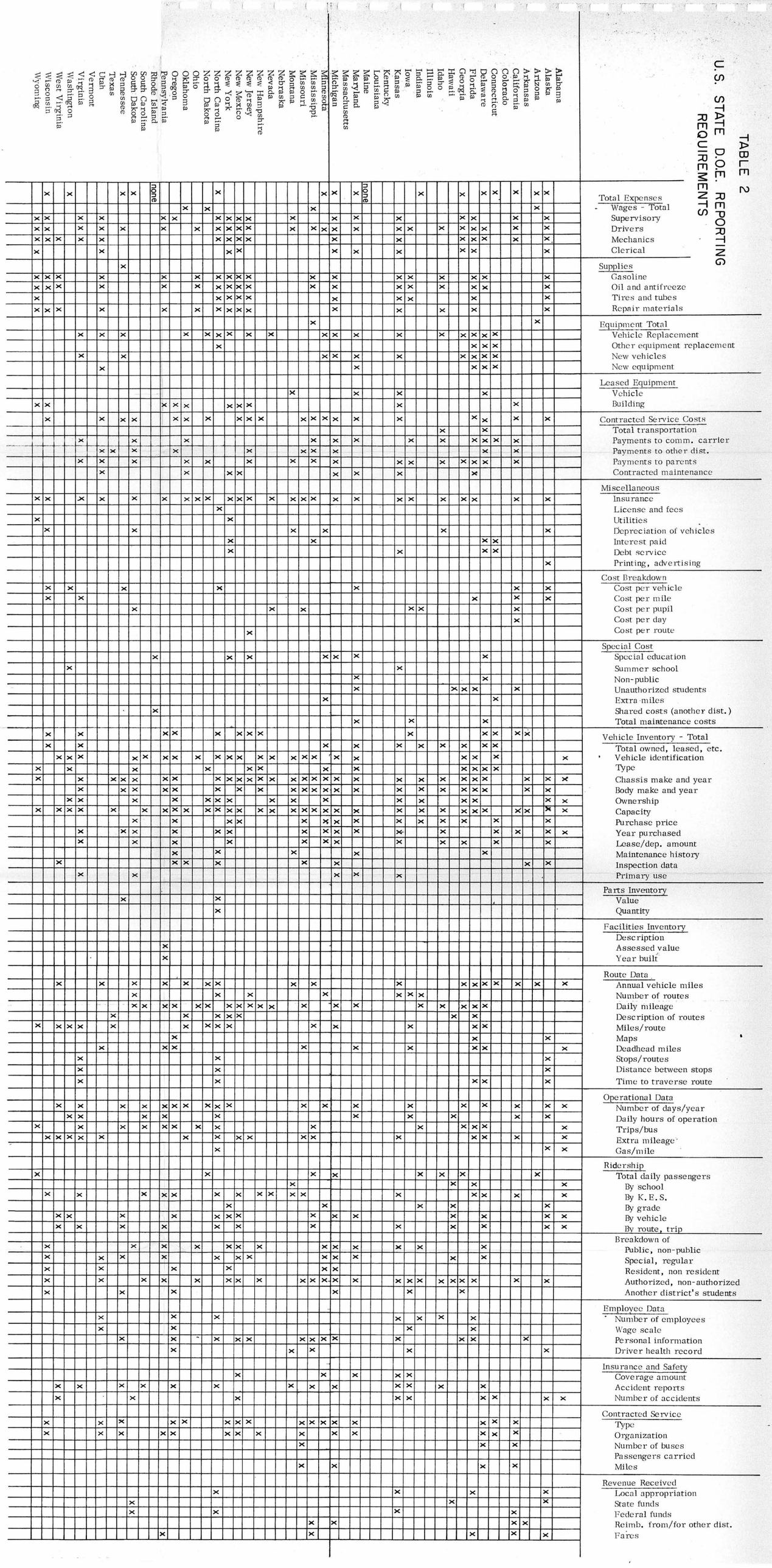
agency. Using the data collected by mail, a check-list of all the types of school transportation information reported was compiled and categorized resulting in a list of approximately 100 items. Following this, the information from each state was studied and the items reported in that state were noted. Using a large matrix (43 states, 100 items), the data obtained from the various states was reduced onto one master sheet. Table 2, following, outlines the aforementioned data.

The primary purpose of reporting transportation data to the state level agency in charge of public instruction is to submit the necessary information to receive reimbursement from the state for transporting pupils to school. Since the formula for calculating the amount of state reimbursement varies from state to state, the type and quantity of data reported is widely varied. The secondary purpose of such a reporting system is to insure that transportation is provided according to the rules and regulations set forth by the state. In many states, information such as drivers health records and vehicle inspection reports are submitted for this purpose. Lastly, it appears that the reporting system is or should be aimed at providing information so that the state may ascertain the level of efficiency of the school transportation operation. Keeping these three purposes in mind, the following pages describe the observations and conclusions drawn from studying the data received from forty-three states.

In the area of expenses, an itemized list of annual costs is fundamental. The total annual amounts paid in salaries and wages, the cost of gasoline, oil, tires and tubes are some of the essential items which should be reported. Currently, about half of the states provide this information to their state level agencies. Twenty-seven states report salary and wage data and twenty report expenses for supplies. Michigan reports a complete list of these expenses. In addition, maintenance costs should be reported, whether this service is contracted or performed by the school district. Only eight states report contracted maintenance expenses, and fifteen report the cost of repair materials. Michigan reports both. Another important area to be reported is the purchase of vehicles and equipment. Eighteen states, including Michigan, report vehicles purchased

TABLE 2

U.S. STATE D.O.E. REPORTING REQUIREMENTS



for replacement and ten states, also including Michigan, report the purchase of new vehicles. Ohter expense items such as lease costs, payments made to common carriers, other districts, parents, etc. seem essential to a reporting system of this nature. Michigan is one of the very few of the states reporting these items. Twenty-five states report the cost of insurance premiums. Michigan is one of these.

An area of reporting that would assist state agencies in evaluating the efficiency of school district transportation is cost breakdowns, such as cost per vehicle, per pupil, per day, per mile, or per route. Due to the nature of school transportation, it is difficult to evaluate one district's operation as compared to another. Specifically, there are large variations in the number of pupils transported, the number of miles in the district's territory, and the density of the student population. One method of making this comparison is by comparing the cost breakdown statistics mentioned above. Only fifteen states report any of these statistics. The omission of this evaluation in Michigan's reporting system is one of its few faults.

The costs of specialized service should also be of interest to state educational agencies. These items include cost of providing transportation to special education pipils, cost of summer school transportation, cost of providing transportation to unauthorized students (i.e. those living too close to school to qualify for state reimbursement), etc. These items are reported by fifteen states including Michigan.

Another important area for reporting is vehicle inventory data. Although the format varied extensively, more states, (thirty-seven,) reported bus data than any other of the general categories. The type of data pertinent to a vehicle inventory includes, make and year of body and chassis, seating capacity, purchase price, year of purchase, lease price or depreciation amount, maintenance history, and inspection reports. Michigan's vehicle inventory reporting is complete with the major exception of maintenance history. There are only three states reporting maintenance information classified by vehicle.

Other inventory information reported includes parts inventory and facilities inventory. Oregon is the only state which provides information concerning facilities and North Carolina is the only state reporting value and quantities of parts in inventory. Michigan's facilities information is reported along with all school building information and is kept at the state on computer files.

The operational core of transportation is route data. Only three states send their route maps to the state agency. In Michigan these maps are sent only to the intermediate school district for verification. Six states provide verbal descriptions of the routes and fourteen states report mileage per route. This data should be mandatory in a reporting system. Other data found to be reported includes, stops per route, distance between stops, time to traverse routes, and deadhead mileage. The route information reported to Michigan's Department of Education is minimal, consisting only of mileage per bus. Other data concerning the operation of school buses that should be required to be reported is the number of days of operation and the number of trips per bus in a half day. Thirty-one states are reporting in this area.

Ridership information should also be of prime interest to state agencies. Total daily passengers reported by nearly all of the states, is most important. Further breakdowns such as passengers per vehicle and per trip (route), would also be helpful in the evaluation of the transportation operation. Michigan provides the passenger counts by vehicle. Further, spearate reporting of public and non-public, special students and regular students, and resident pupils and non-resident pupils is important. This information is reported by twenty-eight states. Michigan reports all three.

In the area of insurance and safety, very little reporting occurs. Michigan's school districts are required to submit an accident report after the occurence of an accident. Thirteen other states follow this procedure and nine states report accident data annually. There is a minimal amount of employee data transmitted to state agencies along with transportation data. However, these records are submitted along with other educational reports. Seven states report the number

of employees, four states report the wage scales, and eleven states report personal information about bus drivers. In Oregon, the application for a bus drivers license is processed by the State Department of Education.

In the area of contracted service, little information aside from total cost is provided by school districts. Thirteen states require the name of the organization providing contracted services. In this respect, Michigan's reporting is complete. Several of the states reported revenues received from local appropriations, federal and state funds, reimbursements from other districts, and income from fares. Where applicable, this data should be sent to state agencies.

In reviewing the reporting procedures of the various states several points became obvious. Firstly, the quality and quantity of data reported to the state level agencies is more widely varied than originally expected. Secondly, the type of data reported indicates that the primary objective of most states reporting systems is to calculate state reimbursement. And lastly, it appears that very few of the states utilize the reporting system to evaluate the level of efficiency of their school transportation operation.

Public Transportation Reporting Requirements in Michigan

The investigation of existing reporting procedures for mass transportation agencies in the state of Michigan commenced with a study of the statutes under which transportation agencies are permitted to operate. Mass transit operators in Michigan are empowered by one or more of the following legislative acts: the Motor Carrier Act, the Home Rule Act, the Municipal Authority Act and the Metropolitan Authorities Act. Each piece of legislation and associated rules and regulations were examined for state level reporting requirements. The results and conclusion of this study are described in the pages that follow.

