Technical Assistance For Local Bus Transit

MICHIGAN DEPARTMENT OF TRANSPORTATION

Technical Assistance
Needs Assessment

and

Action Plan: 1990

Bus Transit Division
Urban and Public Transportation
BT 90-2

MICHIGAN DEPARTMENT OF TRANSPORTATION
James P. Pitz, Director

URBAN AND PUBLIC TRANSPORTATION
Philip F. Kazmierski, Deputy Director

Technical Assistance Needs Assessment

and

Action Plan: 1990

Prepared for:

Bus Transit Division

By:
Ann Arbor Planning Associates
321 South Main Street, Suite 206
Ann Arbor, Michigan   48104

and
Technical Needs Review Team

MICHIGAN STATE TRANSPORTATION COMMISSION

William C. Marshall, Chairperson
Rodger D. Young, Vice Chairperson
Stephen F. Adamini
Hannes Meyers, Jr.
Nansi Irene Rowe
Shirley E. Zeller

ACKNOWLEDGMENTS

TECHNICAL ASSISTANCE
NEEDS ASSESSMENT

ABSTRACT

Part I - The Needs Assessment

This study assessed and evaluated the need for technical assistance of public transit systems in
    Michigan. Information about levels of need for technical assistance from the systems'
view-point was obtained from two surveys conducted by Ann Arbor Planning Associates. The
first survey was a "Mail-Back," self-administered, close-ended questionnaire distributed to
122 transit systems in Michigan. The response rate was 72%. The second consisted of
open-ended "On-Site" interviews of a sample of 20 transit systems.

Both surveys addressed need for technical assistance in the following areas: personnel
management, driver screening and training, mechanic training, financial management,
operation, equipment and facility management, computers, marketing, grant management,
privatization, and existing State assistance programs.

Analysis was carried out for all systems, and for groups of systems by fleet size (small,
mid-sized, large) and type of funding assistance (urbanized, non-urbanized, specialized
services).

The survey results were synthesized to rank-order the level of need for technical assistance for
each topic by each group of transit systems. A "priority-list" of needs for technical assistance
was then developed using criteria which included the need, as indicated by the systems,
together with the stated goals of the Bus Transit Division such as, enhancing safety, security,
treatment of transit users, and efficiency.

A list of "Policy Actions" and "Program Actions," which could effectively respond to the topics
for which technical assistance was indicated, was developed based on successful experiences
in other states, RTAP and MTAP programs, and discussions with transit professionals.

The highest priority for "Program Actions" was indicated for: Driver training programs -
safety, sensitivity training, and defensive driving; Mechanic training in advance technical skills;
Computer training; Record keeping of maintenance activities; Marketing - developing
marketing studies and plans; and Routing and Scheduling - procedure manual, and
computerized programs.

The highest priority for "Policy Actions" was indicated for: Interpretation of drug-testing
regulations and procedures; and Interpretation of EPA emissions regulations.

Part II - The Action Plan

The Needs Review Team, utilizing the findings of the "Needs Assessment," prepared an action
plan to serve as the basis for present and near-future technical assistance efforts. Included in
this plan are specific areas of need, recommended sources of assistance, types of assistance,
and recommendations for project implementation responsibilities.

TABLE OF CONTENTS

Part I

8. Technical Assistance Needs by Topic (Continued)

Part II

Figure and List of Tables

TECHNICAL ASSISTANCE NEEDS ASSESSMENT
EXECUTIVE SUMMARY

1. INTRODUCTION

The Michigan Department of Transportation (MDOT), assists State public transit systems by administering Federal and State operating and capital grants, and by providing technical and informational assistance through its Bus Transit Division of the Bureau of Urban and Public Transportation (UPTRAN).

Michigan has over 100 public transit systems, many of which are very small. Approximately 85% of the transit systems in Michigan have fewer than 30 vehicles and over 60% have fewer than 10 vehicles. Nearly 24% are devoted to providing transit services to elderly and handicapped citizens.

Most of the systems do not have the means to employ a full range of "in-house" professionals in all areas necessary for managing and operating a transit system and depend on the State for technical assistance.

The Bus Transit Division of UPTRAN has been a leader in the provision of State technical assistance to its smaller transit systems. The Division processes UMTA grant applications for the smaller systems, prepares the bus specifications for them and purchases their vehicles. A staff of Project Managers from the Bus Transit Division provides on-going technical assistance and support. Other experts in the Division provide special technical services to the systems such as micro-computer selection, purchase, and training; radio and communications expertise; vehicle specification and purchase; and the training of drivers and mechanics.

2. PROBLEM STATEMENT

The first Technical Assistance Need Assessment study for the Bus Transit Division was conducted in 1985 and resulted in the implementation of several technical assistance projects. Nationally, there has also been much recent activity in development of technical assistance programs for transit through the Rural Transit Assistance Program (RTAP), and through joint state organizations such as the Multistate Transit Assistance Program (MTAP) sponsored by the American Association for State Highway and Transportation Officials (AASHTO).

In light of these recent developments and as part of its on-going Technical Assistance Program, the Bus Transit Division wishes to gauge the success of its current technical assistance projects and to determine where technical assistance resources should be directed in the future. The Bus Transit Division also wishes to better understand the current needs for technical assistance of the Michigan public transit systems, to draw on successful programs in other states, and to reset priorities for its own technical assistance programs.

3. OBJECTIVES

The objectives of this study were:

- To review technical assistance programs for public transit in the United States;

- To assess the need for technical assistance of Michigan public transit systems and to evaluate the systems' experience with recent State Technical Assistance programs;

- To develop a systematic list of the transit systems' needs for technical assistance and to determine the relative magnitude of these needs;

- To develop criteria and set priorities for the State technical assistance program in order to respond effectively to the identified needs; and

- To propose appropriate "Program Actions" and "Policy Actions" in response to the identified needs for technical assistance.

4. METHODOLOGY

The methodology of this study included the following steps:

4.1 Literature Review of Technical Assistance Programs

The Consulting Team contacted Federal agencies, State agencies, and professional organizations which provide or coordinate State technical assistance programs and solicited their input and publications. The agencies and organizations included UMTA's Rural Transit Assistance Program (RTAP) managed by the American Public Works Association (APWA); and the American Association of State Highway Officials (AASHTO) which manages the Multi-State Technical Assistance Project (MTAP), a peer-to-peer exchange program.

Publications by these and other organizations were reviewed, assessed, and organized in a summary form by topic areas. A brief description of programs by State was compiled for each topic area. In addition, the review includes a list of available resources.

4.2 Surveys of Michigan Transit Agencies

Two surveys, designed to assess the systems' need for technical assistance, were conducted as part of this study. The surveys elicited responses about the needs for technical assistance and the level of needs in various areas of transit system management and operation. The topic areas include:

- Human Resources - personnel, driver screening and training, mechanic training, and administration

- Financial Management

- Operation - routing and scheduling, and management information system

- Purchasing and Inventory

2

- Equipment and Facility Management - vehicle maintenance, radio and communication, computers, and facilities

- Marketing

- Grant Management - grant programs, and interpretation of rules regulations and guidelines

- Human Service Agency Transportation

- Privatization

- Evaluation of existing State assistance programs - marketing grants, State's manuals for small bus systems, State Profile Book, Train-the-Trainer program, and the bus specifications review process.

The two surveys were of different format and complemented each other in obtaining the desired information. The survey formats were:

- Mail-Back Survey

- On-Site Interview Survey

The Mail-Back Survey was a "closed-end" detailed questionnaire, sent to all transit systems in Michigan. Seventy two percent of the systems responded. The respondents indicated their need for technical assistance in the various areas, listed above, on a three point scale: "Very Much," "Some," or "Not Needed."

A sample of 20 transit systems from all parts of Michigan was interviewed in the On-Site Survey. This was an "open-end" interview, conducted by the Consulting Team with the system managers and/or their assistants at the system locations. These "free flow" discussions to a better understanding of the systems' internal workings and problems, not captured by the standardized "Mail-Back" survey.

Together, these two surveys, provided reliable, in-depth information on the needs for technical assistance from the view-point of the transit systems.

4.3 Analysis, Synthesis and Rank Ordering of Needs

The Mail-Back survey was analyzed quantitatively, while the On-Site Survey was analyzed qualitatively. Analyses were carried out for all systems and for groups of systems by fleet size, (Small, Mid-Sized, Large), by type of funding grants (Urbanized, Non-Urbanized, Specialized Services), and by type of organization (Transit Authority, City, County, Private Non-profit).

Results of both surveys were synthesized and the need for technical assistance for each topic area was transformed to a three point scale: "strong," "medium," and "none." A matrix showing the relative strength of the need for technical assistance for various groups of systems was developed for each topic area treated in the surveys.

The criteria for rank ordering the needs for technical assistance were based primarily on the findings of the surveys but also took into account the welfare and safety of the system users.

Rank ordering of the topic areas for technical assistance was based on:

- The level of need for technical assistance indicated by the transit systems. This includes the level of the need and the number and type of systems requesting assistance for that topic.

