This research was sponsored by the Joint Highway Research Advisory Council (JHRAC) of the University of Connecticut and the Connecticut Department of Transportation and was carried out in the Civil Engineering Department of the University of Connecticut.

The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do no necessarily reflect the official views or policies of the University of Connecticut or the Connecticut Department of Transportation. This report does not constitute a standard specification, or regulation.
JHR 94-224

2. Government Accession No.  

3. Report Date  
February 1994

4. Title and Subtitle  

5. Author(s)  
Gerald M. McCarthy and A. Carol Rosew

6. Performing Organization Name and Address  
University of Connecticut  
Department of Civil Engineering  
191 Auditorium Road, Box U-37  
Storrs, CT 06269

7. Sponsor(s)  
Connecticut Department of Transportation  
280 West Street  
Rocky Hill, CT 06067-0207

8. Sponsoring Agency Name and Address  

9. Project Number  

10. Work Unit No. (TRAIS)  

11. Contract or Grant No.  

12. Type of Report and Period Covered  
Final Report

13. Supplementary Notes  

14. Distribution Statement  
No restrictions

15. Abstract  
This report identifies job-related training needs for public transit, managerial/ supervisory positions in the functional areas of: general management, dispatching, vehicle operations and maintenance.

The findings are based on focus group interviews conducted at seven public transit agencies in Connecticut and a priority ranking of short course subjects, which address the identified job-related training needs, carried out by a group of key transit managers and administrators.

The report also develops curriculum outlines for the short courses and an organizational structure, staffing plan and budget for implementing training and technical assistance for Connecticut's public transit agencies.

16. Key Words  
Public Transit Training  
Public Transit Management

17. Security Classification (of this report)  
Unclassified

18. Security Classification (of this page)  
Unclassified

19. No. of Pages  
85

20. Price  

21. Price  

22. Price  

Form DOT F 1700.7 (4-72)  
Reproduction of completed page authorized
SI (MODERN METRIC) CONVERSION FACTORS

### APPROXIMATE CONVERSIONS TO SI UNITS

<table>
<thead>
<tr>
<th>Symbol</th>
<th>When You Know</th>
<th>Multiply By</th>
<th>To Find</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LENGTH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in</td>
<td>inches</td>
<td>0.0254</td>
<td>millimetres</td>
<td>mm</td>
</tr>
<tr>
<td>ft</td>
<td>feet</td>
<td>0.305</td>
<td>metres</td>
<td>m</td>
</tr>
<tr>
<td>yd</td>
<td>yards</td>
<td>0.914</td>
<td>metres</td>
<td>m</td>
</tr>
<tr>
<td>mi</td>
<td>miles</td>
<td>1.6093</td>
<td>kilometres</td>
<td>km</td>
</tr>
<tr>
<td><strong>AREA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in²</td>
<td>square inches</td>
<td>645.2</td>
<td>millimetres squared</td>
<td>mm²</td>
</tr>
<tr>
<td>ft²</td>
<td>square feet</td>
<td>0.093</td>
<td>metres squared</td>
<td>m²</td>
</tr>
<tr>
<td>yd²</td>
<td>square yards</td>
<td>0.836</td>
<td>metres squared</td>
<td>m²</td>
</tr>
<tr>
<td>ac</td>
<td>acres</td>
<td>0.4047</td>
<td>hectares</td>
<td>ha</td>
</tr>
<tr>
<td>mi²</td>
<td>square miles</td>
<td>2.59</td>
<td>kilometres squared</td>
<td>km²</td>
</tr>
<tr>
<td><strong>VOLUME</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fl oz</td>
<td>fluid ounces</td>
<td>29.57</td>
<td>millilitres</td>
<td>mL</td>
</tr>
<tr>
<td>gal</td>
<td>gallons</td>
<td>3.785</td>
<td>litres</td>
<td>L</td>
</tr>
<tr>
<td>cu ft</td>
<td>cubic feet</td>
<td>0.028</td>
<td>metres cubed</td>
<td>m³</td>
</tr>
<tr>
<td>cu yd</td>
<td>cubic yards</td>
<td>0.765</td>
<td>metres cubed</td>
<td>m³</td>
</tr>
<tr>
<td><strong>MASS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>oz</td>
<td>ounces</td>
<td>28.35</td>
<td>grams</td>
<td>g</td>
</tr>
<tr>
<td>lb</td>
<td>pounds</td>
<td>0.454</td>
<td>kilograms</td>
<td>kg</td>
</tr>
<tr>
<td>T</td>
<td>short tons (2000 lb)</td>
<td>907.2</td>
<td>megagrams</td>
<td>Mg</td>
</tr>
</tbody>
</table>

**NOTE:** Volumes greater than 1000 L shall be shown in m³.

| **TEMPERATURE (exact)** | | | |
|°F | Fahrenheit temperature | 5(F-32)/9 | Celsius temperature | °C |