Michigan Public Service Commission - Motor Carrier Act

The Michigan Public Service Commission (MPSC) is part of the Michigan Department of Commerce and is the state's regulatory agency. Among its powers and duties is the regulation of passenger and freight carriers. The

following transit operators report to the MPSC:

The Bee Line, Inc.
Brooks Bus Line, Inc.
Delta Bus Company
Empire Bus Line
Grand Rapids Transit Authority
Great Lakes Transit Corp.
Greyhound Lines, Inc.
Indian Trails, Inc.
Indiana Motor Bus Co.
Inter City Bus Line
Martin Lines, Inc.
Mercury Bus Lines, Inc.
Metropolitan Transit, Inc.
Muskegon Transit Authority
North Star Line, Inc.
Short Way Lines, Inc.
Tower, Inc.
Valley Coach Lines, Inc. (Ross-Edward-Mann Co.)

The regulatory function in Michigan has been transferred several times during the past fifty years. In 1919, the Public Utilities Commission (PUC) was established as the state's regulatory agency and its predecessor, the Michigan Railroad Commission, was abolished. In 1939, the duties and powers of the PUC were transferred to the Michigan Public Service Commission and the PUC was abolished. Later, in 1965, the MPSC was transferred intact to the Department of Commerce.

It was in 1933, however, that the legislation directly affecting mass transportation by bus was passed. Act 254 of the Public Acts of 1933 as amended called the Motor Carrier Act, specifically defined the powers and duties of the commission (then the PUC, and later the PSC) to regulate the operation of motor carriers in the state of Michigan. Article 2, Section 1 of the Act states, "No common motor carrier of passengers or property shall operate any motor vehicle for the transportation of either persons or property for hire on any public highway in this state except in accordance with the provisions of this Act. It shall be unlawful for any common motor carrier of passengers or property to

operate upon any public highway without first having obtained from the commission a certificate of public convenience and necessity."

With regard to reporting requirements, Article 2, Section 10 states that the commission is empowered to require common motor carriers to file "annual and other reports, tariffs, schedules and other data."

Article 5, Section 2 defines those motor carriers that are exempt from the Motor Carrier Act. Specifically Section 2a states, "This Act shall not apply to vehicles operated entirely within any city or village of this state; nor to motor carriers of passengers whose local operations may extend a distance of not to exceed 2 miles beyond the boundary of such city or village in which such local operations are wholly carried on, provided such extension shall not be to or into another city or village...and further provided the territory within the external corporate limits of any city, even though it shall include and embrace the area of 1 or more separately organized and existing cities, shall for all purposes under this Act be held to a single city".

Other vehicles which are exempt from this Act include those owned or operated by the state or federal government, those owned by local governments used for governmental purposes, school buses, vehicles used to carry U.S. mail, vehicles used to carry specifically exempted commodities, and certain dump trucks.

Definition of the reporting requirements is set forth in the motor carrier rules which became effective on June 1, 1971. Rule 131 being R460.15131 states that, "(1) On or before March 31st of each year, a motor carrier holding authority from the commission shall file an annual financial report with the commission on duplicate forms to be furnished by the commission. The report shall be prepared from the carrier's books, which shall be kept strictly in accordance with the uniform system of accounts for motor carriers of passengers and property. The report shall cover the last preceding calendar year of the carrier. A fiscal year may be used with prior commission approval. One copy complete in every detail shall be filed with the commission and one shall be retained by the carrier as part of its permanent records. An annual report for a Class I

or a Class II motor carrier shall be filed with the Interstate Commerce Commission will be accepted as the annual report."

"(2) The commission may require Class I and Class II carriers of passengers and property to file quarterly reports of operating revenues and operating expenses and other data on forms to be furnished by the commission."

As defined by the Transportation Division of the Michigan Public Service Commission, a Class I motor carrier is one whose gross annual operating revenue is in excess of $200,000. Such Class I carriers are required to file annual financial and operating reports with the MPSC. The form used for this purpose is a standard format employed by the Interstate Commerce Commission, entitled "Form D". This fifty-page Class I annual reporting format is reproduced in its entirety in Exhibit 23.

Briefly, the annual report is almost totally financial in nature. The bulk of the information requested relates to a detailed examination of the carrier's balance sheet and income statement. It does require a listing of all revenue equipment, in its examination of the carrier's property holdings, and requests information on vehicle age, and seating capacity as well as cost. Significant non-financial data can be found in "Schedule 9002" and "Schedule 9007". The former requests a listing of the number of people employed by functional area, while the latter requires the reporting of certain "operating statistics", including information on the number of bus miles operated, amount of passenger revenue classified by local or intercity service, and certain operating averages. In summary, the Class I carrier annual report provides an excellent representation of the financial position of the individual operator, but only the minimal criteria for assessing the operational health of the transit system itself.

The commission also requires quarterly reports to be filed by Class I carriers. This one-page capsule report requires the filing of a quarterly income statement and several operating statistics, such as number of miles operated and number of passengers carried. This Class I quarterly report is shown in Exhibit 24.

Class II motor carriers are defined as those operators whose average

gross annual operating revenue is between $50,000 and $200,000. Class II carriers are required to file annual reports with the commission using a form considerably less detailed than the Class I "Form D". While the Class I annual report is for the use of motor carriers of passengers only, the Class II report is used by carriers of either passengers or property. This reporting format is reproduced in Exhibit 25.

This twelve-page report is also primarily financial in nature. It requires information on the control and ownership of the carrier, a balance sheet, an income statement, and data which expands on some of the major financial accounts, such as revenue equipment and other property. One section of the report again requires the filing of certain operating statistics, such as fuel and oil consumption, number of passengers carried, and amount of passenger revenue classed as either local or intercity. Summarizing, the Class II annual report provides a sufficient amount of financial data, but again there is minimal information on which to base comparative or absolute evaluations of transit operating characteristics.

Class III motor carriers are defined by the commission as being those operators whose gross annual revenue from transit operations is less than $50,000. Under present Michigan regulations, Class III motor carriers are not required to file any reports with the Public Service Commission.

Home Rule Cities Act

In 1909, legislation was passed which provided for the establishment of cities as corporate bodies and outlined permissible charter provisions. Of the transit operators responding to this study, the following are organized under the Home Rule Act:

Bay City Commuter Service, Inc. (now defunct)
Department of Street Railways (Detroit)
Kalamazoo Metro Transit Lines

Section 4f(2) of P. A. 279 of 1909 as amended states that each city may in its charter provide "Transportation facilities. For owning, constructing and operating transportation

facilities within its limits, and its adjacent and adjoining suburbs within a distance of 10 miles from any portion of its city limits, if according to the next preceding United States census, or local census taken by authority of a resolution of the legislative body of such city, it had a population not less than 25,000 inhabitants."

In accordance with this Act the transportation services offered within a city and its suburbs are regulated by the municipal government and any existing reporting requirements are defined by the local government. Accordingly, it is recommended that further study of individual local government reporting requirements be initiated in the future.

Municipal Authorities Act

In 1963, in response to the difficulties experienced by many bus systems in the state, new legislation was passed allowing for the incorporation of tax exempt transportation authorities. Act No. 55 of the Public Acts of 1963, provides "for the incorporation of public authorities to acquire, own, and operate or cause to be operated mass transportation systems." According to the Act, any city with a population less than 300,000 is permitted to form such an authority in order to provide a mass transportation service within the city and two miles outside of the city. However, the Act further states that service cannot be provided outside the two mile limit unless the Authority complies with the provisions of the Motor Carrier Act. In 1969 this Act was amended by Public Act No. 212 of 1969 changing the two mile limit to ten miles.

The following transit operators responding to this study are organized under this Act.

Ann Arbor Transportation Authority
Battle Creek Transit Authority
Grand Rapids Transit Authority
Jackson Public Transportation Co.
Capitol Area Transportation Authority
Muskegon Transit Authority

Since no reporting requirements are specified in either Act, it appears

as though it was intended that the municipal governments regulate and establish their own reporting procedures for their own transportation systems.

Metropolitan Authorities Act

In addition to the legislation described above, another authorities act was passed in 1967 to accommodate the need for a more regional approach to transportation decision making. In 1967, the State of Michigan passed the Metropolitan Transportation Authorities Act, Act No. 204 of the Public Acts of 1967. According to this statute, "Regional transportation authorities in major metropolitan areas of the state may be established at such time as 1 or more contiguous counties elect by majority vote of the boards of supervisors to establish or participate in an authority." An authority established under this Act is exempt from the motor carrier act and the public service act in providing mass transit within its geographical boundaries. The Southeastern Michigan Transportation Authority (SEMTA) and the Muskegon County Metropolitan Transportation System have been organized under this Act.

With regard to reporting, the Act states that the authority is required to prepare and submit to the board of directors for its approval annually, operating budgets and capital budgets thirty days before the beginning of each new fiscal year. The authority also must submit this information and financial audits and construction plans to a regional governmental and coordinating agency where one exists for review, before final approval by the authority board. Lastly, the authority must prepare and publish a detailed public report and financial statement at the conclusion of each fiscal year. Although the reporting requirements have been marginally defined for regional authorities, the requirements are limited to reporting to regional governments as opposed to a state level agency.

In summary, the state level reporting requirements for agencies providing mass transportation in Michigan are limited to the MPSC requirements for Class I and II motor carriers and appear to be ineffective from the point of view of providing a total picture of mass transportation in the state. The MPSC requirements,

while complete from the financial aspect, do not require sufficient operational information to determine an adequate picture of the service provided. Furthermore, the Class I and Class II operators required to report, comprise less than half of the number of agencies providing transportation in the state.

SECTION THREE

RECOMMENDED ANNUAL REPORT SYSTEM

Information System Output Requirements

The primary objectives of the Michigan Information System as stated in the introductory section of this report are to provide the capability to continually assess transit management practices including the identification and evaluation of transit management problems, future trends, adequacy of service levels including the identification of service level needs and, to make transportation data available to a wide variety of individuals and agencies that have need for transit system data. These capabilities of course, are also necessary for the Bureau of Transportation to carry out its transportation advisory and financial assistance function. As such, the information system should minimally make data available so that economic viability, system efficiency, and adequacy of service levels can be evaluated for the public transportation companies and agencies in the state. Within the framework of these three main areas it is felt that the Bureau of Transportation can make decisions concerning both financial assistance to and improvement of public transportation services in the state of Michigan. Accordingly these three areas of evaluation were selected as the output requirements and output goals of the proposed information system. It is likewise felt that the system developed here could meet all the MPSC requirements.