- The implications of assistance in this area on the safety and treatment of the transit user. Areas where assistance would enhance the safety of the user, would be given priority over otherwise equal need areas.

Based on these criteria each set of the technical assistance programs was assigned a three point priority score ranging from the highest of 1 to a low score of 3.

4.4 Proposed Actions

The Consulting Team then compiled a set of methods by which technical assistance could be delivered to the transit systems for each identified need.

The proposed programs were derived from reviews of State programs, discussions with the Bus Transit Division staff, interviews with systems' managers, and successful experiences in other states. In developing the programs, the Consulting Team tried to suggest programs that:

- could make use of existing methods of delivery, i.e. capitalize on existing, proven program infrastructure.

- would yield results quickly, but would be consistent with long term goals.

- would reduce the capital and operating costs of the transit systems.

The proposed sets of programs of technical assistance were divided into two categories:

- Policy Actions

- Program Actions

Policy Actions require MDOT to explicitly interpret rules, regulations, and guidelines, such as "Drug Testing," and to intervene in political activities at the State legislative bodies, committees, and commissions.

Program Actions refer to technical programs which can be provided by the State to the transit systems, directly, through national technical assistance programs or through consultants.

The final product is a list, arranged by priority, of proposed actions that can respond effectively to the technical needs of the State transit systems.

5. LITERATURE REVIEW OF TECHNICAL ASSISTANCE PROGRAMS

5.1 Needs for Assistance

Review of existing technical assistance programs for transit indicates that nationally the greatest areas of concern are: driver training and transit management. Specifically, the following topics have been targeted by the Rural Technical Assistance (RTAP) program of the Urban Mass Transportation Administration (UMTA) as critical areas of need for technical assistance:

Driver Training

- Vehicle Maintenance and Defensive Driving

- Emergency and Accident Handling Procedures

- Passenger Relation Techniques

- Passenger Assistance Techniques

- Substance Abuse Awareness

- Pre-trip Inspection

Transit Management

- Personnel Management

- Board of Directors Training

- Contracting for Services

- System Performance and Evaluation

- Management Information Systems

- Financial Management

5.2 Assistance Programs

Training modules addressing these topics are being developed through the RTAP program. Currently, training modules on "Substance Abuse Awareness" and "Understanding the Capabilities and Needs of Special Passengers" have been released and work on the third module, "Emergency Procedures for Rural Transit" is underway.

RTAP also publishes a periodical, "The UMTA RTAP National Program Bulletin" which informs about Federal and State technical assistance programs for rural transit.

RTAP has established a "Peer Matching Bank", a list of experienced transit professionals willing to provide assistance to others in a "peer-to-peer" program. The topics covered at this time include: the use of volunteers, funding, scheduling and record-keeping, coordination,

accounting, safety training program development, special services for tourists, and vehicle procurement.

Other informational resources provided by UMTA include telephone "hotlines" for assistance on any issue in rural and specialized transportation, use of the private sector in planning and financing transit services, assistance for microcomputer applications for paratransit, and accounting.

The American Association of State Highway and Transportation Officials (AASHTO) has undertaken the Multi-State Technical Assistance Project (MTAP) with the goal of merging the resources of individual states in and providing "peer-to-peer" technical assistance for transit. The MTAP program has recently produced a catalog of innovative and successful technical assistance programs, "Networking Opportunities Catalog of Alternative Practices", which transit systems can consult when developing their assistance programs.

Volume I of this report contains a listing of various state technical assistance programs and activities by topic for the following topics:

- Driver Training

- Maintenance

- Marketing

- Risk Management and Insurance

- Computers in Management and Operations

- Management and Operations

- System performance Evaluation

- Vehicle Specification and procurement

6. EVALUATION OF STATE ASSISTANCE TO TRANSIT AGENCIES (SATA)

The last section of the mail-back questionnaire was concerned with several recently completed or ongoing technical assistance programs in Michigan developed by the Bus Transit Division under the State Assistance to Transit Agencies (SATA) program. The systems were asked whether they used the product of a particular program and whether they found it useful. They were also asked whether they were satisfied with the vehicle specification review process.

This set of questions generated far more comments than any other section in the mail-back questionnaire. The distribution of responses is detailed in Volume I and Volume II of this report. An inference based on the distribution of replies and comments is made about each program and is given below:

6.1 State Marketing Grant

Approximately half of the transit systems reported receiving a Marketing Grant. Of these, 98% found the grant to be very useful. Several small systems commented they would not have a source of marketing funds if it were not for this grant. A few private non-profit systems wanted to know if they are eligible for this grant.

Inference:

Overall, there is much satisfaction with the Marketing Grant and the program can be considered to be very successful.

6.2 Michigan Small Bus Program Operator's Manual

The distribution of responses indicated that about 80% of the small and mid-sized systems have used this Manual and they have found it to be at least somewhat useful. About half of the small and mid-sized systems that responded reported the Manual to be very useful. About one third of the large systems reported using this Manual and found it somewhat useful.

Inference:

Based on the use and satisfaction reported in this question, the Michigan Small Bus Operators Manual has been helpful to small and mid-sized systems. However, from other portions of this survey it can be seen that there are areas of operations for which there still are needs for technical assistance.

6.3 Small Transit System Management Handbook

Use of this Handbook is reported by a quarter of the large systems, three quarters of the mid-sized systems and two-thirds of the small systems. The large systems that responded found the Handbook to be somewhat useful. About 40% of the small and mid-sized systems reported the Handbook to be very useful: slightly more than half of this group report the Handbook to be somewhat useful and a few did not find it useful at all.

Inference:

From these responses and considering that the Small Transit System Management Handbook is aimed at small and mid-sized systems, it can be considered moderately successful.

6.4 Transit System Profile

Six systems reported that they have not received the Transit System Profile book. Three reported that the information contained in the Profile was not accurate. One of these systems states that while the information it provided was accurate, the information about that system in the Profile was not accurate. One small non-urbanized system states that "it has not been a plus in our operation". One small private non-profit system reports that they "have studied the Profile and have used some of the ideas in it."

Inference:

Based on the responses and comments, the Transit System Profile publication has not been very useful to the transit systems. Problems that need to be addressed are: accuracy of the information and the distribution of the publication.

6.5 Train the Trainer Program

Only half of the large systems participated in the Train-the-Trainer program and, of these, half judged the program to be somewhat useful, while the other half did not find it useful.

About 70% of the mid-sized systems participated in this program and, of these, about two thirds reported the program to be very useful. A little less than a third of these systems judged the program to be somewhat useful and a few did not find it useful at all.

Slightly more than half of the small systems participated in this program. Of these, about 60% judged the program to be very useful, while slightly less than 40% reported it to be somewhat useful. A very small number did not find it useful at all.

Three large urban systems reported that the Train-the Trainer Program is not appropriate for them. Another large urban system stated that they "used the program to check our own training program."

Seven mid-sized systems asked that the program be presented more often. Some asked for it at least once a year.

Two mid sized non-urban systems commented: "needs to be done more professionally;" "too general, presenters were woefully inadequate"

Three comments praised the program, and made the following suggestions: "more sensitivity training;" " should be presented to all new employees;" "should be expanded;" "more training films."

Inference:

The program is of the greatest benefit to mid-sized systems and to a slightly lesser degree, the small systems. Generally, these systems need this program and find it useful. The program should be offered more often, preferably once a year. Based on the comments, the State should make efforts to maintain a "professional atmosphere" in this training program.

6.6 Bus Specification Review Process

It was clear from the responses and comments that the small systems are more satisfied than the mid-sized systems, and these, in turn, are more satisfied than the large systems with the process of reviewing bus specifications.

There were 28 comments to this question, the most received for any question on the survey. There were requests for more input into the specification process; two systems asked for more input from systems, one for more input from small bus/human agency systems, two asked for more input from mechanics, one asked for more input from drivers.

Several comments were concerned with the acceptance of new buses. They asked for better quality control of the new buses and that the price of the vehicle include the correction of defects. One system commented that there were too many exceptions made to the specifications after contract award and another asked that equipment be evaluated before it is ordered.

Two systems commented the vehicles are specified for light duty, but they need heavy duty vehicles.

Three systems reported they were satisfied with the process, and one added that the process has improved recently, "now that more system managers are involved".

Inference:

From the responses and comments, it can be seen that the satisfaction with the bus specification process varies inversely with the size of the system. The small systems are generally satisfied with the process, the mid-sized systems are satisfied, but to a lesser degree than the small systems. The large systems are not satisfied with the process.

While it is impossible to satisfy all the transit systems all the time, care should be taken to give the systems as much input as possible into the bus specification review process.

7. SUMMARY OF TECHNICAL ASSISTANCE NEEDS

The analysis of the results of the surveys indicated that the greatest differences among the systems with respect to needs for technical assistance were by size of system (large, mid-sized, and small) and by the type of operating and capital funding assistance they received, (urbanized, non-urbanized, specialized services).