*SI is the symbol for the International System of Measurement*
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITLE PAGE</td>
<td>1</td>
</tr>
<tr>
<td>TECHNICAL REPORT DOCUMENTATION</td>
<td>ii</td>
</tr>
<tr>
<td>METRIC CONVERSION</td>
<td>iii</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vi</td>
</tr>
<tr>
<td>EXECUTIVE SUMMARY</td>
<td>vii</td>
</tr>
<tr>
<td>A. TRAINING</td>
<td>ES-1</td>
</tr>
<tr>
<td>B. TECHNICAL ASSISTANCE</td>
<td>ES-1</td>
</tr>
<tr>
<td>C. ORGANIZING FOR A CONTINUING TRANSIT TRAINING AND TECHNICAL ASSISTANCE PROGRAM</td>
<td>ES-1</td>
</tr>
<tr>
<td>D. FUNDING THE CONTINUING TRANSIT TRAINING AND TECHNICAL ASSISTANCE PROGRAM</td>
<td>ES-5</td>
</tr>
<tr>
<td>D.1. Costs</td>
<td>ES-5</td>
</tr>
<tr>
<td>D.2. Sources of Funding</td>
<td>ES-6</td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>1-1</td>
</tr>
<tr>
<td>A. BACKGROUND</td>
<td>1-1</td>
</tr>
<tr>
<td>B. PURPOSE OF STUDY</td>
<td>1-2</td>
</tr>
<tr>
<td>C. AN OVERVIEW OF CONNECTICUT'S PUBLIC TRANSIT SYSTEMS</td>
<td>1-3</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>II. METHODOLOGY</td>
<td>II-1</td>
</tr>
<tr>
<td>A. SURVEY POPULATION</td>
<td>II-1</td>
</tr>
<tr>
<td>B. FOCUS GROUP INTERVIEW GUIDE</td>
<td>II-1</td>
</tr>
<tr>
<td>C. DATA COLLECTION AND ANALYSIS</td>
<td>II-1</td>
</tr>
<tr>
<td>III. FINDINGS</td>
<td>III-1</td>
</tr>
<tr>
<td>A. TRAINING</td>
<td>III-1</td>
</tr>
<tr>
<td>A.1. Key Functional Areas of Transit Operating Agencies</td>
<td>III-1</td>
</tr>
<tr>
<td>A.3. High Priority Short Courses to Address Management-Related Training Needs</td>
<td>III-6</td>
</tr>
<tr>
<td>A.4. Other Short Courses</td>
<td>III-15</td>
</tr>
<tr>
<td>A.5. Resources for Developing and Presenting Short Courses</td>
<td>III-16</td>
</tr>
<tr>
<td>A.6. Cost of Short Courses</td>
<td>III-18</td>
</tr>
<tr>
<td>B. ORGANIZING AND STAFFING</td>
<td>III-18</td>
</tr>
<tr>
<td>B.1. The Transportation Institute of UConn</td>
<td>III-18</td>
</tr>
<tr>
<td>B.2. Staffing the Continuing Transit Training Program</td>
<td>III-24</td>
</tr>
<tr>
<td>C. FUNDING THE CONTINUING TRANSIT TRAINING AND TECHNICAL ASSISTANCE PROGRAM</td>
<td>III-27</td>
</tr>
<tr>
<td>C.1. Costs</td>
<td>III-27</td>
</tr>
<tr>
<td>C.2. Sources of Funding</td>
<td>III-28</td>
</tr>
</tbody>
</table>
IV. APPENDIX

1. Advisory Committee ........................................ A-1-2
2. Focus Group Interview Guide ................................ A-2-1
3. Transit Agencies Selected for Focus Groups Interviews ................................ A-3-1
4. Advisory Committee Transit Needs Assessment Questionnaire ................................ A-4-1
5. Short Course Curriculum Outlines
   (Other Short Courses) ...................................... A-5-1
<table>
<thead>
<tr>
<th>FIGURE</th>
<th>DESCRIPTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1:</td>
<td>Transportation Institute - Organizational Structure &amp; Functions</td>
<td>ES-3 &amp; III-25</td>
</tr>
<tr>
<td>Figure 2:</td>
<td>Transportation Technology Transfer Center Structure &amp; Functions</td>
<td>ES-4 &amp; III-26</td>
</tr>
<tr>
<td>Figure 3:</td>
<td>Transportation Institute - Organization Structure &amp; Programs (Existing)</td>
<td>III-22</td>
</tr>
<tr>
<td>TABLE</td>
<td>PAGE</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Table I.1: Statistics for the Period July 1, 1989 to June 30, 1990 - Urban Systems</td>
<td>I-3</td>
<td></td>
</tr>
<tr>
<td>Table I.2: Statistics for the Period July 1, 1989 to June 30, 1990 - Private Commuter Express Bus Systems</td>
<td>I-4</td>
<td></td>
</tr>
<tr>
<td>Table I.3: Statistics for the Period July 1, 1989 to June 30, 1990 - Rural Systems</td>
<td>I-5</td>
<td></td>
</tr>
<tr>
<td>Table III.1: Transit Training Resources</td>
<td>III-17</td>
<td></td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

This study presents specific recommendations for the establishment of a continuing training and technical assistance program for public transit agencies at the Transportation Institute at the University of Connecticut.

A. TRAINING

This study identifies sixteen subject areas for which workshops or short courses should be developed for the training of transit management/supervisory personnel. Five of those subjects were given priority for immediate implementation. They are:

* Adapting and Implementing Total Quality Management in Public Transit Agencies
* Effective Marketing and Promotion for Transit Agencies
* Principles and Techniques for Successful Financial Management of Public Transit Agencies
* Personnel Management and Labor Relations for Public Transit Agencies
* Successful Supervisory Skills for Transit Management Personnel

B. TECHNICAL ASSISTANCE

The following technical assistance activities are recommended:

* A Quarterly Newsletter
* A Technical Assistance Hot-Line
* A Transit-Related Publications and Video-tape Lending Library

C. ORGANIZING FOR A CONTINUING TRANSIT TRAINING AND TECHNICAL ASSISTANCE PROGRAM

C.1. The Transportation Institute at UConn - The Transportation Institute at UConn is ideally positioned and suited to take on the responsibilities of training and technical assistance for public transit agencies. The Institute is already intensely involved in a variety of transportation-related research, educational, technical assistance, training and technology transfer activities, many of which are related to public transit.
The addition of a transit training and technical assistance program at the Institute would create an unprecedented organizational environment which offers the potential for new and imaginative developments in transit operations through the interaction of the program with the Institute's ongoing transportation-related research, education, training and technology transfer activities.

A Transit Training and Technical Assistance Advisory Committee, with staff support from the Institute, would be created to provide advice on program activities.

Figures 1 and 2 show the proposed location of the Continuing Transit Training and Technical Assistance Program within the organizational structure of the Transportation Institute and the staffing requirements for the program.
Figure 1 Transportation Institute: Organizational Structure & Functions
### D. FUNDING THE CONTINUING TRANSIT TRAINING AND TECHNICAL ASSISTANCE PROGRAM