Identified below are a series of criteria or measurements that can be used to evaluate bus systems as to system efficiency, economic viability, and adequacy of service levels. These criteria are a combination of a number of those in general use in the transit industry as well as those identified during the course of development of the Michigan Information System. Each criteria listed below is associated with a number of appropriate output usages or measurements applications of the criteria:

A. System Efficiency

Criteria	Output Usage/Measurement Application
1. Total operating cost per mile	Comparison with previous time periods; comparison with other systems;

Criteria		Output Usage/Measurement Application
2.	Ratio of fixed cost to variable operating cost	Measure overhead; comparison with other systems
3.	Variable operating cost per mile	Measure cost of running service; comparison with other systems; project costs for system expansion
4.	Passengers per vehicle mile	Route evaluation; headway planning; comparison with other systems
5.	Ratio of passenger seating capacity to ridership	Alignment of system service supply with demand pattern; evaluation of potential for special purpose service; comparison with other systems
6.	Average travel speed	Evaluation of potential for reserved bus lanes; headway planning; route changes; comparison with other systems
7.	Percentage of vehicle seating capacity utilized	Evaluation of vehicle sizes; route planning and consolidation; comparison with other systems
8.	Percent of bus mile operating cost in salaries and wages	Evaluation of salary and wage levels; proper mix of drivers and support personnel; comparison with other systems
9.	Maintenance cost per vehicle mile	Overall test of vehicle age, maintenance policies and procedures, fleet size and utilization; comparison with other systems
10.	Personal injury and property damage claims per vehicle miles traveled	Evaluate driver skill and experience levels; evaluate present insurance coverage and future coverage requirements; evaluate effectiveness of safety programs; comparison with other systems
11.	Employee turnover rate	Evaluate wage scale; experience level; effect on system operating cost; comparison with other systems
12.	Ratio of bus hours of service to hours of bus layover	Evaluate route coverage; schedule adequacy; route extension potential, system efficiency; comparison with other systems

B. Adequacy of Service Level

Criteria		Output Usage/Measurement Application
1.	Route miles per square miles of service area, per arterial	Evaluate service provided to community, route planning, special purpose service

Criteria		Output Usage/Measurement Application
	miles, per total street miles	potential; comparison with other systems
2.	Bus miles per identifiable population density groupings	Evaluate service provided to individual population groupings, comparison with other systems
3.	Hours of the day that bus service is provided	Evaluate service provided to community; comparison with other systems
4.	Operational headways by time of day	Comparison of service frequency to present ridership; forecast potential ridership; evaluate service attractiveness; comparison with other systems
5.	Bus run time in relationship to auto travel time	Evaluate bus service attractiveness; evaluate bus service in terms of true alternate transportation mode; comparison to other systems
6.	Average age of bus and whether air conditioned	Evaluate service alternatives; comparison to other systems
7.	Public transit passenger cost vs. auto trip cost	Evaluate service attractiveness, public cost; comparison to other systems

C. Economic Viability

Criteria		Output Usage/Measurement Application
1.	Revenue by passenger classification	Evaluate system revenue contributions by passenger groupings; determine the rationale for fare classification between passenger groupings; comparison to other systems
2.	Ratio of total operating cost to fare box revenue, to total fare box and operating revenue	Measures system financial support capability, public subsidy requirements; comparison to other systems
3.	Percentage of fare box revenue from regular fares, special reduced fares	Evaluate present passenger market and potential; comparison to other systems
4.	Maintenance cost as a percentage of total cost	Evaluate potential savings from new operating equipment; evaluate maintenance skill and experience; evaluate potential for new maintenance equipment; comparison to other systems
5.	Marketing cost as a percentage of total cost	Evaluate service marketing effort; comparison with other systems
6.	Operating ratio (operating revenue divided into operating expense and expressed as a percentage)	Measure general financial performance; comparison with other systems

As will be noted later in this section, the design of the Michigan Information System provides for the collection of most of the basic input data and information necessary for use with the evaluation criteria above. The Adequacy of Service Level criteria does form one general exception. Items 1., 2., 5., and 7. will require BOT procurement of street mileage, population density, and auto trip time and cost data from sources other than operating transit systems. In addition, based on the data collection visits to the transit operators in the state, it became rather apparent that detailed route by route data on expenses, revenues, and passengers was in almost all cases not available as a matter of course. This data is considered essential for BOT to carry out its transportation evaluation and financial assistance functions. Accordingly, it is recommended that in the short term the BOT strongly encourage the accumulation of this type of data by transit operators while for the long term it is recommended that the BOT encourage and assist the transit operators in the procurement of vehicle on-board fare collection and passenger recording devices that will provide for automatic accumulation of this data.

The bus system evaluation criteria above are a relatively comprehensive approach for BOT use in carrying out its transportation advisory and financial assistance functions. However, it is not an exclusive listing and consequently experience with them and with the basic data furnished by the Michigan Information System should lead to the future development of additional and perhaps more incisive evaluation criteria. Moreover, it should be noted that although an attempt was made to classify these criteria into the general areas of system efficiency, service level adequacy, and economic viability, none of these areas are mutually exclusive. Hence, some of the criteria classified for use in one area may be useful in another as well.

Annual Report System Format Design

The recommended data format for the Bureau of Transportation's Management Information System Annual Report was developed utilizing the information

reviewed in Section Two and the Output Requirements and goals described above, as well as a survey of Michigan transit operators. Many data items included in the preliminary survey have been incorporated into the recommended format, while others have been eliminated. Additional items, excluded from the preliminary survey, have been developed in response to the suggestions provided by the user group meetings and the state DOT contacts. The attempt has been made to use the most useful segments of other states reporting practices and to incorporate these into an expanded format to achieve the output objectives, the needs of the various user groups and the administrative responsibilities of the Bureau of Transportation. The recommended annual report format is generally considered to be capable of fulfilling such a purpose, and is shown in its entirety in Appendix A.

As an additional input in determining the nature of the requirements of potential users of a public mass transportation information reporting system, as well as those who would provide input to the system, a questionnaire was designed and distributed to all Michigan intracity transit operators, regional and city planners, and interested state agencies. In addition, meetings were held with some of these groups to discuss the specific applications of an annual report series. Based upon the information obtained from these sources, and that collected from the DOT states, the items to be included in the annual report were selected.

The content of the questionnaire designed for this survey, was essentially a list of transportation data items that initially were considered for inclusion in the reporting system. The input data items were organized in categories including:

A. Organization and Management Practices
B. Revenue Data
C. Expense Data
D. Balance Sheet Data
E. Subsidies
F. Capital and Demonstration Grant Funds
G. Fares
H. Ridership
I. Routing
J. Scheduling

K. Operational Data
L. School Service Provided by Contract
M. Contract Charter Service
N. Random Charter Service
O. Vehicle Inventory
P. Major Facilities Inventory
Q. Passenger Shelters Inventory
R. Safety and Insurance
S. Employee Data
T. Planning

Under each category, the items were listed and the respondent was asked to mark one of the phrases "essential", "useful" or "unnecessary" regarding the value of reporting the item. 47 questionnaires were mailed to municipal and regional planners. Of these, 16 were completed and returned. 17 questionnaires were given to transit operators, and 13 of these were returned. Responses from state agencies were not large enough to be included as a meaningful sample group.

In general, most categories of data items were thought to be valuable parts of a reporting system. The specific variations in response were found to be extremely helpful in formulating the final reporting format. With regard to these user groups, it is recommended that prior to final implementation of the proposed public transportation reporting system these same individuals and agencies should be offered the opportunity to review and comment upon the recommended system, to ensure that their usage requirements are satisfied.

The first page of the annual report requires very basic data on the carrier and its operations. It provides a quick reference source for basic system comparisons. The second page provides a set of instructions and definitions used in the preparation of the report. Page three deals with the individuals involved in the policy and operating management of the transit system. This type of administrative information schedule is in accord with the ICC "Form D" and with the reporting requirements of the states of California, Connecticut, Massachusetts, New Jersey, New York, Pennsylvania, and Wisconsin (hereafter referred to as "the seven DOT states"). The fourth page of the report requires the filing of certain major operating statistics on a historical basis, that is, covering the operations of the last five years, and the inclusion of a current year balance sheet. The filing of a balance sheet is a requirements under the ICC "Form D" and

of all of the seven DOT states previously enumerated. The balance sheet was also an item strongly advocated by the user groups for inclusion in the annual report. Page five of the annual report is the recommended standardized income statement. Like the balance sheet, the income statement is a basic requirement of the ICC "Form D" and of the reporting practices of the seven DOT states, in addition to being advocated by the surveyed user groups. It should be noted that the operating revenue segment of the recommended income statement is more detailed than is usually found. This amplification of revenue data was designed to better fill the stated output objectives and the needs of the various user groups and of the Bureau of Transportation's transit analysis functions. While the corresponding detailed analysis of operating revenues is somewhat unusual, the similar treatment of operating expenses is common reporting practice. Such operating expense detail is found in the ICC "Form D" and, to varying degrees, in the report formats of the seven DOT states. The lower portion of page seven, requiring transportation and maintenance expenses for regular linehaul route service which is to be separated from the data for the entire system, has been designed to accommodate the needs of user groups which expressed particular interest in expense data classified by service type. This type of classification will provide information necessary for comparative and evaluative analysis, as defined in the output requirements section of this report.