All the large transit systems fall into the Urbanized category. Mid-Size and Small systems groups consist mostly of Non-Urbanized and Specialized Service systems. The Non-Urbanized systems derive their funding from UMTA Section 18 grants and State Assistance grants, while the Specialized Service systems, which are operated by private non-profit organizations, receive funding through UMTA Section 16(b)(2) and/or State Assistance Grants. Consequently, the rules and regulations and possible actions that apply to these two groups differ, as do their interests and needs for technical assistance.

The following set of tables summarizes the findings of the mail-back and on-site surveys. The transit systems' level of interest in receiving technical assistance indicated in the surveys has been mapped onto a "Need for Technical Assistance" scale of "Strong," "Medium," and "None."

9

TABLE 1
SURVEY FINDINGS SUMMARY
LARGE SYSTEMS (MORE THAN 29 VEHICLES)

TOPIC	LEVEL OF INTEREST IN TECHNICAL ASSISTANCE
INTERPRETATION OF - DRUG TESTING REQUIREMENTS - EPA EMMISION REGULATIONS	VERY STRONG
HUMAN RESOURCES - DRUG TESTING PROCEDURES - ADVANCED TECHNICAL TRAINING FOR MECHANICS	STRONG
VEHICLE MAINTENANCE - EMMISION CONTROL	STRONG
FACILITY MANAGEMENT - PREVENTING LUST	STRONG
INTERPRETATION OF - STATE ACTS AND ADMINISTRATIVE RULES	STRONG
OPERATIONS - COMPUTER USE FOR SCHEDULING, ROUTING AND RUN-CUTTING (systems without computerized operations)	STRONG
HUMAN RESOURCES - MOTIVATING EMPLOYEES - SAFETY PROGRAMS FOR DRIVERS - SENSITIVITY TRAINING FOR DRIVERS	MEDIUM
VEHICLE MAINTENANCE - ENGINE MAINTENANCE - TRANSMISSION MAINTENANCE	MEDIUM
PURCHASING - COMPETITIVE BID PROCEDURES	MEDIUM
HUMAN SERVICE AGENCY TRANSPORTATION - MONITORING PRIVATE OPERATORS	MEDIUM
INTERPRETATION OF - UMTA REGULATIONS AND GUIDELINES	MEDIUM
MARKETING - PUBLISHING ROUTE MAPS AND SCHEDULES	MEDIUM
COMPUTERS - TRAINING IN COMPUTER USE	MEDIUM

TABLE 2
SURVEY FINDINGS SUMMARY
MID-SIZED SYSTEMS (10 - 29 VEHICLES)

TOPIC AREA FOR TECHNICAL ASSISTANCE	LEVEL OF INTEREST
INTERPRETATION OF - DRUG TESTING REQUIREMENTS	VERY STRONG
HUMAN RESOURCES - DRUG TESTING PROCEDURES - SAFETY PROGRAMS - DEFENSIVE DRIVING - SENSITIVITY TRAINING - ADVANCED TECHNICAL TRAINING FOR MECHANICS	STRONG
HUMAN SERVICE AGENCY TRANSPORTATION - NEGOTIATING AND DEVELOPING CONTRACTS WITH HUMAN SERVICE AGENCIES	STRONG
OPERATIONS - PROCEDURES MANUAL FOR ROUTINE AND EMERGENCY SITUATIONS - COMPUTER USE FOR SCHEDULING, ROUTING AND RUN-CUTTING - DEVELOPING PERFORMANCE INDICATORS	STRONG
MARKETING - DEVELOPING MARKETING PLAN - PUBLISH ROUTE MAPS AND SCHEDULES	STRONG
HUMAN RESOURCES - MOTIVATING EMPLOYEES - DEVELOPING EMPLOYEE PERFORMANCE APPRAISAL - HANDBOOK FOR BOARD OF DIRECTORS	MEDIUM
FINANCIAL MANAGEMENT - ESTIMATING REVENUES - ESTIMATING EXPENDITURES - MULTI-YEAR FINANCIAL PLANS	MEDIUM
INTERPRETATION OF - STATE ACTS AND ADMINISTRATIVE RULES - UMTA REGULATIONS AND GUIDELINES - EPA EMMISIONS REGULATIONS - CONTRACT LANGUAGE	MEDIUM
MANAGEMENT INFORMATION SYSTEMS - ANALYZING RIDERSHIP STATISTICS - COMPUTERIZING REPORTS - DEMAND RESPONSIVE EVALUATION	MEDIUM
OPERATIONS - DISPATCHING TECHNIQUES	MEDIUM
VEHICLE MAINTENANCE - RECORD-KEEPING OF MAINTENANCE ACTIVITIES - WHEELCHAIR MAINTENANCE - ENGINE MAINTENANCE - SUSPENSION MAINTENANCE	MEDIUM
COMPUTERS - TRAINING IN COMPUTER USE	MEDIUM
MARKETING - FREE PUBLICITY - CHOOSING APPROPRIATE MEDIA - USE OF LOCAL RESOURCES - CONDUCT SURVEYS	MEDIUM

11

TABLE 3
SURVEY FINDINGS SUMMARY
SMALL SYSTEMS (LESS THAN 10 VEHICLES)

TOPIC AREA FOR TECHNICAL ASSISTANCE	LEVEL OF INTEREST
HUMAN RESOURCES * SAFETY PROGRAM FOR DRIVERS * SENSITIVITY TRAINING	STRONG
OPERATIONS * PROCEDURES MANUAL FOR ROUTINE AND EMERGENCY SITUATIONS	STRONG
COMPUTERS * TRAINING IN COMPUTER USE	STRONG
MARKETING * DEVELOPING MARKETING PLAN * USE OF LOCAL RESOURCES * FREE PUBLICITY	STRONG
INTERPRETATION OF * DRUG TESTING REQUIREMENTS	STRONG
HUMAN RESOURCES * MOTIVATING EMPLOYEES * DEVELOPING EMPLOYEE PERFORMANCE APPRAISAL * DRUG TEST PROCEDURES * DRIVER TRAINING PROGRAM * DEFENSIVE DRIVING PROGRAM * FIRST AID AND CPR * ADVANCED TECHNICAL TRAINING FOR MECHANICS	MEDIUM
OPERATIONS * DISPATCHING TECHNIQUES * SCHEDULE ADHERENCE CHECKS * DEMAND-REPONSE EVALUATION * COMPUTER USE FOR OPERATIONS	MEDIUM
MANAGEMENT INFORMATION SYSTEMS * DEVELOP PERFORMANCE INDICATORS * ANALYZE RIDERSHIP STATISTICS	MEDIUM
PURCHASING * COMPETITIVE BID PROCEDURES	MEDIUM
VEHICLE MAINTENANCE * ENGINES * TRANSMISSION * ELECTRICAL SYSTEM * BODY * AIR CONDITIONING * WHEELCHAIR LIFTS * SUSPENSION * RECORDKEEPING OF MAINTENANCE ACTIVITIES	MEDIUM
RADIO AND COMMUNICATIONS * TRAINING IN RADIO PROCEDURES AND DISPATCHING	MEDIUM
INTERPRETATION OF * UMTA REGULATIONS AND GUIDELINES * STATE ACTS AND ADMINISTRATIVE RULES	MEDIUM
HUMAN SERVICE TRANSPORTATION * COORDINATION OF SERVICES * FUNDING * REIMBURSEMENT * NEGOTIATING AND DEVELOPING CONTRACTS	MEDIUM
PRIVATIZATION * INTERPRETATION OF PRIVATIZATION REGULATIONS * CONTRACTING MAINTENANCE OR OTHER SPECIAL SERVICES	MEDIUM

TABLE 4
SURVEY FINDINGS SUMMARY
NON-URBANIZED SYSTEMS (RECIPIENTS OF UMTA SECT. 18 FUNDS)