#### D1. Costs:

**A. DIRECT COSTS:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries:</td>
<td></td>
</tr>
<tr>
<td>Director (25% of FT)</td>
<td>$14,700</td>
</tr>
<tr>
<td>Coord. Trng. &amp; Info. Services (25% of FT)</td>
<td>$8,600</td>
</tr>
<tr>
<td>Assit. to Coord. Trng. &amp; Info. Services (50% of 21 hrs.)</td>
<td>$7,200</td>
</tr>
<tr>
<td>Secretary II (25% of 21 hrs.)</td>
<td>$4,500</td>
</tr>
<tr>
<td>Secretary I (25% of FT)</td>
<td>$6,000</td>
</tr>
<tr>
<td><strong>Total Salaries</strong></td>
<td>$40,500</td>
</tr>
<tr>
<td>Fringe:</td>
<td></td>
</tr>
<tr>
<td>Director</td>
<td>$6,174</td>
</tr>
<tr>
<td>Coord. Trng &amp; Info. Services</td>
<td>$3,528</td>
</tr>
<tr>
<td>Assit. to Coord. Trng &amp; Info. Services</td>
<td>$3,024</td>
</tr>
<tr>
<td>Secretary II</td>
<td>$1,764</td>
</tr>
<tr>
<td>Secretary I</td>
<td>$2,520</td>
</tr>
<tr>
<td><strong>Total Fringe</strong></td>
<td>$17,010</td>
</tr>
<tr>
<td><strong>Total Salaries &amp; Fringe</strong></td>
<td>$57,510</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
<tr>
<td>Supplies</td>
<td>$500</td>
</tr>
<tr>
<td>Postage</td>
<td>$500</td>
</tr>
<tr>
<td>Telephone</td>
<td>$400</td>
</tr>
<tr>
<td>Printing</td>
<td>$1,500</td>
</tr>
<tr>
<td>Publications/Memberships</td>
<td>$1,000</td>
</tr>
<tr>
<td>Equipment</td>
<td>$1,500</td>
</tr>
<tr>
<td>Travel</td>
<td>$500</td>
</tr>
<tr>
<td>Contractual (workshops/conferences: $ @ $5,000 ea.)</td>
<td>$25,000</td>
</tr>
<tr>
<td><strong>Total Other</strong></td>
<td>$30,900</td>
</tr>
<tr>
<td><strong>Total Direct Costs</strong></td>
<td>$88,410</td>
</tr>
</tbody>
</table>

**B. INDIRECT COSTS (25% TOTAL SALARIES):** $10,125

**C. TOTAL COSTS:** $98,535

**NOTE:** The above costs are 1993 dollars.
D.2. **Sources of Funding:**

The following are potential funding sources for the cost of the recommended program:

- Federal Transit Administration Section 10
- Federal Transit Administration Rural Technical Assistance Program
- Federal Highway Administration Local Technical Assistance Program
- Revenues from Short Courses/Conferences

Other Sources:

- Section 3 1992 Federal Transit Act
- Section 9 1992 Federal Transit Act
I. INTRODUCTION

A. BACKGROUND

The Federal Transit Administration (FTA) supports managerial training activities for transit professionals through "Section 10" grants. FTA has specifically encouraged grantees to address training needs on a statewide or regional basis. FTA also encourages developing relationships between State and local transit agencies and universities as a resource for technical assistance and training.

Under Section 10 of the Federal Transit Act of 1992, the Federal Transit Administration has set aside $400,000-$450,000 to provide 50-50 matching grants for transit management training. In addition, the Act allows public agencies and state transportation departments to use up to 0.5% of their capital funding under Section 3 (discretionary funding) and Section 9 (formula funding) to cover up to 80% of the direct costs of expenses in connection with education and training.

The Connecticut Department of Transportation (ConnDOT) Bureau of Public Transportation designated Connecticut Transit (CTTRANSIT) as the lead agency for a Statewide Transit Training Grant under Section 10. CTTRANSIT's experience administering this program has revealed a significant need for short courses that address specific technical training issues for transit managers.

The cost of training and time constraints preclude most managers from attending lengthy programs offered at remote out-of-state locations. Short courses of one to three days' duration that can be offered in-state are highly desirable.

There is a need for specialized short courses that can be offered locally. Such courses, focusing on specific transit management-related topics, and involving only one to three days of training, would avoid the travel and per diem expenses associated with out-of-state travel. A key constraint to developing such courses previously was that individuals with the requisite expertise and training skills were not always associated with the eligible Section 10 provider.
H. PURPOSE OF STUDY

This study was undertaken to identify the high priority training needs of managerial and supervisory personnel in Connecticut's publicly-funded transit agencies. The identification of these needs would provide the basis for development of curriculum outlines for a series of short courses addressing those training needs.

The study also addressed the resources (organizational, staffing and financial) needed to implement and maintain a continuing program for the professional development of transit managers and supervisors for Connecticut's publicly-funded transit agencies.
C. AN OVERVIEW OF CONNECTICUT'S PUBLIC TRANSIT SYSTEMS

C.1. The Urban Systems:

Table I.1
Statistics for the Period
July 1, 1989 to June 30, 1990

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>EXPENSES</th>
<th>PASSENGERS</th>
<th>VEHICLES</th>
<th>SERVICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT Transit-Hartford</td>
<td>28,200,128</td>
<td>15,757,039</td>
<td>231</td>
<td>FR;CMTR</td>
</tr>
<tr>
<td>CT Transit-New Haven</td>
<td>15,224,227</td>
<td>7,514,574</td>
<td>122</td>
<td>FR;CMTR</td>
</tr>
<tr>
<td>CT Transit-Stamford</td>
<td>3,724,917</td>
<td>1,972,063</td>
<td>30</td>
<td>FR</td>
</tr>
<tr>
<td>NE Transp-Waterbury</td>
<td>2,764,903</td>
<td>1,606,136</td>
<td>40</td>
<td>FR</td>
</tr>
<tr>
<td>NE Transp-Meriden</td>
<td>379,914</td>
<td>120,232</td>
<td>4</td>
<td>FR</td>
</tr>
<tr>
<td>NE Transp-Wallingford</td>
<td>327,535</td>
<td>67,653</td>
<td>4</td>
<td>FR;CMTR;SCHL</td>
</tr>
<tr>
<td>New Britain Transp-New Britain</td>
<td>901,625</td>
<td>501,856</td>
<td>11</td>
<td>FR</td>
</tr>
<tr>
<td>New Britain Transp-Bristol</td>
<td>240,250</td>
<td>62,253</td>
<td>3</td>
<td>FR;CMTR</td>
</tr>
<tr>
<td>Dalko, Inc.-New Britain</td>
<td>347,368</td>
<td>154,081</td>
<td>6</td>
<td>FR</td>
</tr>
<tr>
<td>SEAT T.D.</td>
<td>1,505,873</td>
<td>824,004</td>
<td>31</td>
<td>FR</td>
</tr>
<tr>
<td>Greater Bridgeport T.D.</td>
<td>7,766,585</td>
<td>4,156,189</td>
<td>53</td>
<td>FR;CMTR</td>
</tr>
<tr>
<td>Valley T.D.</td>
<td>909,853</td>
<td>132,165</td>
<td>16</td>
<td>DR</td>
</tr>
<tr>
<td>Norwalk T.D.</td>
<td>3,072,703</td>
<td>1,141,937</td>
<td>23</td>
<td>FR</td>
</tr>
<tr>
<td>H.A.R.T.</td>
<td>1,199,532</td>
<td>660,564</td>
<td>23</td>
<td>FR</td>
</tr>
<tr>
<td>Milford T.D.</td>
<td>459,489</td>
<td>151,491</td>
<td>6</td>
<td>FR</td>
</tr>
<tr>
<td>Westport T.D.</td>
<td>1,124,975</td>
<td>138,116</td>
<td>11</td>
<td>FR;DR</td>
</tr>
<tr>
<td>Middletown T.D.</td>
<td>826,857</td>
<td>209,930</td>
<td>8</td>
<td>FR</td>
</tr>
</tbody>
</table>