Most of the remainder of the annual report deals with transit operational statistics. The first segment deals with information concerning regular route urban service. Page eight requires a classification of total annual ridership and revenue by type of fare collected (regular, student, elderly passengers) for each regular linehaul route operated. This was felt to be essential in preparing the types of analyses specified by the output objectives. The recommended schedule in the annual report combines report formats of the DOT states to yield a measure of route revenue and utilization by type of passenger. Page nine requires the reporting of data concerning the number of passengers carried daily on each route leg classified by time of day. This schedule also requires such information to be reported for an average day during each of the four quarters

of the year. This was included based on the output objectives and the expressed interests and needs of the user groups. The transit system's fare structure and the annual number of passengers carried classified by fare paid are covered on the tenth page of the recommended report. The consensus of the user groups substantiated the need for reporting these data. Page eleven requires information on the route structure on which regular service is operated. This data was selected according to the output objectives and was, in addition, endorsed during the user group surveys. Page twelve deals with regular route scheduling data, requiring information on running times, travel speeds, and layover times. The data items chosen for inclusion on this page were tested with the user groups during the preliminary surveys. Those items appearing on this page received substantial endorsement from nearly all of the report's potential users. The frequency of service on each regular route is the subject of page thirteen. The format requires information on these route headways throughout five periods of the weekdays in addition to daily averages from Saturday and Sunday. The subject of frequency of service on each route, which is closely related to the data required by the preceding page, was considered by the user groups to be the most important part of this series dealing with regular route scheduling. The fourteenth page of the report measures the maximum transit capacity of each regular route. The preliminary design of the format dealing with system capacity was tested during the user group surveys. This original format was somewhat more detailed in that it required the reporting of route capacity specifically by time of day. Response of the user groups, however, indicated that this degree of detail would be unnecessary. The present structure of the format reflects these opinions by being less detailed, but still providing a measurement of seat capacity by route which was considered necessary for analysis and thought to be valuable by the potential users of the annual report.

The next major segment of the proposed format deals with transit operations conducted in other than regular route service. Page fifteen relates to special purpose "tripper" services which may be periodically added by the carrier to the regular route system. The individual data items selected for inclusion in this

format were based upon the output objectives and the user group responses. The next page of the report deals with contract school bus services provided by the carrier. The consensus of the user groups was to advocate the specific items which appear in the present format. An additional data category, requiring descriptions of each school bus route, had been included in the preliminary format, but on the basis of the views of the user groups, this item has been eliminated. Several DOT states require the reporting of school bus operations. Page seventeen requires the reporting of information similar to that for school operations since this format relates to all transit services, other than school operations, provided under contract. The data items required by this schedule were approved by the user groups, with particular interest being expressed by the municipal planning personnel. Page eighteen of the recommended annual report deals with charter bus operations which are "random", that is, not operated on a regularly contracted basis. The consensus of the user groups substantiated the inclusion of these data items, with very significant interest being expressed by the municipal planners group. The transit operators group also advocated strongly the reporting of charter hours and charter miles operated. The following page of the report format, the last of the non-regular route service section, deals with dial-a-bus operations. Since such transit service is a relatively new development, it was not surprising to find that no existing report format examined during the study dealt specifically with dial-a-bus operations. It was felt, however, that with the present existence of such highly differentiated transit service, a specifically designed reporting format would be advantageous for the administrative responsibilities of the Bureau of Transportation.

The next several pages of the annual report relate to the physical characteristics of the transit system. The first page of the series, number twenty, requires several data items on the vehicle fleet used by the carrier for its transit operations. Such a bus inventory is a nearly universal requirement of existing reporting systems. It is a specific schedule of the ICC "Form D" annual report, and, in various format styles, a requirement under the present practices of California, Connecticut, Florida, Massachusetts, New Jersey, New York, Pennsylvania, and Wisconsin. In addition, the responses of the user groups gen-

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erally advocated all of the specific data items included here. Maintenance histories for each vehicle, an additional item appearing in the preliminary data listing, was considered unnecessary by the majority of the user groups surveyed and was therefore excluded from the annual report. Page twenty-one required descriptions of the facilities, such as terminals and garages, maintained by the carrier. The results of the user group surveys supported the appearance in the annual report of this material. The specific data items included are those which yielded most interest, particularly from the planners group. Several other specific items, such as detailed descriptions of financing methods and of particular pieces of maintenance equipment, generated little support during the preliminary data surveys and were subsequently eliminated from consideration in the annual report. Page twenty-two concludes the physical characteristics section of the annual report. It requires descriptions of any passenger shelters maintained by the transit operators. The inclusion of this schedule in the annual report was advocated by a majority of the user groups surveyed, with particular usefulness seen by the municipal planners.

The remaining pages of the recommended annual report format involve a number of relatively unrelated, but yet important, subjects. Together, they serve to add to a more complete data base. Page twenty-three requires descriptions of any changes in transit service made during the year covered by the report, including changes in the routes operated, service frequencies, the fare structure, etc. This format will provide a useful basis for system comparative analysis to effectively measure the development of any discernable trends within Michigan's transit industry. The next page requires the filing of basic information concerning any grant funds which have been applied for by an eligible transit system. The addition of such a format relating to these funds was endorsed by nearly all of the responding user groups. A similar majority endorsement was given to a proposed format dealing with any public assistance funds received by the carrier. These funds are the subject of the reporting schedule shown on page twenty-five. The following page, twenty-six, requires information on the personnel of the transit company. This is another type of

reporting form which is quite universal in application. In addition to being a separate schedule of the ICC "Form D", it is, in various designs, a part of the reporting structures of the DOT states. Also, the appearance of such a format in the annual report was supported by the results of the user group surveys. The subject of the following page is safety and insurance, a matter of considerable importance to both the state administrators of transportation policy and the state's transit operators. This concern was clearly substantiated by the preliminary survey results. The final page of the annual report system is designed to provide its users with potentially valuable forecasts of transit operating data. This format should also be useful in aiding to turn attention to the potential future of the state's mass transportation systems, rather than simply the experiences of the recent past.

Analysis of Recommended Annual Report System

One of the fundamental considerations in the design of an information reporting system is whether the input data requirements of the system can be met. Prior to the development of this reporting system for Michigan public transportation, a preliminary evaluation was made of the capabilities of the transit operators to provide the data and throughout the development phase of the annual report system format the extent to which the transit operators could supply the data in the future was kept in mind. In reviewing the proposed annual report system format it appears that the transit operators, with some additional effort, can provide all of the data requested with minimal assistance from the BOT, and that these demands are well within reason particularly in light of the benefits that will be derived from the successful implementation of the reporting system. Further, it was felt that nearly all of the data requested by the reporting format is of primary importance to the successful operation of a transit system so the collected information would serve a dual purpose. Lastly, it was found that in many cases the source data is currently being recorded, requiring no additional work.

Based upon the design of the annual report system format a wide variety of data has been specified. In most instances the input requests are straight-

forward and need not be belabored, however, there are several points worth noting. Most of the transit operators presently have records on each of the general areas specified by the annual reporting format. The discrepancy between the data recorded and the data requested is in the amount of detail. For example, although most operators categorize revenues by service type, very few of the operators can presently provide revenues (or ridership) by route. Similarly, few operators have itemized revenues or ridership by fare classification. And, only two operators out of those directly contacted were able to provide ridership figures by time of day. This is the type of data that is most costly and time-consuming to collect and will require the greatest efforts in obtaining. Another area which will require attention is the separation of regular route expenses from the total system expenses. Currently only one operator records in this manner. Budgeting or the forecasting of revenues and expenses is another area which seems to be insufficient at this time. From the data obtained for the 1971 annual reports is appears that either none of the transit operators prepare budgets or, many were unwilling to release this information.

In review of the above, the request for input data specified by the annual reporting format will necessitate some additions and changes in the record keeping procedures utilized by the transit operators. However, it is felt that once the new procedures are defined and tested, little added work will be involved. Also, for the data most difficult to collect, alternative solutions to manual collection are possible. Automated devices such as recording fare boxes could, for instance, greatly facilitate the task of gathering passenger and revenue data and have been found to be successfully utilized in several public transportation systems outside Michigan. Accordingly, it is recommended that BOT encourage the acquisition of such devices by the public transit operators in the state.

Implementation of Recommended Annual Report System

The foregoing discussion deals with the objectives, development and data requirements of the Michigan information reporting system. These are of utmost

importance, however, unless the recommended report system is implemented, this effort will be of minimal statewide value. In the implementation of the annual report system, the primary areas to be considered are scheduling of implementation,cost and manpower requirements. Throughout the development of the reporting system the question of "phased" implementation of the reporting requirements has been raised by some operators and authority members. It is the feeling of the Bureau of Transportation that the entire format must be implemented simultaneously. This holds for three reasons, first, to be meaningful, all the data is needed, second, one part of the report may well depend upon another for backup support, and finally, any new system presents problems as it is put into use. Implementing various parts at different times would only compound any difficulties.

The first series of statewide transit reports was prepared by the consultant's staff, future reports will be completed by the transit operators with assistance as needed, provided by the Bureau of Transportation. In order to successfully implement the recommended annual report system, the BOT needs staff capabilities to assist in the Annual Report System data preparation and interpretation. To achieve this it is recommended that the BOT expand its resource management function. In addition to the management function, this expansion could also include personnel serving as field representatives who would have a working knowledge of the transit industry and who would regularly visit the public transit agencies. Among their suggested duties are: to review sampled data for accuracy to ensure local understanding of the reporting system, to review the data gathering methods, to verify use of State funds and to provide assistance as needed to the transit systems in the preparation of the Annual Report. Additional exposure to various transit operations will enable the BOT staff to improve its knowledge of problems and be able to relate these to existing and proposed transit programs and policies. Finally, the additional staff could provide the capability to analyze the annual reports and develop comparative statistics on Michigan public transit services. Since most of the transit operators participating in the reporting system will be interested in qualifying for state aid,

it seems that the transit operators will be willing to satisfy the requirements of the reporting system.

The cost of implementation to the transit operators is more difficult to ascertain. Most of the needed information is presently collected by all Michigan operators in some format. Some extra effort will be needed to compile and prepare the actual report but even in the case of the largest operator, Detroit Street Railway, it is not felt to be an overbearing task. To lighten the effort somewhat is the fact that much of the requested information need be supplied once, and repeated only when there is a change, such as route structure, capital equipment, grants, etc. The annual input data which must be supplied every year will be determined by the BOT, but most of the data in this category is straight-forward. To assist in the preparation of the Annual Report it is recommended that a detailed instruction manual be written to accompany the Annual Report. This manual would define all of the terms used in the Annual Report format and would outline data collection procedures, where necessary, to ensure consistency in the completed Annual Reports. This should greatly aid the transit operators in the task of complying with the reporting system.