TOPIC AREA FOR TECHNICAL ASSISTANCE	LEVEL OF INTEREST
INTERPRETATION OF • DRUG TESTING REQUIREMENTS	VERY STRONG
HUMAN RESOURCES • DRUG TESTING PROCEDURES • DRIVER TRAINING PROGRAM • DEFENSIVE DRIVING PROGRAM • SAFETY PROGRAM • SENSITIVITY TRAINING • ADVANCED TECHNICAL TRAINING FOR MECHANICS	STRONG
OPERATIONS • DEMAND RESPONSIVE SERVICE EVALUATION • PROCEDURES MANUAL FOR ROUTINE EMERGENCY SITUATIONS	STRONG
MANAGEMENT INFORMATION SYSTEMS • DEVELOP PERFORMANCE INDICATORS	STRONG
VEHICLE MAINTENANCE • AIR CONDITIONING • WHEELCHAIR LIFTS • RECORDKEEPING OF MAINTENANCE ACTIVITIES	STRONG
MARKETING • DEVELOP MARKETING PLAN • USE LOCAL RESOURCES • GET FREE PUBLICITY	STRONG
INTERPRETATION OF • UMTA REGULATIONS AND GUIDELINES	STRONG
HUMAN SERVICE AGENCY TRANSPORTATION • NEGOTIATING AND DEVELOPING CONTRACTS	STRONG
HUMAN RESOURCES • MOTIVATING EMPLOYEES • DEVELOP EMPLOYEE PERFORMANCE APPRAISAL • HANDBOOK FOR BOARD OF DIRECTORS	MEDIUM
FINANCIAL MANAGEMENT • CASH FLOW MANAGEMENT • PREPARING CASH FLOW REPORTS • BOOKKEEPING/ACCOUNTING • ESTIMATING REVENUES • ESTIMATING EXPENSES • DEVELOPING MULTIYEAR FINANCIAL PLAN	MEDIUM
OPERATIONS • USE OF COMPUTER FOR SCHEDULING,ROUTING, AND OPERATIONS	MEDIUM
MANAGEMENT INFORMATION SYSTEM • ANALYZING RIDERSHIP STATISTICS • COMPUTERIZING REPORTS	MEDIUM
PURCHASING AND INVENTORY • COMPETITIVE BID PROCEDURES • COMPLYING WITH DBE PROGRAM • COMPUTERIZING INVENTORY • CONTRACT PREPARATION AND ADMINISTRATION	MEDIUM
VEHICLE MAINTENANCE • ENGINES • TRANSMISSIONS	MEDIUM
RADIO AND COMMUNICATIONS • TRAINING IN RADIO PROCEDURES AND DISPATCHING	MEDIUM

13

TABLE 4 (continued)
SURVEY FINDINGS SUMMARY
NON-URBANIZED SYSTEMS (RECIPIENTS OF UMTA SECT. 18 FUNDS)

TOPIC AREA FOR TECHNICAL ASSISTANCE	LEVEL OF INTEREST
COMPUTERS	MEDIUM
* TRAINING IN COMPUTER USE	
MARKETING	MEDIUM
* WRITE A PRESS RELEASE	
* CHOOSE APPROPRIATE MEDIA	
* CONDUCT SURVEYS	
* IMPROVE GRAPHIC DESIGN	
* PUBLISH ROUTE MAPS/SCHEDULES	
GRANT MANAGEMENT	MEDIUM
* UMTA CAPITAL GRANT PROGRAM	
* STATE CAPITAL GRANT PROGRAM	
* UMTA OPERATING GRANT PROGRAM	
* STATE MARKETING GRANT PROGRAM	
* APPLICATION PREPARATION	
INTERPRETATION OF	MEDIUM
* STATE ACTS AND ADMINISTRATIVE RULES	
* CONTRACT LANGUAGE	
* EPA EMISSION REGULATIONS	
HUMAN SERVICE AGENCY TRANSPORTATION	MEDIUM
* COORDINATION OF SERVICES	
* FUNDING	
* REIMBURSEMENT	
PRIVATIZATION	MEDIUM
* INTERPRETATION OF PRIVATIZATION REGULATIONS	
* CONTRACTING MAINTENANCE OR OTHER SPECIAL SERVICES	

14

TABLE 5
SURVEY FINDINGS SUMMARY
SPECIALIZED SERVICE SYSTEMS
(RECIPIENTS OF UMTA SECT. 16B2 AND/OR STATE ASSISTANCE FUNDS)

TOPIC AREA FOR TECHNICAL ASSISTANCE	LEVEL OF INTEREST
HUMAN RESOURCES * MOTIVATING EMPLOYEES	STRONG
OPERATIONS * PROCEDURES MANUAL FOR ROUTINE AND EMERGENCY SITUATIONS	STRONG
HUMAN RESOURCES * SAFETY PROGRAM FOR DRIVERS * SENSITIVITY TRAINING	MEDIUM
OPERATIONS * DEMAND-RESPONSE EVALUATION	MEDIUM
MANAGEMENT INFORMATION SYSTEM * DEVELOP PERFORMANCE INDICATORS * ANALYZE RIDERSHIP STATISTICS	MEDIUM
VEHICLE MAINTENANCE * WHEELCHAIR LIFTS * SUSPENSION * RECORDKEEPING OF MAINTENANCE ACTIVITIES	MEDIUM
MARKETING * USE LOCAL RESOURCES * WRITE PRESS RELEASE * GET FREE PUBLICITY	MEDIUM
INTERPRETATION OF * DRUG TESTING REQUIREMENTS	MEDIUM
HUMAN SERVICE AGENCY TRANSPORTATION * FUNDING * REIMBURSEMENT	MEDIUM

15

The indication of need for technical assistance is shown for the systems grouped by fleet size:

- **Large** - Fleet size greater than 29 vehicles - Table 1

- **Mid-Sized** - Fleet size between 10 and 29 vehicles - Table 2

- **Small** - Fleet size below 10 vehicles - Table 3

and by the following two types of financial assistance:

- **Non-Urbanized** ("Section 18" systems) - Table 4

- **Specialized Service** ("Section 16(b)(2)" systems) - Table 5.

8. TECHNICAL ASSISTANCE NEEDS BY TOPIC

In this section the need for technical assistance is presented in a matrix form by topic allowing the comparison of need for each topic across the system grouped by size and by non-urbanized and specialized service financial assistance.

8.1 Human Resources

A. Personnel

Motivating Employees

Transit Systems	Need for Technical Assistance
Large Systems	Medium
Mid-Sized Systems	Medium
Small Systems	Medium
Non-Urbanized Systems	Medium
Specialized Service	Strong

Develop employee performance appraisal

Large Systems	---
Mid-Sized Systems	Medium
Small Systems	Medium
Non-Urbanized Systems	Medium
Specialized Service	---

B. Driver Screening and Training

Drug Testing Procedures

Large Systems	Strong
Mid-Sized Systems	Strong
Small Systems	Medium
Non-Urbanized Systems	Strong
Specialized Services	---

16

Sensitivity Training, Safety Programs, and Defensive Driving

	Sensitivity Training	Safety Programs	Defensive Driving
Large Systems	Medium	---	---
Mid-Sized Systems	Strong	Strong	Strong
Small Systems	Medium	Strong	Medium
Non-Urbanized Systems	Strong	Strong	Strong
Specialized Service	Medium	Medium	---

In addition, the small systems indicated a medium need for assistance in safety inspections.

C. Mechanic Training

	Need for Technical Assistance Advanced Training for Mechanics
Large Systems	Strong
Mid-Sized Systems	Strong
Small Systems	Medium
Non-Urbanized Systems	Strong
Specialized Service	---

8.2 Operations

A. Routing and Scheduling

	Procedures Manual for Routine and Emergency Situations	Computer Use for Routing & Scheduling
Large Systems	---	Strong*
Mid-Sized Systems	Strong	Strong
Small Systems	Strong	Medium
Non-Urbanized Systems	Medium	Medium
Specialized Service	Strong	---

*refers only to those Large systems that are not at the present using computers for routing and scheduling.

B. Management Information System

	Need for Technical Assistance			
	Develop Performance Indicators	Analyze Ridership Statistics	Demand Responsive System Evaluation	Comput- erize Reports
Large Systems	---	---	---	---
Mid-Sized Systems	Strong	Medium	Medium	Medium
Small Systems	Medium	Medium	Medium	---
Non-Urbanized Systems	Strong	Medium	Strong	Medium
Specialized Service	---	Medium	Medium	---

8.3 Purchasing and Inventory

Competitive Bid Procedures

	Need for Technical Assistance
Large Systems	Medium
Mid-Sized Systems	---
Small Systems	Medium
Non-Urbanized Systems	Medium
Specialized Service	---

There was also an indication that compliance with DBE/WBE programs is a problem for non-urbanized systems, particularly in rural and western parts of the state.

8.4 Facility and Equipment Management

Record Keeping of Maintenance Activities

	Need for Technical Assistance
Large Systems	---
Mid-Sized Systems	Medium
Small Systems	Medium
Non-Urbanized Systems	Strong
Specialized Service	Medium

Wheelchair Lift Maintenance

Need for

18

	Technical Assistance
Large Systems	---
Mid-Sized Systems	Medium
Small Systems	Medium
Non-Urbanized Systems	Strong
Specialized Service	Medium

Vehicle Component Maintenance

	Need for Technical Assistance		
	Engines	Transmission	Suspension
Large Systems	Medium	Medium	---
Mid-sized Systems	Medium	---	Medium
Small Systems	Medium	Medium	Medium
Non-Urbanized Systems	Medium	Medium	---
Specialized Service	---	--	Medium

Facility Management

Prevention of Leakage from Underground Storage Tank (LUST)

Large Systems	Strong
Mid-Sized Systems	---
Small Systems	---
Non-Urbanized Systems	---
Specialized Service	---

Radio and Communication

	Radio Procedures and Dispatching
Large Systems	---
Mid-Sized Systems	Medium
Small Systems	Medium
Non-Urbanized Systems	Medium
Specialized Service	---

Computers

	Training in Computer Use
Large Systems	Medium
Mid-Sized Systems	Medium
Small Systems	Strong
Non-Urbanized Systems	Medium
Specialized Service	---

8.5 Marketing

	Level of Interest in Technical Assistance
Large Systems	----
Mid-Sized Systems	Medium
Small Systems	Medium
Non-Urbanized Systems	Medium
Specialized Service	Strong

There is a need for marketing technical assistance especially for small and mid-sized systems which indicated a strong/medium need for: the development of marketing plans, free publicity, use of local resources, publication of route maps and schedules, and identification of markets.