NOTES:
FR=Fixed Route
CMTR=Commuter
DR=Demand Responsive
SCHL=School

Fiscal Year 1990 (July 1, 1989-June 30, 1990), ConnDOT Bureau of Public Transportation

I-3
C.2. The Private Commuter Express Bus Systems:

Table 1.2
Statistics for the Period
July 1, 1999 to June 30, 1990
PRIVATE COMMUTER EXPRESS BUS SYSTEMS

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>EXPENSES</th>
<th>PASSENGERS</th>
<th>VEHICLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willimantic</td>
<td>243,540</td>
<td>77,605</td>
<td>4</td>
</tr>
<tr>
<td>ARROW BUS LINE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vernon</td>
<td>302,453</td>
<td>182,180</td>
<td>5</td>
</tr>
<tr>
<td>COLLINS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old Saybrook</td>
<td>196,089</td>
<td>31,708</td>
<td>3</td>
</tr>
<tr>
<td>DATTCO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Torrington</td>
<td>257,182</td>
<td>49,958</td>
<td>4</td>
</tr>
<tr>
<td>KELLEY TRANSIT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meriden</td>
<td>88,542</td>
<td>29,904</td>
<td>2</td>
</tr>
<tr>
<td>MERIDEN' TRANSIT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niantic</td>
<td>248,236</td>
<td>116,938</td>
<td>6</td>
</tr>
<tr>
<td>NEW BRITAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRANSPORTATION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chester/Southington</td>
<td>96,832</td>
<td>25,193</td>
<td>3</td>
</tr>
<tr>
<td>NEW BRITAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRANSPORTATION</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: State of Connecticut Transit Operations
Annual Report Fiscal Year 1990
(71) 1, 1999-June 30, 1990
ConnDOT, Bureau of Public Transportation
C.3. The Rural Systems:

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>EXPENSES</th>
<th>PASSENGERS</th>
<th>VEHICLES</th>
<th>SERVICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estuary Transit District</td>
<td>312,300</td>
<td>18,050</td>
<td>8</td>
<td>DR:FR</td>
</tr>
<tr>
<td>Housatonic Area</td>
<td>679,653</td>
<td>64,059</td>
<td>20</td>
<td>DR</td>
</tr>
<tr>
<td>Regional Transit District</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northeast Transit District</td>
<td>472,301</td>
<td>65,409</td>
<td>13</td>
<td>DR:FR</td>
</tr>
<tr>
<td>Northwest Transit District</td>
<td>423,799</td>
<td>90,959</td>
<td>13</td>
<td>DR:FR</td>
</tr>
<tr>
<td>Windham Transit District</td>
<td>550,150</td>
<td>130,751</td>
<td>19</td>
<td>DR:FR</td>
</tr>
</tbody>
</table>

NOTES:

DR=Demand Responsive
FR=Fixed Route

Fiscal Year 1990 July 1, 1989-June 30, 1990, ConnDOT, Bureau of Public Transportation

C.4. Other Systems:

In addition to the above systems, transportation services for the elderly and handicapped throughout the state are funded through one or more of the following programs:

SECTION 16(b)(2) PROGRAM: Provides wheelchair lift-equipped vehicles for private nonprofit organizations serving the elderly and handicapped. In 1989, a fleet of 158 vehicles was being operated by 74 groups throughout the state.

STATE AGING GRANT PROGRAM: Provides grants to municipalities to purchase vehicles for the transportation of the elderly. The program provides approximately $150,000 in grants.

GREATER HARTFORD TRANSIT PROGRAM: Operates 120 vehicles in a demand-responsive service for the elderly and handicapped of member towns.
GREATER NEW HAVEN TRANSIT DISTRICT:
Operates 14 vehicles for demand-responsive service
for the handicapped.

STATEWIDE ELDERLY AND DISABLED
COORDINATION PROGRAM: Provided approximately
$3.5 Million for operating expenses for elderly and
disabled transportation services in 1989.

The above public transportation systems represent a financial
commitment of over $77 million for fiscal year 1989. Such a
commitment warrants a correspondingly appropriate commitment for
training and education to insure a high level of excellence among the
managerial and supervisory personnel who have the responsibility for
operating these important public transit systems.
II. METHODOLOGY

The needs analysis study was designed to identify the training needs of Connecticut’s transit managers, supervisors, and foremen. Drivers and mechanics were not included in the study.

A. SURVEY POPULATION

Eighteen persons were interviewed in focus groups formed in seven Connecticut transit agencies. The groups included 5 Executive Directors, 1 General Manager, 2 Assistant Managers, 2 Directors of Planning, 3 Operations Managers, 1 Director of Operations and Maintenance, 1 Maintenance Manager, 1 Dispatcher, 1 Maintenance Foreman, and 1 Comptroller. Seventeen of the 18 interviews were conducted in the managers’ offices and 15 of the interviewees participated in group interviews. The 18 interviews ranged from one hour to one and a half hours and 17 were tape recorded. The 18th interview was conducted with a Transit Agency director via telephone because of scheduling difficulties.

B. FOCUS GROUP INTERVIEW GUIDE

A focus group interview guide (See Appendix A-2) was developed based on typical key functional areas of public transit agencies. The functions included (1) general management, including (a) financial management; (b) personal management; (c) risk management and insurance; (d) planning; and (e) marketing; (2) dispatching and scheduling; (3) vehicle operations; and (4) maintenance. The interview guide was pilot tested among five transit executive officers, revised, and reproduced. The guide was then mailed to transit districts identified by the Transit Advisory Committee and distributed to executive officers and key management and supervisory personnel. Focus group interviews were then conducted with the management and supervisory personnel using the interview guide.