Also, with regard to implementation, it is recommended that the Bureau of Transportation tentatively plan to automate the proposed Information System after several years of successful "manual" operation. This suggestion is made based upon the large quantities of data involved in the reporting system and need for repetitive types of data manipulation as such, the Public Transportation Information Reporting System is ideally suited as a computer application and over time would minimize manpower and cost requirements. The recommended delay in conversion is based upon the need to finalize the reporting system prior to any attempts to implement it on a computer system. It is expected that many changes will result during the first several years of implementation.

Lastly, since the implementation of the proposed Information Reporting System is likely to affect and be affected by the present procedures of other agencies at the state and federal level it is recommended that continued contact be main-

tained with all such groups and that arrangements or agreements be made as needed. Agencies that were contacted during the development phase of study include the Michigan Public Service Commission, the Michigan State Department of Education, Michigan's Management Sciences Group, Michigan Department of State Highways, and the U.S. Department of Transportation. All of these departments and agencies expressed interest in the proposed system and indicated that they would like to be kept informed of its progress. Since it is unknown at this time as to how these groups will interact with the recommended system, the specific role of each organization will need to be clarified as the program is developed.

Legislation

To be effective, the recommended transit information system should be implemented in an accurate and timely manner and the data supplied to the system must be complete and consistent. To accomplish this, legislation should be enacted stating that certain transit operators must file a report at a specific interval to a designated State agency. From this the designated agency will promulgate administrative guidelines to detail the filing process. This section describes the broad nature of such legislation and guidelines.

In recommending mandatory reporting requirements, the first consideration is who will be affected and why. In this case, it is assumed that the State will be furnishing increased financial aid and assistance to public transportation. The "who is affected" will therefore be those transit properties qualifying for aid under the assistance act. These include systems currently operating under the Home Rule Cities Act, the Municipal Authorities Act and the Metropolitan Authorities Act. Included are Class I, II and III systems as categorized by the MPSC.

The "why" has been subject to some debate of late among local, state, and federal officials. However, it is the increasing opinion of public administration specialists that agencies and persons receiving funds must be accountable. Accountability to the state is becoming increasingly more important as the

state's participation in local problems increases in both amount and scope. Public awareness of tax dollar expenditures will become better through reporting formats such as that developed here. Without such requirements the needs, problem areas and fund expenditures are not fully known by the state administrators and legislators.

At present, the state transit operators have varying report requirements. These requirements range from none, to full Class I MPSC statements. Moreover, at present, some operators comply, some partially do and, one does not at all. As noted elsewhere in this study, the proposed reporting system is not compatible with those in use today. First of all, the recommended system is more extensive in its non financial data requirements. Financial data is slightly more detailed than some present reports call for, but extensively more detailed than most. Actually, it is this variation in the current reporting practices and requirements that has made interpretation difficult on a statewide basis. The new system format was proposed to eliminate these difficulties by being more comprehensive and consistent. This consistency will be achieved by placing the reporting requirements under the administration of one agency, such as the Bureau of Transportation.

In establishing one legislative reporting requirement, present requirements should be removed from the various Acts and administrative procedures. Upon implementing MIS, there will be no need for continuing present reporting because additional copies of the resulting reports can be furnished to the Michigan Public Service Commission, and to other agencies. Amendments to delete present reporting provisions should therefore be adopted which become effective after the proposed reporting system is fully implemented. Those items noted in Section Two of this report name the Acts affected. The intent of this recommendation is to eliminate redundant report requirements thereby minimizing the efforts required of transit operators.

Thus, it is recommended that any state public transit aid act require that those operators eligible for assistance comply with the requirements of this

annual reporting system. While it is outside the scope of such legislation to name each required data item, the act should state in general that financial as well as operational information be provided. Further this legislation should name the state agency responsible for receiving these reports and administering the intent of the Act. The Act, in relating to reporting only, should identify who is to file reports, how often these are to be filed and which state agency will administer the program.

It is recommended that the reporting format described in this report should become the required reporting format. Administrative requirements can identify details of the report. Upon issuance of the requirements, hearings should be held to review the transit operators response to it. Changes can be made if deemed necessary after the hearings but the guidelines will become effective in a given number of days after announcement if no serious problems develop. Other items to be considered in the requirements but beyond the scope of this report include procedures upon failure to report, periodic audits, and appeal provisions.

Implementation of this reporting system can provide accountability to the state for its assistance dollars. The Bureau of Transportation staff will be able to do more than simply disburse aid funds, it can monitor the impact of state dollars and be aware of the health of public transit services eligible for such aid. Copies of any federal reports required in the future should be sent to the BOT for review and consistency with the Michigan reports. Coupled with recommended implementation steps these proposed procedures will ensure a solid data base for decision making.

SECTION FOUR

1971 ANNUAL REPORT

The next phase of the study after the development of an annual reporting system had been completed was to prepare the 1971 Annual Reports for the transit companies doing business in the state of Michigan. In order to accomplish this, attempts were made to contact 39 transit companies. Personal visits were made to:

Ann Arbor Transportation Authority
Battle Creek Transit Authority
Delta Bus Company, Inc.
Department of Street Railways
Grand Rapids Transit Authority
Great Lakes Transit Corp.
Jackson Public Transportation Company
Kalamazoo Metro Transit Lines
Metropolitan Transit, Inc.
North Star Line, Inc.

Telephone contact was made with:

Bay City Commuter Service, Inc. (Defunct)
Capitol Area Transportation Authority
Muskegon Transit Authority
SEMTA - Lakeshore Division

And 25 annual reporting forms were mailed to the remainder of the transit companies. Of these, responses were received from:

Bee Line, Inc.
Brooks Bus Lines, Inc.
Cardinal Buses, Inc.
Detroit and Canada Tunnel Corp.
Indiana Motor Bus Company
Mercury Bus Lines, Inc.

In addition to the data supplied directly from the transit companies the files and records of the Bureau of Transportation were found to be extremely helpful in the preparation of the Annual Reports as were the records maintained by the Michigan Public Service Commission.

Based upon the data gathered from these various sources, the 1971 Annual Reports were assembled. It should be noted here, however, that much of the

data necessary to complete the Annual Reporting forms could not be obtained. This is documented in Exhibit 28, which includes those companies visited or contacted by phone or mail. As was expected, some of the data is simply not being recorded by the transit companies. In other cases, the transit companies did not respond to our requests. In addition, it should be pointed out that there is a wide variation in the methods and procedures used by the transit companies in compiling statistics. Therefore, a cautionary note is included here. Those comparative statistics shown in the pages which follow have been based upon the data supplied by the transit companies without verification of collection procedures. Lastly, due to the variation in the concurrency of fiscal years, each annual report identifies the twelve month period covered by the report. The data in the comparative charts should be analyzed with respect to these periods.

Analysis of 1971 Data

1971 Annual Reports were prepared for twenty-eight transit companies doing business in Michigan. The companies included are those which were interviewed personally or by telephone, those who responded to requests for information by mail, and lastly, those who had current reports on file with the Michigan Public Service Commission. Following the completion of the Annual Reports the next and final phase of the study commenced. A review and analysis was made of the data provided by the annual reports and based upon this information charts were assembled of comparative and evaluative statistics. The purpose of this section of the report is to present a brief interpretation of their meaning or significance. It is intended that this data will form the basis for the types of analyses and conclusions specified in the output objectives of this report. It should be noted here that many of the statistics described in output objectives sections have not been included in the initial reports. This was due mainly to the fact that the base data necessary was unobtainable from the transit operators for the current year.

According to the first comparison 20 transit operators out of the total of 28 have negative net operating revenues for their preceding fiscal year of opera-

tion. Operating ratios range from 76.36 to 208.51, the former for Intercity Bus Lines and the latter for the Ann Arbor Transportation Authority. There is a wide variation in the operating revenues of the operators listed. With the exception of Greyhound's national system, revenues range from $37,354,646 for the Department of Street Railways, a public intracity carrier to $55,044 for Bee Line, Inc., a private intercity carrier.

The next set of data chosen for comparison is a breakdown of operating revenue and public assistance. A breakdown of operating revenue was included to ascertain and compare the revenues received from regular route service. Eighteen operators offer regular route service within urban areas, while nine operators run their regular service on intercity routes. Seven operators receive more than half of their revenues from sources other than regular routes, i.e. from contract and charter service. Seven transit operators receive public assistance ranging from $2,174,000 for the DSR to $10,000 for Jackson for the preceding fiscal year.

Total annual vehicle mileage was compared with annual vehicle mileage for urban regular route service, annual vehicle mileage for intercity service and, the number of route miles served. Total annual vehicle miles varies widely. With the exception of Greyhound, the DSR recorded the greatest number of miles at 36,146,845 and Bee Line, Inc. recorded the least at 91,680. Annual vehicle mileage on regular routes within urban areas range from 33,688,440 for the DSR to 13,000 for Mercury Bus Lines. Intercity route mileage for the last fiscal year ranges from 420,056,989 for national Greyhound to 7,200 for Cardinal Buses. The regular route miles served defines the street miles on which service is offered. The largest urban bus system is the DSR and the smallest is Jackson.

The next set of data selected for comparison is total system ridership and regular route ridership. Several of the urban bus systems do not record charter passengers so that total annual passengers is reflective of regular route service and contracted service only. Total annual ridership ranges from 103,175,743 passengers for the DSR to 17,926 passengers for Bee Line. With the exception of Greyhound and DSR, for which data was unavailable, urban regular route ridership ranges from 4,811,042 passengers for Great Lakes Transit to 65,700 for Delta Bus

Company in Saginaw. Intercity regular route ridership ranges from 65,808,159 passengers for Greyhound to 3,021 passengers for Bee Line.

The next set of data selected for comparison is fare rates. The standard rate for adult passengers for urban regular route service varies from $.25 for Martin Lines to $.40 for DSR, Delta and Great Lakes Transit. Twelve operators have a reduced student fare and eight operators have a reduced fare for the elderly. Tickets and tokens purchased in quantity are discounted by five operators and seven operators use a graduated fare structure.