8.6 Grant Management

There was an indication of medium interest in technical assistance for all grant programs (UMTA Capital and Operating grants, State operating and Capital grants, marketing grant, and grant application preparation) from non-urbanized systems. This can be interpreted as an understandable concern and interest about funding sources and not as a specific need for technical assistance.

8.7 Interpretation of Rules and Regulations

	Drug Testing Regs.	EPA Emission Regs.	UMTA Regs. & Guidelines	State Acts & Adm. Rules
Large Systems	V. Strong	V. Strong	Medium -	--
Mid-sized Systems	V. Strong	Medium	Medium	Medium
Small Systems	Strong -	--	Medium	Medium
Non-Urbanized Systems	V. Strong	Medium	Strong	Medium
Specialized Service	Medium -	----	----	---

8.8 Human Service Agencies Transportation

	Level of Interest in Technical Assistance			
	Monitoring Private Operators	Negotiating & Developing Contracts with HSA	Reimbursements	Coordination of services
Large Systems	Medium	---	---	----
Mid-sized Systems	----	Strong	---	---
Small Systems	----	Medium	Medium	Medium
Non-Urbanized Systems	---	Strong	Medium	Medium
Specialized Service	---	----	Medium -	--

9. CRITERIA FOR RANK ORDERING TECHNICAL ASSISTANCE NEEDS

While the UPTRAN Bus Division Technical Assistance Program is directed at the providers (the bus systems), it should be kept in mind that the assistance to the systems is only an intermediary step in improving service to the transit-user. Thus, the criteria used for rank-ordering the topics for technical assistance are based on:

- Responding to transit systems' reported need. The highest priority for technical assistance should be given to topics where strong needs were indicated by a substantial number of transit systems.

- Enhancing the safety, security, and treatment of the transit user. For topics of relatively equal need, indicated by the transit systems, priority should be given to those that improve safety and service delivery to the system user.

The Consulting Team assigned each topic a rank on a scale from 1 to 3, where 1 indicates the highest need for technical assistance. Each topic area of the same rank has the same priority, regardless of its sequential location within the priority group.

Some topic areas were assigned a middle rank. For example, a rank 2-3 is higher than 3, but lower than 2.

It should also be noted that this ranking applies to the need for technical assistance, and does not indicates the relative importance or contribution to the operation of the transit systems. For example "financial management" (rank 3) is obviously more important for system operation than "motivating employees" (rank 2-3). However, need for technical assistance was higher for "motivating employees."

Finally, the topic areas for technical assistance were divided into two groups: "Policy Needs," and "Program Needs." "Policy Needs" are those areas where assistance is needed in interpretation of guidelines and rules, or with intervention through political activity at the State's agencies and legislative bodies. "Program Needs" are areas where technical assistance programs can be provided through the UPTRAN Bus Division.

10. RANK ORDER OF TECHNICAL ASSISTANCE NEEDS

The following is a list by topic areas for technical assistance as ranked by the above criteria. Programs to address these needs are proposed in the next Chapter.

10.1 Policy Needs

Priority 1+

- Interpretation of Drug Testing Regulations and Drug Testing Procedures

Priority 1

- Interpretation of EPA Emissions Regulations

Priority 3

- Interpretation of UMTA Regulations and Guidelines, State Acts and Administrative Rules

10.2 Program Needs

Priority 1

- Driver Training Programs - Safety Programs, Sensitivity Training, Defensive Driving

- Mechanic Training in Advanced Technical Skills

- Computer Training

- Record Keeping of Maintenance Activities

Priority 1-2

- Marketing - Developing of Marketing Plans, Surveys for Market Identification

- Routing and Scheduling - Procedures Manual for Routine and Emergency Situations, Computer Use for Routing and Scheduling

Priority 2

- Wheelchair Lift Maintenance

- Maintenance of Engines, Transmissions, Suspensions

- Prevention of LUST (Leaky Underground Storage Tanks)

- Management Information Systems - Develop performance Indicators, Demand Response System Evaluation

Priority 2-3

- Motivating Employees

Priority 3

- Developing Employee Performance Appraisals

- Competitive Bidding Procedures

- Financial Management - estimating expenditures and revenues, cash flow management, developing multi-year financial plans

- Radio and Communication - Radio procedures and Dispatching

- Grant Programs - Assistance in Grant Applications

- Human Service Agencies - Negotiating and Developing Contracts with HSA, Reimbursement, Monitoring Private Operators

11. PROPOSED ACTIONS AND PROGRAMS

11.1 Program Criteria

The actions and programs proposed to address the needs for technical assistance were derived from reviews of existing State programs, discussions with the Bus Division staff, interviews with transit system managers, and successful experiences in other states.

The ultimate goal of the technical assistance program is to improve the quality of public transportation service to the customer - the transit user, and to achieve maximum improvement in service quality for a given investment. Consequently, the Consulting Team selected and proposed programs which could:

1. Make use of existing methods of delivery of technical assistance, i.e. take advantage of existing assistance programs which already have the management infrastructure and experience. By building on these programs, high returns could be expected for a relatively small investment of resources (money and personnel).

2. Yield results quickly, but are consistent with long term goals. This attribute is desirable for programs because of the uncertainty and frequent changes in federal and state funding programs and the rapid pace of technological progress.

3. Reduce Operating and Capital Cost without sacrificing service standards. This attribute is consistent with improving efficiency of the operation of a transit system. For example, improved mechanics training could result in savings in fuel (operating cost), and extend the life of buses (capital cost).

The proposed programs are divided into Policy Actions and program Actions which correspond to the Policy Needs and Program Needs discussed earlier. The order and rank assigned to the programs and action also corresponds to the "priority list" of needs for technical assistance.

11.2 Policy Actions

A. Interpretation of Drug Testing Regulations and Drug Testing Procedures - Priority 1+

There is clearly a strong to very-strong need by systems for technical assistance in the interpretation of drug testing regulations and in drug testing procedures.

The systems are looking to the State to provide EXPLICIT interpretation of the drug testing regulations. This interpretation should contain statements and guidelines of how to comply with federal drug testing requirements.

23

The State needs to provide explicit guidelines on how to comply with federal drug testing requirements. The guidelines should answer questions such as:

- how frequently to conduct the tests?

- who is authorized to conduct them?

- can the analysis be done at the local hospital?

- what laboratories are certified to conduct analyses?   -will it be required of all employees or only drivers?

- how to set the 125% sample?

- how to deal with drug violators?

- how to set a drug rehabilitation program? (if at all)

B. Interpretation of EPA Emission Regulations - Priority 1

There is a strong need by large systems and mid-sized urban transit systems for assistance in interpretation of EPA Emission Regulation, particularly for diesel engines.

The concern is that urban diesel buses will have to comply with emission standards before the technology needed to meet these requirements is available to them.

C. Interpretation of UMTA Regulations and Guidelines - Priority 3

A need for interpretation of UMTA regulations and guidelines is indicated by all systems, except Specialized Services. The non-urbanized systems also indicated a need for assistance in interpretation of State acts and administrative rules.

The State can provide assistance in this area by the followings:

1. Reiterate and provide further explanations of the rules/guidelines during the annual regional meetings.

2. Devote a section of each issue of the transit newsletter (See Section 2.2-K, Motivating Employees) for a specific guideline or rule, in particular to ones which were "news" during the publication of the newsletter.

11.3 Program Actions

A. Driver Screening and Training, Sensitivity Training, Safety Programs, and Defensive Driving - Priority 1

There is a need for technical assistance for driver training in sensitivity training, defensive driving, and safety programs. This need appears to be between medium and strong for all

systems. In addition, the small systems indicated a medium need for assistance in safety inspections. The following actions are proposed to meet the need:

1. Continue Train-the Trainer Program

Continue with "Train The Trainer" (TTT) program, and offer it at least once-a-year. TTT should be offered frequently in order to keep the flow of qualified personnel in the systems. Emphasize the areas of sensitivity and defensive driving in TTT.

2. Use RTAP National Driver Training Program Modules

The following Driver Training modules are now (or shortly will be) available through RTAP:

- Substance Abuse Awareness in Rural Transit

- Understanding the Capabilities and Needs of Special Passengers

- Emergency Procedures for the Rural Transit Driver

3. Refresher Courses

Provide, or encourage systems to provide refresher driver training courses.

4. Mobile Driving Simulator

UPTRAN should consider developing a mobile simulation laboratory for driver training and evaluation, similar to the programs offered by North Carolina, South Carolina, and Florida. A vehicle with on-board simulators is used for training and testing drivers on signaling steering, acceleration speed control and transmission use. Printer reports are generated for every driver using the simulators.