C. DATA COLLECTION AND ANALYSIS

Focus group participants were asked to identify, from the functional areas listed in the focus group interview guide, those which applied to their operations. Following this, participants were asked to comment upon tasks listed by functional area which they performed. Lastly, they were asked to discuss tasks of particular concern to them in
which they felt they needed training or additional training, if training were currently provided.

From the interviews, information was collected and categorized in six preliminary areas: (a) marketing, defined as relating to internal and external transit agency customers; (b) supervisory functions, defined as managing human resources; (c) personnel functions, including policy, regulatory, or procedural issues in organizations; (d) planning and scheduling functions related to routing and ridership; (e) technical training, including bus operator skill needs; and (f) finance and budgeting functions, including computerized information tasks.
III. FINDINGS

A. TRAINING

A.1. Key Functional Areas of Transit Operating Agencies

The key functional areas of transit operating agencies can be classified as follows:

General Management:
- financial management
- personnel management
- risk management and insurance
- planning
- marketing
Dispatching
Vehicle Operations
Maintenance

The above key functional areas represent the major areas of managerial responsibility for which it is desirable to provide continuing training.


The following is a summary of the job-related training needs for managerial positions found in the above key functional areas. It is based on the information collected in the focus group interviews conducted at a selected sample of Connecticut transit agencies (See Appendix 3).

A.2.1 The General Management Function

a. Marketing

1. Customer Relationships

In all transit districts, there is an important need to improve customer relationships. Customer relationships are defined as those with the bus riders, the suppliers of parts and services, the public at large, the media, internal employees who interact with the transit districts, and representatives of other
governmental organizations, locally, statewide, and nationally.

Respondents identified the need to be able to interact effectively with vendors, program contacts in the federal government, and other government agencies.

2. Public Relations

Managers need skills in developing effective communications strategies with the general public, the media, and boards and commissions.

3. Market Research Skills

Managers need to learn both quantitative and qualitative skills to target particular areas of customer ridership needs, areas where ridership figures and demographics are changing, and strategies to promote cost-effective services.

b. Supervisory Skills

1. Managing Stress

The key topical areas for stress management training include dealing with difficult customers, managing crises, and managing priorities by criticality.

2. Participative Management

Respondents stated that managers needed training in coaching techniques, team building, and Total Quality Management principles. The latter was indicated, in particular, to address productivity problems, address morale issues, and encourage
employees to become more self-directed.

3. Human Relations

Managers have a continuing need to manage human relations issues equitably, fairly, and with sensitivity. This is particularly true in situations involving a diverse workforce.

4. Basic Supervisory Skills

Many supervisors have had little or no formal, systematic training in supervisory techniques, having acquired competencies through working their way up from technical positions. This is important for first-line, and mid-level managers. In addition, foremen, having some supervisory functions, need skills in motivating employees.

5. Communications

Managers need training in active listening skills, communicating with employees and with union representatives, conducting staff meetings, and developing channels of information internally as well as externally to share timely information.

Moreover, managers need to be kept informed of changes in regulations and policies and advances in the transportation field. Cross-agency conferences were suggested as means for meeting this need.
6. Report Writing

Managers need to write clear, succinct, and accurate financial and programmatic reports.

c. Personnel Management

1. Labor Relations: Bargaining and Negotiating Techniques

Managers should understand the process of collective bargaining, particularly the role of unions and management. Managers require an understanding of: how unions identify issues, integrative problem solving techniques, managing grievances, preparing for arbitration, and working with legal counsel.

2. Progressive Discipline Techniques

Managers should know the policies for progressive discipline and learn how and when to document employee incidents.

3. Americans With Disabilities Act (ADA)

Managers need to understand the requirements of the recently passed Americans With Disabilities Act and to communicate the implications to bus drivers.

4. Sexual Harassment and Affirmative Action

Managers have had some training in preventing sexual harassment in the workplace and in affirmative action techniques. However, some follow-up or additional training has been suggested.
d. **Financial Management**

Managers need to gain skills in accounting procedures, using spreadsheets, internal auditing, and forecasting techniques.

**A.2.2. The Dispatching and Scheduling Function**

a. **Long and Short-Range Planning Techniques**

Managers need skills for estimating short- and long-range service needs. Particular skills to meet this need might include identifying and analyzing ridership trends in order to project future ridership, estimating potential costs and benefits of projected ridership trends, and surveying new route potentials.

b. **Computerized Scheduling**

Split shifts pose particular difficulties for manpower planning. Some transit agencies have adopted a particular software program which enables managers to address this problem. Informing other districts of the program and training in its use may be beneficial in a management training program.

**A.2.3. The Vehicle Operations and Maintenance Functions**

Managers expressed a need to keep current in maintenance laws and regulations and emission testing and regulations, in particular.

**A.2.4. Other**

a. **Training Needs of Technical Personnel**

Although identifying specific needs for training non-managerial personnel was beyond the scope of the study, needs for technical training were identified for managers to be aware of. Meeting
technical training needs is an important management function. Some common needs identified are: (a) understanding electrical and mechanical equipment, particularly on newer buses; (b) a skills certification program for mechanics and maintenance personnel; (c) systematic driver training; (d) continuous safety training; (e) cardio-resuscitation techniques; and (f) Commercial Drivers License training.

Specific technical needs varied from district to district. Those which were discussed included: (a) fluids analysis, particularly for foremen; (b) Detroit Diesel Electronic Control; (c) Allison Transmission Electric Control; (d) farebox circuitry; and (e) repairing overhead lighting, particularly the overhead sign.

A.3. High Priority Short Courses to Address Management-Related Training Needs

Based on a review of the full range of managerial-related training needs identified through the interviews with managerial personnel from a selected sample of Connecticut transit agencies described in Chapter III, the Advisory Committee selected the following short courses as having the highest priority for implementation:

-Adopting and Implementing Total Quality Management in Public Transit Agencies
-Effective Marketing and Promotion for Public Transit Agencies
-Principles and Techniques for Successful Financial Management of Public Transit Agencies
-Personnel Management and Labor Relations for Public Transit Agencies
-Successful Supervisory Skills for Transit Management Personnel

III-6
A.3.1. Curriculum Outlines for High Priority Short Courses

SHORT COURSE TITLE: Total Quality Management for Transit Management Personnel

Course Objectives:

-To provide an understanding of the general principles of Total Quality Management
-To provide knowledge of specific principles of practice of Total Quality Management which will be relevant to the public transit environment
-Enable transit management personnel to apply the principles of Total Quality Management to the public transit agency environment

Target Group: Chief Executive Officers, Managers, and First Time Supervisors

Topics:

-Introduction to Total Quality Management
-What is Total Quality Management?
-History of Total Quality Management
-Why Total Quality Management for Transit Agencies?