Since fleet size and vehicles ages directly affect the total operations of the transit systems they have been checked for comparison. In addition, insurance costs, the number of employees and the drivers wage rate have been reviewed. Excluding Greyhound, the size of the fleets range from 1,081 vehicles from the DSR to six vehicles for Bay City and Brooks Bus Line. The average vehicle model year ranges from 1952 for Mercury Bus Lines to 1970 for the Battle Creek system. Insurance costs are determined by the size of the bus fleet, annual mileage, annual revenues, or some combination of these. The costs, range from $168,410 for Great Lakes to $3,697 for Bee Line. The number of employees also varies widely. Great Lakes Transit, for example, employs 158 people while Bay City employed 5.* The last column of this chart shows the drivers base top wage rate. Unfortunately the format in which this information was collected makes comparison difficult, however, it can be stated that among the urban transit operators the hourly rate varies from $1.50 for Bay City to $4.60 for the DSR.

The last data examined includes revenue per mile, expense per mile, and passengers carried per mile and is useful in comparing bus systems of different sizes. Since the system size is discounted here by reducing the data to a common base, the resulting figures are comparable. The range seen in revenues per mile, for example, indicates that while one bus system earns nearly $3.00 for every mile driven, there are others earning as little as $.18 per mile. Similarly, expenses per mile indicate that while one operator can offer service which costs him more than $3.00 per mile, there are others offering service

*The Bay City System was inoperational in 1971.

costing 1/12 of that price. Ridership per mile indicates system utilization, which ranges from 11,559 passengers per mile to .083 passengers per mile.

As mentioned before, the comparative data and derived statistics described above have been limited by the data gathered for the 1971 Annual Report series which in turn has been limited by the amount of data which the transit operators themselves record or were willing to release. However, in view of the fact that this work represents a first effort in the implementation of an information reporting system for public transportation in the state of Michigan, this task has been successful both from the aspect of providing a great deal of information concerning the present status of public transportation in the state and secondly, from the aspect of testing the viability of an information system for transportation. In regard to the latter, it is concluded that although increased effort is needed from the participating transit operators, the benefits projected from the availability of transit data to the Bureau of Transportation and other interested individuals and agencies will greatly assist the efforts in the overall improvement of the provision public transportation services to the residents of Michigan. A summary of statistical data is shown in Appendix B.

Appendix A

1971

Public Mass Transportation System

Information Reporting System

Annual Report Format

Prepared as part of the transit
management information system
development

BUREAU OF TRANSPORTATION

DEPARTMENT OF COMMERCE

STATE OF MICHIGAN

1971

PUBLIC MASS TRANSPORTATION INFORMATION REPORTING SYSTEM

ANNUAL REPORT

Name of Transit Co.: _____

Type of Transit Operation: _____
private, public

Legal Basis for Operation: _____

Region Served: _____

Management Type: _____

Types of Service Provided: _____

Size of Fleet: _____

Annual Vehicle Miles: _____

Name of Union: _____

Name of Person to Contact Regarding This Report: _____

Address: _____

Telephone No.: _____

Twelve Month Period Covered by This Report: _____

Instructions

This form is to be completed for transit operations within the State of Michigan. The information is to be reported for the 12 month period ending December 31 of the prior year or for the last complete fiscal year of operation.

Definition of Terms

For the purpose of this annual report several terms have been defined:

Regular Service - service rendered on a regular basis on pre established routes.

Special Purpose Service - service provided for a particular need, such as School Tripper service to carry students to and from school or Industrial Tripper service to carry employees to and from jobs.

School Service Provided by Contract - service provided to a school or school district by a contractual arrangement. In this case, payment is usually made by the school, as opposed to students fares.

Non School Service Provided by Contract (or contract service) a form of charter service which is provided over a period of time and is arranged under contract.

Random Charter Service - service provided on a one-time basis.

Ridership - the number of revenue and transferring passengers.

Organization and Control

Authority Member

Name	Address	Date Term Expires

Management

Name	Address	Position

(Attach organizational chart)

Historical Summary

	1967	1968	1969	1970	1971
Annual Operating Revenue					
Annual Expenses					
Annual Ridership					
Annual Vehicle Mileage					
Drivers Wage Rate					
Fare Structure					

(Attach Balance Sheet for the current year)

Income Statement

	$
Operating Revenue:	
Regular service revenue	
Special purpose service revenue	
School service contract revenue	
Contract service revenue	
Charter service revenue	
Dial-a-bus revenue	
Express and baggage revenue	
Miscellaneous station revenue	
Advertising revenue	
Other operating revenue (specify)	
Total operating revenue	
Operating Expenses:	
Transportation expense	
Maintenance expense	
Traffic and advertising expense	
Insurance and safety expense	
General and administrative expense	
Depreciation expense	
Operating taxes and licenses	
Operating rents (net)	
Total operating expense	
Net Operating Revenue	
Other Income:	
Public assistance	
Interest income	
Gain on fixed assets retired	
Other income	
Total Other Income	
Gross Income	
Other Expenses:	
Interest expense	
Other expenses	
Total Other Expenses	
Ordinary Income Before Income Taxes	
Income Taxes on Ordinary Income	
Ordinary Income	
Extraordinary Income	
Deductions	
Extraordinary Income Before Income Taxes	
Income Taxes on Extraordinary Income	
Extraordinary Income After Income Taxes	
Net Income (Loss) To Earned Surplus	

Operating Expenses

	$
Transportation expenses:	
Supervisory salaries	
Drivers wages	
Fuels and lubricants	
Supplies and uniforms	
Road expenses and tolls	
Purchased transportation	
Other transportation expense	
Total	
Maintenance expenses:	
Supervisory salaries	
Repair labor - revenue equipment	
Repair materials - revenue equipment	
Repair labor - non-revenue equipment and property	
Repair materials non-revenue equipment and property	
Tires and tubes	
Utilities	
Other maintenance expense	
Total	
Traffic and advertising expenses:	
Salaries and expenses	
Schedules	
Tickets	
Other traffic expense	
Advertising	
Total	
Insurance and safety expense:	
Salaries and expenses	
Public liability and property damage insurance	
Injuries and damages	
Fire and theft	
Workmen's compensation	
Other insurance expense	
Total	
General and administrative expense:	
Salaries of general officers	
Salaries of general office employees	
Administrative expenses	
Office supplies and expenses	
Communications	
Legal and auditing	
Employee benefits (pensions, group life, hospitalization, etc	
Contracted management expense	
Other general and administrative expense	
Total	

Operating Expenses
(Continued)

	$
Depreciation expense:	
Depreciation of revenue equipment	
Depreciation of non-revenue equipment	
Depreciation of other property	
Total	
Operating taxes and licenses:	
Fuel and oil taxes	
Vehicle and registration fees	
Real estate and personal property taxes	
Social security taxes	
Other licenses	
Other operating taxes	
Total	
Operating rents:	
General office	
Station	
Shop and garage	
Transportation equipment	
Other operating rents	
Total	
Grand Total	

Transportation and Maintenance Expenses
Regular Route Service Only

	$
Transportation expenses:	
Supervisory salaries	
Drivers wages	
Fuels and lubricants	
Supplies and uniforms	
Road expenses and tolls	
Purchased transportation	
Other transportation expense	
Total	
Maintenance expenses:	
Supervisory salaries	
Repair labor - revenue equipment	
Repair materials - revenue equipment	
Repair labor - non-revenue equipment and property	
Repair materials - non-revenue equipment and property	
Tires and tubes	
Utilities	
Other maintenance expense	
Total	

Regular Route Service

Annual Revenue by Fare Paid

Route Name	Regular Passenger Revenue	Student Revenue	Elderly Revenue	Transfer Revenue	Total Revenue

Regular Route Service
Average Daily Ridership
By Time of Day

Route Name	Calendar Quarter	Pre peak Hrs.:	A.M. peak Hrs.:	Mid day Hrs.:	P.M. peak Hrs.:	Evening Hrs.:	Weekends Hrs.:
	1st Quarter						
	2nd Quarter						
	3rd Quarter						
	4th Quarter						
	1st Quarter						
	2nd Quarter						
	3rd Quarter						
	4th Quarter						
	1st Quarter						
	2nd Quarter						
	3rd Quarter						
	4th Quarter						
	1st Quarter						
	2nd Quarter						
	3rd Quarter						
	4th Quarter						
	1st Quarter						
	2nd Quarter						
	3rd Quarter						
	4th Quarter						

Regular Route Service

Annual Ridership by Fare Paid

	Fare Rate	Annual Ridership
Regular Passengers		
Student Passengers		
Elderly Passengers		
Passengers using tickets, tokens		
Monthly Pass Passengers		
Transfer Passengers		
Graduated Fare Structure (describe fare zones)		
	Total Annual Ridership	

Regular Route Service

Route Data

Route Name	One Way Route Mileage	Daily Vehicle Mileage	Daily Deadhead Mileage	Annual Vehicle Mileage	Number of Stops Per Trip

(Attach route maps)

Regular Route Service

Scheduling Data

Route Name	Time to Traverse Route	Average Travel Speed	Average Layover Time/Run	Total Daily Layover

Regular Route Service

Frequency of Service (Headways)

By Time of Day

Route Name	Pre Peak	A. M. Peak	Mid Day	P. M. Peak	Evening	Saturday	Sunday

(Attach schedules)

Regular Route Service

Seat Capacity

Route	Number of Vehicles Used Simultaneously	Seat Capacity of Each Vehicle	If the number of vehicles used or seat capacity changes during day, specify

Special Purpose Service

(School Trippers, Industrial Trippers)

Plant or School	Route Miles	Hours of Operation	Annual Mileage	Annual Ridership	Annual Revenue

Services Provided by Contract

(School Contracts)

Name of School/District	Purpose	Number of Students Transported	Average No. of Buses	Daily Mileage	Annual Mileage	Duration of Contract	Revenue

Services Provided By Contract

(Non-School Contracts)

Name of Organization	Description of Service	Number Transported	Number of Buses	Daily Mileage	Annual Mileage	Duration of Contract	Revenue

Random Charter Service

Number of jobs:_____

Number of school jobs:_____

Total annual hours of operation:_____

Total annual mileage:_____

Charter Rates:_____

Dial-a-Bus Service

Number of Buses Used:

Vehicle Capacities:

Hours of Operation:

Service Area:

Average Daily Ridership:

Average Daily Mileage:

Annual Revenue:

Average Length of Trip

List five most common destinations requested

List five most common trip purposes

Vehicle Inventory

Vehicle Number	Model	Year	Propulsion Type	Seat Capacity	Air Conditioned	Leased/ Purchased	Price	Annual dep. Amount	Accum. Mileage	Primary Use

Major Facilities Inventory

Building Identification (include address)	Size	Use	Rent/Mortgage Amount	Assessed or Present Value	Description of Office Space/Garage (Include maintenance equipment)

Passenger Shelter Inventory

Location	Date and Cost of Construction	Size	Enclosed/Heated

Changes in Service During Current Year

Describe any additions, changes, or deletions in the service provided during the current year (e.g. routes, schedules, fares, etc.).