5. Interactive Videos for Driver Training

UPTRAN should consider evaluating or developing interactive video programs for driver training.

6. Regional Driver Training Programs

UPTRAN should consider organizing regional training programs. Such training programs should utilize the resources of the Great Lakes Center for Truch Research at the University of Michigan Transportation Research Institute. One of the charges to this Center is to improve safety and efficiency of trucking and transit. The resources of this center could be utilized to develop workshops for defensive driving. Michigan Technological University, which is associated with this Center, could be used as a regional training center for the Upper Peninsula.

B. Mechanic Training in Advanced Technical Skills - Priority 1

There is a need for training for mechanics in "Advanced Technical Skills" for all systems but the Specialized Services Advanced skills relate to electronic systems, and diesel mechanics. The following actions are suggested:

1. Community College Training

Develop educational relationships with Community Colleges and use them more extensively for training. A successful example of this is the program in Virginia where transit system mechanics earn Associate Degrees in Mechanics when they complete a special program at the local Community College. Tuition costs should be supported by the State.

2. Manufacturer Workshops

Workshops in advanced mechanics to be provided by MANUFACTURERS of buses or of specific components. The State should use its purchasing power to convince manufacturers to provide workshops or other training aid (i.e. videos) directed by manufacturers' own staff.

3. Training Centers

Use large system as a "hub" or "training centers" for surrounding small areas. Informal relations of this type already exist. However, a formal arrangement, where the State might pick-up the marginal cost of this training, will utilize existing resources (at the large systems), while providing it at an economical costs.

4. Co-op Programs

Develop internships and co-op programs with the technical branches of local high schools to develop future transit mechanics.

5. Mechanics Course for Managers

Develop workshops in "Basic Bus Mechanics" for systems' managers, who have managerial skills but lack knowledge in bus mechanics. This courses could ease communication between managers and their mechanics, and perhaps lead even to cost savings by more informed managers.

C. Computer Training - Priority 1

The small and mid-sized systems that participated in the Bus Division Computer Program are very pleased with the computers and help they received through the program. However, they indicate a need for more training.

To address the needs of the small and mid-sized systems, UPTRAN could:

1. Enlarge Present Computer Assistance Program

Continue with the present computer training program but increase the number of Computer Program personnel. At least one more field trainer is needed to meet current needs.

2. Provide Training Grants

Provide small grants, in the order of about $1,000, to small/mid size systems to purchase their own computer training from local vendors and/or local community colleges. This could help in particular systems located in the Lower Upper Peninsula and in the Upper Peninsula, which are less accessible to UPTRAN personnel.

There were two types of needs in computer training expressed by some of the large systems. Some of the large systems stated they could use help in setting up training sessions at their own systems. One large system asked for assistance in training personnel on a specific wordprocessing program, which is not supported by UPTRAN. It seems that the computer training needs of the large systems can be left to the large systems themselves.

D. Record Keeping of Maintenance Activities - Priority 1

Small and mid-sized systems, especially the non-urbanized systems, indicated a need for technical assistance for record keeping of maintenance activities. This problem is currently being addressed by the Maintenance Management Information System (MMIS) currently underway in the Bus Division of UPTRAN.

E. Marketing - Priority 1-2

There is a need for more technical assistance in marketing, especially for small/mid size systems which indicated a strong need for: the development of marketing plan; free publicity; use of local resources; and publication of route maps and schedules. The following actions are proposed:

<u>1. Assist in Identifying Markets and Developing Marketing Plans</u>

Contract with a consultant to provide a quick (1-2 weeks) on-site assistance to help small and mid-sized systems identify their markets and to develop a marketing plan. Most small systems simply equate marketing with advertising and do not recognize or use other aspects of marketing.

<u>2. Develop Generic Marketing Materials</u>

Develop generic marketing materials, including "mock-ups" which could be easily modified to the needs of individual systems. The DOT's of Ohio, Virginia, and North Carolina report success with similar marketing programs.

<u>3. Communicate What Works</u>

Communicate what marketing actions work, or do not work, based on experience of Michigan-based systems. Such descriptions would also include some basic information about the system and clients of the systems so that the readers could decide on the similarity to their own systems. This could be incorporated into the proposed newsletter (see Section 2.2 K, Motivating Employees), discussed above with respect to motivation of employees.

F. Routing and Scheduling - Priority 1-2

Procedures Manual for Routine and Emergency Situations and Use of computers for routing and scheduling.

There was a strong need by small and mid-size systems for an operation procedure manual. All systems indicated a strong need for a computerized scheduling, routing, and run-cutting program. Proposed actions in this area are as follows:

1. Modify State Procedures Manual

Modify the State Procedures Manual to include explicit examples of an operation manual for small and mid-size systems. UPTRAN could use existing manuals from large systems and modify them to fit the needs of small and mid-sized systems.

2. Evaluate Software

Search and evaluate existing software programs for routing and scheduling. Some Michigan systems, for example, Grand Rapids and Traverse City are experimenting with such systems. A first step might be to evaluate the experiences these systems gained from the use of the software. A second step might be to tap the resources of the Micro-Computer McCenter at the University of Florida, which acts as a clearing house for FHWA/UMTA micro-computer programs and of the TIME Support Center which assists systems in micro-computer applications for transit and paratransit systems.

3. Subsidize Workshop Participation

Subsidize participation of Michigan's transit systems' personnel in workshops, courses,and conferences concerned with operations. Such activities are offered frequently by RTAP programs, by the University of Wisconsin Extension Program, and by other organizations. The assistance could be through grants or scholarships.

G. Wheelchair Lift Maintenance - Priority 2

The Specialized Service and Non-urbanized systems have need for technical assistance in the maintenance of wheelchair lifts. The following actions are recommended:

1. Investigate Reasons for Wheelchair Lift Failure

Investigate whether the fault is with the lifts themselves or with the lack of knowledge of proper operation and maintenance on the part of drivers and mechanics; and respond appropriately.

2. Review RTAP Wheelchair Lift Study Findings

Review the findings from the very recent Kansas RTAP study wheelchair lifts and securements and apply the findings to Michigan.

3. Manufacturers' Workshop

Organize manufacturers' workshops at regional meetings on the topic of handling wheelchair lift problems.

H. Maintenance of Engines, Transmissions and Suspensions - Priority 2

A need for technical assistance for maintenance of vehicle components was indicated for: engines, transmissions, and suspension. Large systems indicated problems with diesel engines. Large systems indicate problems with emission controls and small systems need technical

assistance for the maintenance of air conditioners, electrical systems, and body. The following actions are proposed to address these problems:

<u>1. Systems' Input</u>

Put emphasis during the annual mechanic's training on the systems identified as problematic.

<u>2. Manufacturers' Workshops</u>

Invite manufacturers to provide workshops and/or their own training aids for maintenance of these components.

<u>3. Community College Programs</u>

Involve Community Colleges in the training of mechanics , as discussed above, particularly with respect to these systems. A special course for diesel mechanics is highly desirable.

I. Prevention of Leakage from Underground Storage Tank (LUST) - Priority 2

This is a particular problem of large systems that store fuel on their facilities. UPTRAN could encourage the large transit systems to develop a task force, to address the problem of leakage of fuel from underground storage tanks. MDOT could bring this as a research topic suggestion to the National Cooperative Transit Research Program (NCTRP).

J. Management Information System - Priority 2

There is strong need by non-urbanized systems for "developing performance indicators," and a medium need for "analyzing ridership statistics" and "computerizing reports." All of these topics are interrelated. It is suggested that the State takes the following actions:

<u>1. Develop Performance Indicator Software</u>

Develop a standardized spread sheet/data base, using the standardized software available to all systems (e.g., Symphony or dBase IV) which will produce the performance indicators and ridership statistics that the State considers important, and train the systems in its use. This software could be developed "in-house" by the Bus Division computer program personnel, or by contracting it out as an addition to the various Management Information Systems currently under development by the Bus Transit Division.

K. Motivating Employees - Priority 2-3

Achieving and maintaining employee motivation is important since motivated employees are also productive employees.

A good way of maintaining employee motivation is through "TEAM SPIRIT." The following list describes several methods of achieving and maintaining team spirit.

1. Award and Recognition Programs

The transit systems and the State should develop award and recognition programs that acknowledge and praise the accomplishments of transit personnel. The "Hearts of Gold Award" is an example; however, the program should be much broader.

2. Public Transportation Newsletter

The Bus Division should consider a State Newsletter about public transportation in Michigan. A portion of this publication would be dedicated to reporting achievements of individual and/or system.

3. Use of Local Media

Individual systems should be advised of how to use their local newspapers (daily, monthly, shopping-ads, etc.,) to communicate their programs, distinguished personnel, and achievements.

4. Confidence Building Courses

The systems and/or state could provide support to send personnel to "Dale Carnegie" type courses, which help individuals develop confidence in themselves. This, in turn, benefits the overall employee morale of an organization.

5. Uniforms

Transit systems, even small ones, should be encouraged to purchase uniforms for their drivers in order to develop the team spirit.