-Total Quality Management Techniques for Transit Agencies: Assessment, Planning, Implementation, (Short-Term Improvements & Long-Term Change), Institutionalization.

References:

992. The Conference Board, Inc., New York, NY


SHORT COURSE TITLE: Marketing and Promotion for Transit Management Personnel

Course Objectives:

-To present an overview of marketing and promotion techniques appropriate for public transit agencies
-To present the principles of marketing and promotion in sufficient detail to enable course participants to design and implement an appropriate marketing and promotion program for public transit agencies

Target Group: Chief Executive Officers, Marketing Managers

Topics:

-Marketing vs. Promotion.
-Organizing for Marketing.
-Developing Marketing Objectives.
-Marketing Mix: Price, Product, Promotion.
-Marketing Strategies: Undifferentiated Marketing, Differentiated Marketing, Concentrated Marketing, Coordination with Land Use Planning and Development.
-Guidelines for Developing a Marketing Strategy.
-Market Segmentation.
-Advertising: Developing the Advertising Goals and Objectives, Developing the Budget, Identifying the Theme, Selecting the Medium, Timing Expenditures, Evaluation and Control, Image of the Transit Agency.
-Public Information: The Role of Public Information, Guidelines for Conveying Information (Identification Scheme [Color, Logo Typography], Route Schedules/Maps, Bus Stop Signs, Terminal and Transfer Point Information Tablets, Telephone Information, Handbills and Direct Mail, Personal Contact, Newspaper Advertising, Public Displays, Special Promotions).
-Community/Client Relations: Transit Employees, Riders, General Public, Government, Media.
-Promotion and Management of Special Events.

References:


SHORT COURSE TITLE: Financial Management for Transit Management Personnel

Course Objectives:

-To provide an overview of the components of a financial management system for public transit agencies.

-To provide an understanding of the techniques and practices of financial management as it applies to public transit agencies.

Target Group: Chief Executive Officers, Financial Managers

Topics:

- Financial Planning Techniques,
- Accounting Fundamentals: The Accounting Process, Financial Statements, Cash and Accrual Basis of Accounting,
- Budgeting: Incremental Budgeting, Planning/Programming Budgeting, Management by Objective Budgeting, Zero-Based Budgeting, Preparing and Implementing the Budget
- Inventory Management: Inventory Management Objectives, Types of Inventories, Criteria for Effective Inventory Systems.
- Cash Management: Cash Sources, Cash Disbursements, Cash Flow, Banking (Bank Selection, Short-Term Investments), Short-Term Debt Financing (Purposes of Debt, Short-Term Debt Mechanisms).
- Long-Term Capital Planning and Procurement: Long-Term Debt, Debt Mechanisms, Planning and Issuing Debt.
- Capital Expenditures: Compound Interest, Future Value, Present Value, Life-Cycle Costing, Buying vs. Rehabilitation.
- Annual Audit: Selecting the Auditor, Purpose of the Audit, Federal/State/Local Requirements, Transit Agency Requirements.

References:


SHORT COURSE TITLE: Personnel Management and Labor Relations for Transit Management Personnel

Course Objectives:

- To provide an overview of the concepts and principles of personnel management and labor relations as they apply to public transit systems.
- To provide an understanding of the techniques and practices of personnel management and labor relations in public transit agencies.

Target Group: Chief Executive Officers, Personnel Managers, Vehicle Operations Managers, Maintenance Managers

Topics:

- Job Descriptions: Job Analysis, Content of the Job Description.
- Recruiting Job Candidates.
- Selecting the Candidates for Interviewing.
- Conducting the Interview.
- Using Tests.
- Checking Past Employment.
- Making the Job Offer.
- Probationary Period: Purpose, Effective Use.
- Employee Evaluation: Purpose, Criteria, Legal Aspects.
- Career Development and Training.
- Employee Motivation: Incentives, Participative Management.
- Progressive Discipline: Principles of Progressive Discipline, Developing and Implementing a Progressive Discipline Policy.
- Employee Assistance Programs: Elements, Implementation.
- Writing Policies and Procedures.

References:


SHORT COURSE TITLE: Supervisory Skills for Transit Management Personnel

Course Objectives:

-To provide an overview of the concepts and principles of successful supervision.
-To provide an understanding of the techniques and practices of successful supervision applied in the public transit work environment.

Target Group: All Management and Supervisory Personnel

Topics:

-Managing: Planning, Clarifying Authority, Setting-Up Controls, Providing Training, Selecting Qualified Employees, Delegating
-Communicating: Person to Person Communications, Group Communication, Written Communication, Public Relations.  

References:  

A.4. Other Short Courses  
The following short courses, which are also related to the training needs of management personnel in Connecticut's public transit agencies, were given a lower priority, by the Advisory Committee, for implementation. They are grouped according to priority for implementation as follows:  

**Group II:**  
-Principles of Transit Routing and Scheduling  
-Orientation to Federal, State and Local Transit-Related Regulations  
-Risk Management for Transit Management Personnel  

**Group III:**  
-Strategic Management for Transit Management Personnel  
-Contracting and Procurement for Transit Management Personnel  
-Maintenance Management for Transit Management Personnel  
-Micro-Computer Applications for Managing the Maintenance of Transit Vehicles  

III-15
Group IV:
- Evaluating the Performance of Transit Systems
- Planning and Implementing Micro-Computer Systems in Public Transit Agencies
- Orientation for Transit Policy Board Members
- Micro-Computer Applications for Transit Vehicle Operations

Curriculum outlines for the above short courses can be found in Appendix 4.