Capital and Demonstration Grant Funds Applications

Application Accepted Pending Rejected	Date Rec'd	Amount	Source	Equipment Acquired

Annual Assistance Payments

by Source

Source	Date Rec'd	Amount	Frequency of Payment	Contribution Formula

Employee Data

Position	# Employed at Beg. of Year	# Employed at End of Year	Number Hired	Wage Scale
Transportation				
Supervisory				
Full Time Drivers				
Part Time Drivers				
Extra Board				
Others				
Maintenance				
Supervisory				
Mechanics				
Service Employees				
Others				
Station				
Supervisory				
Ticket Office Employees				
Others				
Traffic and Advertising				
Supervisory				
Solicitors				
Others				
Insurance and Safety				
Supervisory				
Others				
General and Administrative				
Officers, Owners, Partners				
Supervisory				
Clerical				
Others				

Describe requirements for retirement: _____

Number of people receiving pensions: _____

(attach union contract)

Safety and Insurance

Name of Insurance Company _____

Number of personal injury and property damage accidents _____

Number of personal injury and property damage accidents not covered by insurance _____

Number of personal injury and property damage accidents covered by insurance _____

Number of chargeable accidents _____

Number of non-chargeable accidents _____

Uninsured loss _____

Collected amount _____

Insurance coverage amount _____

Self-insured amount _____

Cost of Premium _____

Determination of Premium Cost _____

Forecasted Operations

	Forecasted Ridership	Forecasted Revenue	Forecasted Mileage
Regular Route Service			
Special Purpose Route Service			
School Contracted Service			
Non-School Contracted Service			
Random Charter Service			
Dial-a-Bus Service			
Total			

	Forecasted Expenses
Transportation Expenses	
Maintenance Expenses	
Traffic and Advertising Expenses	
Insurance and Safety Expenses	
General and Administrative Expenses	
Depreciation	
Operating Taxes and Licenses	
Operating Rents	
Total	

Appendix B

1971

Summary of Michigan

Transit Operations Data

Caution: In comparing one operation to another it should be noted that data used in preparing these charts was taken from the operators themselves. Therefore while it is the latest data available it is not all of the same period and was collected from the company records without analysis as to how it was gathered or derived. Therefore care should be exercised in its use.

Financial Data

	Operating Revenue	Operating Expense	Net Operating Revenue	Operating Ratio
Ann Arbor Transportation Authority	$192,081	$400,515	$ (208,434)	208.51
Battle Creek Transit Authority	212,621	295,696	(83,075)	139.07
Bay City Commuter Service, Inc.	60,367	58,638	1,729	97.13
Bee Line, Inc.	55,044	61,559	(6,515)	111.84
Brooks Bus Lines, Inc.	748,883[a]	625,749[b]	123,134[b]	83.56
Cardinal Buses, Inc.	90,893	84,956	5,937	93.47
Delta Bus Company, Inc.	220,353	225,736	(5,383)	102.44
Department of Street Railways	37,354,646	43,421,899	(6,067,252)	116.24
Detroit and Canada Tunnel Corporation	432,217	536,008	(103,791)	124.01
Empire Bus Line	87,780	88,000	(220)	100.25
Grand Rapids Transit Authority	808,951	1,160,137	(351,186)	143.41
Great Lakes Transit Corp.	2,808,237	2,830,139	(21,902)	100.78
Greyhound Lines, Inc.	427,800,974[c]	374,322,370[d]	53,478,604[b]	87.50
Indian Trails, Inc.	2,392,173	2,192,609	199,564	91.66
Indiana Motor Bus Co.	1,634,238	1,608,979	25,259	98.45
Intercity Bus Lines	89,512	68,348	21,164	76.36

Financial Data

	Operating Revenue	Operating Expense	Net Operating Revenue	Operating Ratio
Jackson Public Transportation Co.	128,273	165,942	(37,669)	129.37
Kalamazoo Metro Transit Lines	582,979	830,763	(247,784)	157.05
Martin Lines, Inc.	336,119	343,636	(7,517)	102.24
Mercury Bus Lines, Inc.	154,670	128,088	29,582	82.81
Metropolitan Transit, Inc.	1,775,445	1,825,730	(50,285)	102.83
Metro. Lansing Mass Transp. Corp.	119,010[d]	195,692[d]	(76,682)	164.43
Muskegon Transit Authority	127,032	199,921	(72,889)	157.38
North Star Line, Inc.	1,484,093	1,511,077	(26,984)	101.82
SEMTA - Lakeshore Div.	1,024,674	1,055,735	(31,061)	103.03
Short Way Lines, Inc.	1,033,140	1,068,355	(35,215)	103.41
Tower, Inc.	239,601	274,687	(35,086)	114.64
Valley Coach Lines, Inc.	347,532	353,725	(6,193)	101.78

[a] total system revenue, Michigan intrastate estimated at $100,917

[b] total system data, Michigan data not available

[c] total system data, Michigan intrastate estimated at $4,194,556

[d] six months operations

Compositions of Operating Revenue

	Urban Regular Route Revenue	%	Intercity Regular Route Revenue	%	Other Operating Revenue	%	Public Assistance
Ann Arbor Transportation Authority	$ 108,808	56.6	$		$ 83,273	43.4	$ 167,109
Battle Creek Transit Authority	201,671	94.8			10,950	5.2	
Bay City Commuter Service, Inc.	60,367	100.0					
Bee Line, Inc.			1,208	2.2	53,836	97.8	
Brooks Bus Line, Inc.	24,783[b]	3.3	200,901[a]	26.8	523,199[b]	69.9	
Cardinal Buses, Inc.			666[b]	0.7	90,227[b]	99.3	
Delta Bus Company, Inc.	121,194	55.0			99,159	45.0	
Department of Street Railways	36,970,725	99.0			383,921	1.0	2,174,000
Detroit and Canada Tunnel Corporation	429,079	99.3			3,138	0.7	
Empire Bus Line	na	na	na	na	na	na	
Grand Rapids Transit Authority	751,277	92.9			57,674	7.1	351,123
Great Lakes Transit Corp.	2,197,908	78.3			610,329	21.7	
Greyhound Lines, Inc.	11,460,502[c]	2.7	314,076,077[c]	73.4	102,264,395[d]	23.9	
Indian Trails, Inc.			1,469,018	61.4	923,155	38.6	
Indiana Motor Bus Co.			817,415	50.0	816,823	50.0	
Intercity Bus Lines	na	na	na	na	na	na	

Compositions of Operating Revenue

	Urban Regular Route Revenue	%	Intercity Regular Route Revenue	%	Other Operating Revenue	%	Public Assistance
Jackson Public Transportation Co.	$ 124,888	97.4	$		$ 3,385	2.6	$ 10,000
Kalamazoo Metro Transit Lines	244,886	42.0			338,093	58.0	243,311
Martin Lines, Inc.	170,090	50.6			166,029	49.4	
Mercury Bus Lines, Inc.	3,299	2.1	16,516	10.7	134,856	87.2	
Metropolitan Transit, Inc.	1,296,020	73.0			479,425	27.0	
Metro. Lansing Mass Transp. Corp.	91,964	77.3			27,046	22.7	71,181
Muskegon Transit Authority	112,064	88.2			14,968	11.8	72,889
North Star Line, Inc.			549,021	36.9	935,072	63.0	
SEMTA - Lakeshore Div.	960,760	93.8			63,914	6.2	
Short Way Lines, Inc.			470,747	45.6	562,393	54.4	
Tower, Inc.	na	na	na	na	na	na	
Valley Coach Lines, Inc.	na	na	na	na	na	na	

[a] urban service entirely intrastate

[b] total system, Michigan intrastate revenue not available

[c] total system ($3,395,434 - Michigan intrastate revenue for regular route service)

[d] total system ($254,865 - Michigan intrastate revenue for other operating revenue)

Vehicle Mileage Data

	Total Annual Vehicle Mileage	Regular Urban Vehicle Mileage	Regular Intercity Vehicle Mileage	Regular Route Miles Served
Ann Arbor Transportation Authority	441,773	341,555		67.0
Battle Creek Transit Authority	541,966	476,463		38.1
Bay City Commuter Service, Inc.	238,680	238,680		39.0
Bee Line, Inc.	91,680		20,904	154.0
Brooks Bus Line, Inc.	1,145,080[a]	42,120[b]	467,544[c]	648.0[c]
Cardinal Buses, Inc.	516,441[c]		7,200[c]	24.0[c]
Delta Bus Company, Inc.	250,000 (app.)	na	na	51.0
Department of Street Railways	36,146,845	33,688,440[d]		557.09
Detroit and Canada Tunnel Corporation	154,626	154,626		na
Empire Bus Line	na	na	na	na
Grand Rapids Transit Authority	1,645,194	1,226,313		103.6
Great Lakes Transit Corp.	3,486,913	2,987,587		151.0
Greyhound Lines, Inc.	477,472,666[c]	14,327,210[c]	420,056,989	na
Indian Trails, Inc.	3,128,226		2,319,961	na
Indiana Motor Bus Co.	2,582,123[c]		1,722,265	na
Intercity Bus Lines	na	na	na	na