L. Developing Employees Performance Appraisal - Priority 3

Need for assistance in developing employee performance appraisals was indicated by the mid-sized and small non-urbanized systems. The assistance could be delivered by:

1. Modify Small Transit Systems Management Handbook

A section on Performance Appraisals (with specific examples) can be added to the existing Small Transit Systems Management Handbook.

2. Workshop at Annual Meeting

Methods of performance appraisal could be treated in workshops at the Annual Meeting of the Transit Systems.

M. Competitive Bid Procedures - Priority 3

Both large and medium size systems indicated a medium need for assistance in competitive bid procedures. There is also an indication that compliance with DBE/WBE is a problem for non-urbanized systems, in particular those located in rural or western parts of the state which lack "minority" populations. The state could take the following actions:

1. Clarify Competitive Bidding Procedures

UPTRAN should make sure that competitive biding procedures, including examples, are clearly described in the State Procedures Manual.

2. Provide Explicit DBE/WBE Guidelines

UPTRAN should provide explicit guidelines about compliance with DBE/WBE requirements for areas lacking minorities and/or minority owned firms. This topic should be discussed at the annual meetings of the systems.

N. Financial Management - Priority 3

There was an indication of medium interest for technical assistance from the non-urbanized systems for the following topics in financial management:

cash flow management

- preparing cash flow reports

- bookkeeping/accounting

- estimating revenues

- estimating expenses

- developing multiyear financial plans

No other groups of systems expressed needs in this area.

This need could be addressed by:

1. Continue with MDOT Accounting Assistance

MDOT already provides manual and computerized assistance for small non-urban systems. This includes a week long financial accounting class for system managers and bookkeepers. This program should be continued and offered periodically as the demand for such a course builds up.

2. Develop Expenditure/Revenue Template

MDOT could consider developing or adapting an expenditure/revenue forecasting tool similar to the recently released FHWA, the Transit and Highway Revenue Improvement Forecasting Template (THRIFT). The FHWA THRIFT model uses LOTUS 1-2-3 software to conduct sensitivity analysis of transportation resources and expenditures. While the THRIFT model is intended for use by local governments and planners, it seems this idea could be adapted for use by the non-urbanized transit systems.

3. Workshops at Annual Meeting

UPTRAN could offer a workshop at the annual meeting on expenditure/revenue estimation and the development of multiyear financial plans. This could be done with or without the "THRIFT-like" template discussed above.

O. Radio Procedures and Dispatching Techniques - Priority 3

There is a medium need by the non-urbanized systems for assistance in radio procedures and dispatching. This could be addressed by the Bus Division radio personnel, who could provide training and a simple procedure manual for small and mid-sized systems.

P. Grant Programs - Priority 3

There was an indication of medium interest in technical assistance for all grant programs (UMTA Capital and Operating Grants, State Capital and Operating Grants, State Marketing and grant application preparation) from the non-urbanized systems. This can be interpreted as a understandable concern and interest about their funding sources and not as a specific need for technical assistance.

UPTRAN should continue to keep the systems informed of the procedures involved in the grant programs and abreast of any changes.

Q. Human Service Agency Transportation - Priority 3

In general, the small and mid-sized systems which provide a large share of their service to Human Service Agencies (HSA) developed satisfactory working relations with those agencies. Nevertheless, there is a strong need by the non-urbanized systems and medium need by specialized service systems for assistance in negotiating and developing contracts with HSA's. The systems would like UPTRAN to use its political power and influence to assure that the funds for human service transportation are channeled to transit systems. The large systems have a problem of being responsible of channeling funds for transportation to HSAs, without control or input to their use and with no control over operation. They are looking to UPTRAN to act in a political fashion, via the State Transportation Commission and other appropriation committees, in order to assure flow of HSA transportation fund to transit agencies, and provide for more control in the expenditure of these funds.

Part Two

12. EXECUTIVE SUMMARY

Once the technical needs had been developed by the consultant the second major effort was put in motion; that of determining what actions should be taken at the state level to assist the local transit providers.

A team consisting of both state and local transit professionals was organized to review the consultant's work, and to develop a recommended action plan to be provided to Bus Transit Division management.

The primary product of the review teams' efforts is the "Technical Assistance Action Plan" at figure 1. This matrix lists areas of need and relative priorities which were assigned by the consultant, and either ratified or revised by the review team. Additionally, the matrix contains recommended sources, types of assistance and coordination responsibility assignments. In developing these recommendations the review team defined **"source"** as, "an individual or entity providing a technical assistance product or service directly to the transit system." Likewise, the **"coordination role"** was defined as "the basic project implementation level which would be responsible for preparation of project plans, and recommended schedules and budgets. Upon approval of projects by Bus Transit Division/UPTRAN, the project coordinator would, in cooperation with the Bus Transit Division project manager, perform the activities necessary to implement the project and provide the specified assistance to local systems.

Assistance may take a number of forms from formal classroom training to informal informational publications. **Sources** for the assistance may include Bus Transit Division (BTD, TSS, FOS, & PMS), consultants (CON), community colleges (CC), Michigan Transit Pool (MTP), or the transit associations (MPTA & PTA). **Coordination** may be accomplished by BTD or one of the local transit systems, possibly under the auspices of one of the transit associations. Joint coordination of projects is recommended for a number of assistance areas.

The review team envisions the action plan/matrix as a basis for present year planning as well as for future years. It can serve as the basis for BTD's annual training plan and for project selection/funding. Hence, the action plan, as updated from year to year, may continue to serve as a basic reference for future planning/budgeting in the area of technical assistance.

The Technical Needs Review Team expressed a willingness to remain in an advisory capacity to BTD management. This continuing role was made the subject of separate correspondence to the administrator, BTD.

13. Technical Needs Review Team

13.1 COMPOSITION

A ten-person team, with representation from the states' two public transit associations and the Bus Transit Division, was assembled to review the work of the consultant, and to recommend an action plan.

This portion of the report contains the results of the efforts of the review team, along with copies of the action plan provided to Bus Transit Division management.

The Needs Review Team was composed of:

Gordon Szlachetka, General Manager, City of Jackson Transportation Authority, Jackson, MI

Lisa Barcy, Administrator, Michigan Public Transit Association, Lansing, MI

Bill Schomisch, Transit Director, Kalamazoo Metro Transit System, Kalamazoo, MI

Rick Kaufman, Bay Area Transportation Authority, Traverse City, MI

and:

Technical Services Section: **Fred Lammert**, Vehicle and Equipment Unit; **Chuck Richard**, Electronic Equipment Unit; **Jack Hayes**, Training and Marketing Unit; **Amy Edgar**, Training; and **John Kiser**, Technical Services Coordination Unit.

Program Management Section: **Karen Stotts**

Field Operations Section: **Kip Grimes**, Manager

The team met initially to discuss its mission, establish objectives, and formulate an approach. During the initial meeting, the team agreed that its role was purely advisory, and that ultimate decisions concerning any recommendations from the team would remain with Bus Transit Division management. Nevertheless, the team felt that "proper and complete" staff-work by the team would be given serious consideration by management in making final decisions concerning technical assistance programs and projects.

13.2 TEAM MISSION

The Needs Review Teams' mission was to review the work of Ann Arbor Planning Associates, the consultant who performed the "technical assistance needs assessment," make recommendations related to the consultant's findings, and to formulate an "action plan" for providing technical assistance.

13.3 CONSULTANT PRESENTATION

During the first meeting Ann Arbor Planning Associates provided a one-hour presentation on its findings. The briefing included methodology used in the survey, interpretation of responses, and final results.

The team agreed that the work of the consultant was appropriate, complete, and would serve as a satisfactory basis upon which to formulate a technical assistance action plan.

13.4 TEAM OBJECTIVES

The team agreed to the following objectives:

- Develop a simple matrix showing areas in need of assistance.

- Recommend priority for attention.

- Provide a description of the form of assistance to be provided.

- Recommend a source and mechanism for project coordination.

13.5 TEAM DISCUSSIONS

Considerable time was required to develop a central focus toward the tasks to be accomplished. As might be expected, each team member came to the group with a separate agenda of items that were of importance to him or her. It was agreed that "group-think" was to be avoided and that the value of team recommendations would be enhanced by frank and open discussion. Several meetings were held over a period of three months.

13.6 AREAS DELETED

Upon detailed review of the consultant's report, the team identified several areas which do not appear to need any special assistance. As a result, the following areas were removed from further consideration:

- Interpretation of contract language. It was felt by the team that present informal assistance, on an as-needed basis, was adequate.

- First Aid and CPR training. This training is normally available from local public agencies and needs no special program. Some agencies seem to avoid this training for their personnel due to "fear of possible liability."

- Contract preparation. This item under "Purchasing" heading, had insufficient indicated need.

- Marketing (Some). Several sub-items under the "Marketing" heading were deleted. The team felt that the "Marketing Plan" item would adequately cover all of the sub-items in sufficient depth to satisfy their needs. In the course of developing a method of providing assistance in developing marketing plans, consideration should be given to the various sub-items.