A.5. Resources for Developing and Presenting Short Courses

Table III-1 presents a description of training and educational resources available to address the training and educational needs of transit management personnel.
<table>
<thead>
<tr>
<th>NAME</th>
<th>CONTACT</th>
<th>SUBJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harold Phair</td>
<td>203-247-9754</td>
<td>Transit Management; Note: Has capabilities for developing interactive multimedia training modules</td>
</tr>
<tr>
<td>Dr. Jean Lebrun</td>
<td></td>
<td>People Skills</td>
</tr>
<tr>
<td>Dr. Lawrence Sherr</td>
<td></td>
<td>Total Quality Mgt.</td>
</tr>
<tr>
<td>Gere Timberlake, CEO</td>
<td></td>
<td>Transit Training</td>
</tr>
<tr>
<td>UConn, Labor Education Center</td>
<td></td>
<td>Labor Relations</td>
</tr>
<tr>
<td>UConn, School of Business Administration</td>
<td></td>
<td>Strategic Mgt.; 1st Line Supervision</td>
</tr>
<tr>
<td>University of Wisc.-Milwaukee, Otc. of Statewide Transp. Prgms.</td>
<td></td>
<td>Safety; Specialized Transit Operations; Marketing; Planning/Operations; Mgt; Human Resource Dev.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NAME</th>
<th>CONTACT</th>
<th>SUBJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFMA</td>
<td>David Demchak</td>
<td>203-772-2168</td>
</tr>
<tr>
<td>DCA Seminars</td>
<td></td>
<td>Newton, MA</td>
</tr>
<tr>
<td></td>
<td>Barbara Gannon</td>
<td>517-630-9355</td>
</tr>
<tr>
<td>National Transit Institute, Rutgers University, Rutgers, N.J.</td>
<td></td>
<td>908-932-1200</td>
</tr>
<tr>
<td>The Institute for Urban Transp.</td>
<td>Kent McDaniel</td>
<td>812-555-8143</td>
</tr>
<tr>
<td>Office of Gov’t. Programs, Louisiana State University</td>
<td>Billie Tripp</td>
<td>505-388-6200</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A.6. Cost of Short Courses

The cost of presenting short courses/workshops is estimated to be $2,000/day.

B. ORGANIZING AND STAFFING

B.1. The Transportation Institute at UConn

The Transportation Institute at UConn is ideally positioned and suited to take on the responsibilities of training and technical assistance for public transit agencies. The Institute is already intensely involved in a variety of transportation-related research, education, technical assistance, training and technology transfer activities, including those arising out of its participation in the Region One University Transportation Center at MIT -- a consortium of the six New England State Universities, Harvard and MIT -- formed to foster research, education and technology transfer for the New England Region.

Addition of a transit training and technical assistance program at the Institute would create an unprecedented organizational environment which offers the potential for new and imaginative developments in transit operations through the interaction of the program with the Institute's ongoing transportation-related research, education, training and technology transfer activities.

The Transportation Institute could readily act as a broker to facilitate Section 10 training for transit systems in Connecticut and, ultimately, for Section 10 grantees elsewhere. As in other states, the University can offer courses eligible for Section 10 funding either directly, or by engaging outside experts.

Such arrangements provide multiple benefits: facilitating transit-specific technical training under Section 10; enhancing UConn's already developing reputation for transit training and technical assistance; responding to a priority emphasis area of the Federal Transit Administration; and supporting ConnDOT's goals to improve the quality performance of publicly-funded transit operations.
In an era of limited resources and emphasis on training to enhance the effectiveness of transit systems, it is certainly an appropriate role for the State University in Connecticut to work with ConnDOT, CT Transit, and other operators in the areas of training and technical assistance.

A Transit Training and Technical Assistance Advisory Committee, with staff support from the Institute, should be created to provide advice on program activities.

The Transportation Institute is the focal point for the University of Connecticut's activities in the transportation sector. Faculty and students from throughout the University participate in its programs of education, research and public service. Presently, the Institute's five major program areas are as follows:

* The Transportation and Urban Engineering Graduate Program
* The Cooperative Research Program
* The Transportation Research Program
* The Transportation Technology Transfer Center
* The Advanced Transportation Education Program

Figure 3 shows the existing organizational structure of the Transportation Institute.
B.1.1 The Transportation and Urban Engineering Graduate Program

While not an academic unit of the University, the Institute has the primary role in coordinating educational programs at the graduate level in transportation and urban engineering. Programs are offered at both the M.S. and Ph.D. levels. Since an engineering degree is awarded, students are expected to have a solid foundation in that discipline. The core curriculum ensures that graduates will possess the necessary professional training to contribute effectively to implementation of the complex technologies associated with current and evolving transportation systems.

In addition to the core curriculum, students select subjects from one or more specific "tracks." For example, the environmental track permits students to interact with faculty of the Environmental Research Institute in coursework and research in that area. Similarly, in the systems and management track, students take courses offered by the School of Business. Students may also elect the more traditional materials and structures track which draws heavily upon the Department of Civil Engineering.

B.1.2 The Cooperative Research Program

This program, administered by the Institute, formally began in 1961 and is funded by the Connecticut Department of Transportation. In order to be included in the program, a research project must be judged to address a critical Department of Transportation need and to be consistent with the research mission of the University. Policies are established and priorities are set by the Joint Highway Research Advisory Council which consists of four representatives from the Department of Transportation and four representatives from the University. By the end of 1993, over 100 projects had been completed. Topics of research cover a wide range, including: construction materials, bridges, traffic
engineering, public transit, and maintenance practices. Many projects have dealt with environmental, economic, and management issues, and have involved researchers from numerous departments of the University.

B.1.3 The Transportation Research Program

This program differs from the Cooperative Research Program in that it is funded by sources other than the Connecticut Department of Transportation and focuses on topics beyond the immediate interest of that department. Typical funding sources are the University Transportation Centers Program and the Federal Transit Administration as well as regional and local agencies.

The University of Connecticut through the Transportation Institute is one of eight institutions participating in the U.S. DOT-funded Region One University Transportation Center program at the Massachusetts Institute of Technology. This program funds and conducts research and the development of educational/training resources for a wide range of transportation needs including public transit. The Transportation Institute at UConn has an already established role in this area through its work on the following projects funded through the Region One University Transportation Center at MT:

"Identification of Research Projects to Address the High Priority Needs of Transit Operating Agencies"

"A Plan for the Development of Educational and Training Resources for Small and Medium-Size Transit Agencies in the Region One University Transportation Center Area"

"The Development of a Short Course on Strategic Management for Transit Managers"

III-22
B.1.4. The Transportation Technology Transfer Center

This popular program provides training and technical assistance to Connecticut's local governments in traffic engineering, highway safety, road and bridge construction and maintenance. It began in 1983 as part of the federally sponsored Rural Technical Assistance Program. More recently, the needs of urban areas have been addressed.