Vehicle Mileage Data

	Total Annual Vehicle Mileage	Regular Urban Vehicle Mileage	Regular Intercity Vehicle Mileage	Regular Route Miles Served
Jackson Public Transportation Co.	306,448[e]	302,848		36.9
Kalamazoo Metro Transit Lines	1,234,281	620,163		59.4
Martin Lines, Inc.	587,428	324,108		na
Mercury Bus Lines, Inc.	269,965	13,000	83,176	na
Metropolitan Transit, Inc.	2,540,278	1,726,453		97.7
Metro. Lansing Mass Transp. Corp.	747,962[f]	na		32.9
Muskegon Transit Authority	420,000	407,430		47.2
North Star Line, Inc.	2,216,634		1,322,161	na
SEMTA - Lakeshore Div.	1,800,000	1,499,388		55.2
Short Way Lines, Inc.	1,761,320		1,160,578	na
Tower, Inc.	na	na	na	na
Valley Coach Lines, Inc.	na	na	na	na

[a] total system mileage (256,828 miles estimated for Michigan intrastate)

[b] local urban service operated within Michigan

[c] total system operations, Michigan intrastate data not available

[d] estimated based on actual ridership for October 1971

[e] total does not include charter mileage, this not being available

[f] estimated based on six months operation

Ridership Data

	Total Annual Ridership	Total Annual Regular Route Ridership	
		Urban	Intercity
Ann Arbor Transportation Authority	605,322[a]	446,845	
Battle Creek Transit Authority	889,630[a]	825,630	
Bay City Commuter Service, Inc.	257,563	257,563	
Bee Line, Inc.	17,926		3,021
Brooks Bus Line, Inc.	158,196[b]	97,581[c]	14,645[b]
Cardinal Buses, Inc.	na	na	na
Delta Bus Company, Inc.	95,500	65,700	
Department of Street Railways	103,175,743	na	
Detroit and Canada Tunnel Corporation	1,787,081	1,787,081	
Empire Bus Line	na	na	na
Grand Rapids Transit Authority	2,422,488[a]	2,422,488	
Great Lakes Transit Corp.	5,212,628	4,811,042	
Greyhound Lines, Inc.	84,951,586[b]	15,686,099[b]	65,808,159[b]
Indian Trails, Inc.	413,773		355,078
Indiana Motor Bus Co.	362,985		244,680
Intercity Bus Lines	na	na	na

Ridership Data

	Total Annual Ridership	Total Annual Regular Route Ridership Urban	Intercity
Jackson Public Transportation Co.	542,023[a]	542,023	
Kalamazoo Metro Transit Lines	1,596,775	1,355,000	
Martin Lines, Inc.	1,182,508	850,450	
Mercury Bus Lines, Inc.	50,068	na	22,553
Metropolitan Transit, Inc.	3,639,585	2,858,915	
Metro. Lansing Mass Transp. Corp.	262,755[d]	na	
Muskegon Transit Authority	443,115[a]	415,049	
North Star Line, Inc.	182,936		147,266
SEMTA - Lakeshore Div.	2,402,000	na	
Short Way Lines, Inc.	1,647,493		256,722
Tower, Inc.	1,008,651	na	na
Valley Coach Lines, Inc.	na	na	na

[a] total does not include charter ridership, which is not available

[b] total system ridership, Michigan intrastate data not available

[c] local urban service entirely within Michigan

[d] six months operations

Fare Structures

	Adult	Student	Elderly	Quantity Discounts	Zone Fares	Intercity Rates
Ann Arbor Transportation Authority	$.35	$.20	$.20		$.50-.95	
Battle Creek Transit Authority	.30	.15	.25[a]	10/$2.75		
Bay City Commuter Service, Inc.	.30	.20				
Bee Line, Inc.						$.55,.65,.70/mile
Brooks Bus Line, Inc.	na	na	na	na	na	na
Cardinal Buses, Inc.						.40-1.10
Delta Bus Company, Inc.	.40	.35	.35	5/$1.25[b]		
Department of Street Railways	.40[c]	.25	.15			
Detroit and Canada Tunnel Corporation	na	na	na	na	na	na
Empire Bus Line	na	na	na	na	na	na
Grand Rapids Transit Authority	.35	.25	.25	3/$1.00		
Great Lakes Transit Corp.	.40	50% adult			.40-1.00	
Greyhound Lines, Inc.	na	na	na	na	na	4.77[d]
Indian Trails, Inc.						4.14[d]
Indiana Motor Bus Co.						3.34[d]
Intercity Bus Lines	na	na	na	na	na	na

Fare Structures

	Adult	Student	Elderly	Quantity Discounts	Zone Fares	Intercity Rates
Jackson Public Transportation Co.	$.30	$.20				
Kalamazoo Metro Transit Lines	.30	.15	40/$5.00	40/$9.00		
Martin Lines, Inc.	.25	.20			$.25-.60	
Mercury Bus Lines, Inc.	na	na	na	na	na	na
Metropolitan Transit, Inc.	.35	.25	.15[e]		.35-.60	
Metro. Lansing Mass Transp. Corp.	.35	.35	.35			
Muskegon Transit Authority	.35	.25	10/$3.00			
North Star Line, Inc.	na	na	na	na	na	na
SEMTA - Lakeshore Div.	na	na	na	na	.40-.65	
Short Way Lines, Inc.						1.83[d]
Tower, Inc.	na	na	na	na	na	na
Valley Coach Lines, Inc.	na	na	na	na	na	na

[a] effective during off-peak periods only

[b] discount for students only

[c] express service fare-$.45

[d] average fare per passenger

[e] effective on local routes only

Transit Fleet and Employment Data

	Fleet Size	Average Vehicle Model Year	Gross Insurance Cost	Number of Employees	Drivers' Base Top Wage Rate
Ann Arbor Transportation Authority	25	1966	$ 25,000	33	$4.16/hr.
Battle Creek Transit Authority	17	1970	12,531	38	3.35/hr.
Bay City Commuter Service, Inc.	6	1967	3,878	5	1.50/hr.
Bee Line, Inc.	6	1959	3,697	9	2.10/hr.
Brooks Bus Line, Inc.	14	1965	na	34	.10/mile
Cardinal Buses, Inc.	11	1960	5,088	na	na
Delta Bus Company, Inc.	28	1958	28,082	18	2.50/hr.
Department of Street Railways	1,081	na	na	na	4.60/hr.
Detroit and Canada Tunnel Corporation	8	na	na	na	na
Empire Bus Line	11	1964	na	na	na
Grand Rapids Transit Authority	54	1955	6,888	82	3.14/hr.
Great Lakes Transit Corp.	100	1960	168,410	158	3.54/hr.
Greyhound Lines, Inc.	5,043[a]	na	na	na	na
Indian Trails, Inc.	33	1966	42,640	99	.12/mile
Indiana Motor Bus Co.	41	1957	27,147	70	8,851 avg/yr.
Intercity Bus Lines	12	1960	na	6	4,283 avg/yr.

Transit Fleet and Employment Data

	Fleet Size	Average Vehicle Model Year	Gross Insurance Cost	Number of Employees	Drivers' Base Top Wage Rate
Jackson Public Transportation Co.	14	1964	$ 18,525	14	$2.35/hr.
Kalamazoo Metro Transit Lines	68	na	35,752	na	3.06/hr.
Martin Lines, Inc.	22	1960	35,447	37	4,065avg/yr.
Mercury Bus Lines, Inc.	16	1952	na	26	1,172 avg/yr.
Metropolitan Transit, Inc.	68	1962	77,952	110	3.69/hr.
Metro. Lansing Mass Transp. Corp.	20	1965	32,028	34	3.39/hr.
Muskegon Transit Authority	13	1968	16,030	20	2.45/hr.
North Star Line, Inc.	25	na	25,795	75	9,735 avg/yr.
SEMTA - Lakeshore Div.	48	na	na	na	3.45/hr.
Short Way Lines, Inc.	30	1958	35,650	74	7,184 avg/yr.
Tower, Inc.	18	1958	na	47	2,865 avg/yr.
Valley Coach Lines, Inc.	25	1957	na	na	na

Operational Statistics

	Total Operating Revenue Per Mile	Total Operating Expense Per Mile	Ridership Per Mile
Ann Arbor Transportation Authority	$ .435	$ .907	1.370
Battle Creek Transit Authority	.392	.546	1.641
Bay City Commuter Service, Inc.	.253	.246	1.079
Bee Line, Inc.	.600	.671	.196
Brooks Bus Line, Inc.	.654	.546	.138
Cardinal Buses, Inc.	.176	.165	na
Delta Bus Company, Inc.	.881	.903	.382
Department of Street Railways	1.033	1.201	2.854
Detroit and Canada Tunnel Corporation	2.795	3.466	11.557
Empire Bus Line	na	na	na
Grand Rapids Transit Authority	.492	.705	1.472
Great Lakes Transit Corp.	.805	.812	1.495
Greyhound Lines, Inc.	.896	.784	.178
Indian Trails, Inc.	.765	.701	.132
Indiana Motor Bus Co.	.633	.623	.141
Intercity Bus Lines	na	na	na

Operational Statistics

	Total Operating Revenue Per Mile	Total Operating Expense Per Mile	Ridership Per Mile
Jackson Public Transportation Co.	$ .419	$ .542	1.769
Kalamazoo Metro Transit Lines	.472	.673	1.294
Martin Lines, Inc.	.572	.585	2.013
Mercury Bus Lines, Inc.	.573	.474	.187
Metropolitan Transit, Inc.	.699	.719	1.544
Metro. Lansing Mass Transp. Corp.	.318[a]	.523	.703
Muskegon Transit Authority	.302	.476	1.055
North Star Line, Inc.	.670	.682	.083
SEMTA - Lakeshore Div.	.569	.587	1.334
Short Way Lines, Inc.	.587	.607	.935
Tower, Inc.	na	na	na
Valley Coach Lines, Inc.	na	na	na

[a] estimated based on six months operations