- Advanced Training for Mechanics. It was determined that this item should more accurately be termed "New Technology." Hence, a new item by this name was added to Maintenance.

- Passenger Assistance. This item was combined with Sensitivity Training.

- Performance Indicators. This item, under Operations, is now located under MIS.

- Funding and Reimbursement. This item, under Human Services, was combined with Coordinating Services, under the same category.

- Facility/Storage Tanks. This item was combined with EPA regulations, under Interpreting.

13.7 METHODOLOGY

The Review Team constructed a matrix consisting of:
- AREA OF NEED (Topic and sub-topic)

- SOURCE OF ASSISTANCE (Alternatives)

ORGANIZATION	CODE
Michigan Public Transit Assoc.	MPTA
Public Transportation Assoc.	PTA
Michigan Transit Pool	MTP
Bus Transit Division	BTD
Field Operations Section	FOS
Program Management Section	PMS
Technical Services Section	TSS
Consultant	CON
Community College	CC
Other	O

- DESCRIPTION OF ASSISTANCE

TYPE OF ASSISTANCE	CODE
Training (classroom)	Trng/CR
Training (classroom + Application)	Trng/CR/PA
Training (Application)	Trng/PA
Direct Assistance (on-site)	DA
Informational Publications (formal)	IP
Informational Publications (informal)	INFO
Special Equipment	SE
Computer Program	CP
Other Assistance	OA

- PRIORITY

Highest Need	1
Medium Need	2
Low Need	3

- COORDINATION

Bus Transit Division	BTD
Technical Services Section	TSS
Field Operations Section	FOS
Program Management Section	PMS
Michigan Transit Pool	MTP
Michigan Public Transit Association	MPTA
Public Transportation Association	PTA

36

14. TEAM REPORT

A summary matrix of the Review Teams' recommendations is contained in figure 1. This matrix lists the needs identified by Ann Arbor Planning Associates, less those deleted by the team, and shows the recommended priorities, type of assistance, and source of assistance.

14.1 SPECIFIC ASSISTANCE PROJECTS

Specific project work-plans, schedules, and proposed budgets must be developed on an individual basis. The Review Team felt that detailed definition of the projects should be accomplished by the lead-role entity having overall project implementation responsibility, with advice from a project team composed of representatives of entities/transit systems most closely affected by the specific project.

14.2 COORDINATION-ROLE RESPONSIBILITIES

The review team considered project coordination responsibilities to include preparation of detailed work plans, schedules, and budgets to be recommended to BTD management. Once the project is approved, the lead entity would be responsible for implementation of the project. Periodic, as well as final reports would be provided by the lead-role entity. In order to ensure a degree of standardization for activities of lead-role entities, the following list of actions is recommended for each individual assistance effort:

- Prepare a narrative description of the need.

- Prepare a work plan containing who, what, when, and where.

- Indicate how the assistance is to be provided; e.g., using consultants after competitive solicitation, using internal resources, or other sources.

- Provide a schedule for accomplishing the project.

- Include a proposed project budget with detailed identification of the various elements of the project to be provided using internal resources, administrative costs, and processes to be used in selecting outside vendors. All services to be procured from outside the entity should be identified as to expertise, service to be provided, and cost.

- Provide a description of the method to be used to measure the effectiveness of the project in satisfying the need.

- Upon approval of the project, the lead entity would proceed to advertise for services, as appropriate, and finalize the project for presentation to BTD for funding.

- Implement the project, and make progress reports/presentations as requested by BTD.

- Submit a final report covering the results of the project.

15. CONTINUING ROLE OF REVIEW TEAM

The team felt that it could be of continuing benefit to the technical assistance program. With full understanding that it had no specific programmatic authority, the team visualized a role of "review and comment." It could review specific project plans and provide comments to the authors of the plans as well as to BTD management. It was felt that this review function by knowledgeable members of the public transit community would be beneficial to management in determining the detailed elements to be included in specific technical assistance projects. The team also felt that for this continuing role the team could be reorganized, and possibly reduced in size. It was felt important that transit system representation be structured to include the interests of both small and larger systems. Also, when dealing with subjects, for which BTD has special staff expertise, such members of the BTD staff should be included in the discussions. The subject of a continuing role for the Needs Review Team will be dealt with in more detail in direct correspondence to the Administrator, BTD.

Technical Assistance Action Plan

TOPIC	SUB-TOPIC	SOURCE	TYPE	PRIORITY	COORDINATION
1. Interpreting					
	A. Drug requirements	BTD	TRNG/CR/INFO	1+	TSS
	B. EPA Regs	TSS/CON	IP/INFO	1	TSS
	C. State Acts/Rules	BTD	INFO/IP	1	BTD
	D. UMTA Regs	BTD/O	INFO/IP	1	BTD
2. H. Resources					
	A. Drug testing	CON /*	TRNG/CR/OA(CONSORT)	1	TSS
	B. Safety programs	TSS/MTP/**	IP/OA/TRNG/CR/PA	1	TSS/MTP
	C. Defensive driving	TSS/MTP/**	TRNG/CR/PA/OA/IP	1	TSS/MTP
	D. Sensitivity training/PAT	TSS/CON/MTP	TRNG/CR/PA/IP	1	TSS/MTP
	E. Motivating employees	CON	TRNG/CR	3	MPTA
	F. Performance appraisal	CON	TRNG/CR	3	MPTA
	G. Handbook for Board	FOS/PTA/MPTA	IP	1	BTD/MPTA/PTA
	H. Street Supervision	MTP	TRNG/PA/DA/IP	2	MTP
3. Maintenance					
	A. Engine	CC/CON	TRNG/CR/DA	2	TSS
	B. Transmission	CC/CON	TRNG/CR/DA	2	TSS
	C. Record keeping	CC/CON	CP/TRNG/CR/DA	1	TSS
	D. Wheelchair lift	CC/CON	TRNG/CR/DA	2	TSS
	E. Suspension	CC/CON	TRNG/CR/DA	2	TSS
	F. Electrical system	CC/CON	TRNG/CR/DA	2	TSS
	G. Body	CC/CON	TRNG/CR/DA	2	TSS
	H. Air Conditioning	CC/CON	TRNG/CR/DA	2	TSS
	I. New Technology	CC/CON	TRNG/CR/PA/OA	1	TSS
4. Operations					
	A. Computerized	TSS/CON	CP/TRNG/DA	1	TSS
	B. Procedures manual	BTD/MTP/CON	IP/TRNG/CR	2	MTP
	C. Dispatching technique	TSS/CON	TRNG/CR/PA	3	TSS
	D. Driver Training	TSS/CON /**	TRNG/CR/CP/IP	1	TSS/MTP

Figure 1.

Technical Assistance Action Plan (Continued)

TOPIC	SUB-TOPIC	SOURCE	TYPE	PRIORITY	COORDINATION
5. Purchasing					
	A. Competitive bid proced.	BTD	DA/INFO	2	BTD/MPTA/PTA
	(Complying with DBE)	BTD	DA/IP/INFO	2	BTD/MPTA/PTA
	B. Computerized Inventory	TSS/CON/***	CP/DA	3	TSS
6. Marketing					
	Marketing plans, state/local	TSS/MPTA	TRNG/CR/PA/IP/OA	2	BTD/MPTA/PTA
7. H. Services		CON/PTA			
	A. Monitoring Private Oprs.	FOS/MTP	DA/TRNG/CR/INFO	3	FOS/MTP
	B. Negotiating contracts	BTD/MTP	DA/TRNG/CR/IP	2	FOS/MTP
	C. Coordinating services/ funding	BTD	DA/IP	1	BTD
8. Computers					
	Training in use of	TSS/CON	TRNG/CR/PA/CP/DA	1	TSS
9. Fin. Mgt.					
	A. Estimating revenues	BTD/CC/CON	TRNG/CR/DA	3	BTD/MPTA
	B. Estimating expenditures	BTD/CC/CON	TRNG/CR/DA	3	BTD/MPTA
	C. Multi-year financial plan	BTD/CC/CON	TRNG/CR/DA	3	BTD/MPTA
	D. Cash flow management	BTD/CC/CON	TRNG/CR/DA	3	BTD/MPTA
	E. Bookkeepng	BTD/CC/CON	TRNG/CR/DA	2	BTD/MPTA
10. MIS					
	A. Ridership	BTD/CON	CP/TRNG	2	BTD/MPTA
	B. Other reports	BTD/CON	CP/TRNG	2	BTD/MPTA
	C. Performance indicators	BTD/CON	IP/CP/TRNG/DA	2	BTD/MPTA
11. Radios					
	Training in procedures	TSS/CON	DA	3	TSS
12. Grants Administration, Federal/State					
	A. Application preparation	BTD/****	INFO	3	BTD
	B. Grant management	BTD/****	INFO	3	BTD
13. Vehicles/Equip.					
	Wheelchair accommodations	TSS/CON	R&D	1	TSS

Additional Resources: /* AATA, /** SMART, /*** MTA, /**** MPTA

40