The Quarterly Newsletter, published by the Center, provides local officials information on the latest techniques and practices being used throughout the United States for the management, construction, and maintenance of local roadway and traffic systems, and operation of public transit systems.

The Center also provides Technical Advice on problems relating to road and bridge design, construction, maintenance, traffic safety and operations, and the management and operation of public transit systems. Technical Publications, Video Training Tapes, and Traffic Monitoring Equipment are provided on loan to local agencies.

The Connecticut Road Master Program is a series of workshops designed to provide Connecticut's road maintenance supervisors and those preparing for supervisory positions with a knowledge of the fundamentals of road maintenance management procedures and techniques.

The Center provides Workshops for local government personnel on a wide variety of topics related to the planning, design, and operation of the local transportation system.

B.1.5. The Advanced Transportation Education Program

This program consists of workshops and short courses at the graduate professional level and dealing with important technical and policy issues. Workshops planned for 1993-94
include Environmental Issues in Transportation, Intelligent Vehicle/Highway Systems, and Geographic Information Systems in Transportation. In addition, the six management systems of the Intermodal Surface Transportation Efficiency Act (ISTEA) will be the subject of several workshops.

Addition of a transit training and technical assistance program at the Institute would create an unprecedented organizational environment which offers the potential for new and imaginative developments in transit operations through the interaction of the program with the Institute's ongoing transportation-related research, education, training and technology transfer activities.

A Transit Training and Technical Assistance Advisory Committee, with staff support from the Institute, could be created to provide advice on program activities.

B.2. Staffing the Continuing Transit Training and Technical Assistance Program:

Figure 2 shows the staffing requirements for the program.
SCHOOL OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING

TRANSPORTATION INSTITUTE

GRADUATE & ADVANCED EDUCATION PROGRAMS
- Transportation & Urban Engineering
- Advanced Transportation

RESEARCH PROGRAMS
- Cooperative Research
- Transportation Research Program

TRANSPORTATION TECHNOLOGY TRANSFER CENTER
- Roads & Streets (Training & Technical Assistance)
  * Public Transit (Training & Technical Assistance)

ADVISORY COMMITTEE
(Roads & Streets)
(Transit)

Legend:
- Existing Function
* Proposed Function
☐ Existing
☐ Proposed

Figure 1 Transportation Institute: Organizational Structure & Functions
Figure 2 Transportation Technology Transfer Center: Staffing & Functions
### C. FUNDING THE CONTINUING TRANSIT TRAINING AND TECHNICAL ASSISTANCE PROGRAM

#### C1. Costs:

**A. DIRECT COSTS:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries:</td>
<td>Director (25% of FT)</td>
<td>$14,700</td>
</tr>
<tr>
<td></td>
<td>Coord. Trng. &amp; Info. Services (25% of FT)</td>
<td>$8,400</td>
</tr>
<tr>
<td></td>
<td>Assist. to Coord. Trng. &amp; Info. Services (50% of 21 hrs.)</td>
<td>$7,200</td>
</tr>
<tr>
<td></td>
<td>Secretary 1 (25% of FT)</td>
<td>$4,200</td>
</tr>
<tr>
<td></td>
<td>Secretary 1 (25% of FT)</td>
<td>$6,000</td>
</tr>
<tr>
<td></td>
<td>Total Salaries</td>
<td>$40,500</td>
</tr>
</tbody>
</table>

| Fringe: | Director | $6,174 |
| Coord. Trng. & Info. Services | $3,528 |
| Assist. to Coord. Trng. & Info. Services | $3,024 |
| Secretary II | $1,754 |
| Secretary I | $2,250 |
| Total Fringe | $17,010 |

| Total Salaries & Fringe | $57,510 |

| Other: | Supplies | $500 |
| Telephone | $400 |
| Printing | $1,500 |
| Publications | $1,000 |
| Subscriptions/Memberships | $300 |
| Equipment | $0 |
| Travel | $1,500 |
| Contractual (workshops/conferences: $5 @ $5,000 ea.) | $25,000 |
| Total Other | $30,900 |
| **Total Direct Costs** | **$88,410** |

**B. INDIRECT COSTS**

| (25% TOTAL SALARIES) | **$10,125** |

**C. TOTAL COSTS:**

| **$98,535** |

III-27
C.2. **Sources of Funding:**

The following are potential funding sources for the cost of the recommended program:

- Federal Transit Administration Section 10
- Federal Transit Administration Rural Technical Assistance Program
- Federal Highway Administration Local Technical Assistance Program
- Revenues from Short Courses/Conferences
- Other Sources:
  * Section 3 1992 Federal Transit Act
  * Section 9 1992 Federal Transit Act
Project Advisory Committee

1. Thomas Kirker, Regional Transit Manager
   Bureau of Public Transportation
   Connecticut Department of Transportation

2. Stanley Grieman, Acting Director
   Estuary Transit District

3. James Sime, Assistant Director for Research
   Division of Research and Materials
   Bureau of Planning and Research
   Connecticut Department of Transportation

4. David Lee, Transit Services Assistant General Manager
   Connecticut Transit

5. Louis Shulman, Executive Director
   Norwalk Transit District

6. Henry Jadach, Chairman
   CT Association of Community Transit
FOCUS GROUP INTERVIEW GUIDE

PART I

OBJECTIVE: To develop information on: the number of people supervised, existing training programs and previous training.

1. What transit agency do you work for?

2. What is the size of your agency—roughly? People work here.

3. How many people do you directly supervise? Do any of these people supervise other employees? If so, how many?

4. Does your agency have any formal training programs? Please describe them if it does.

5. Have you had an opportunity to attend or take part in any previous training—short courses or seminars, special training, certificates, degrees, etc.? Please refer to your job description or resume if that would help jog your memory.

a. When the training took place, approximately:

Please describe the training briefly:

________________________________________

________________________________________

________________________________________
b. Other training:

When: _________________________

Please describe it briefly:

__________________________________________
PART II

OBJECTIVE: To identify the responsibilities of the management/supervisory personnel interviewed.

1. Transit research has identified several areas of general functions which managers and employees usually must perform in running a transit agency. These are:

   A. Finance--Budgeting, payroll, taxes, purchasing, risk management, insurance, etc.
   B. Personnel--Hiring, firing, promotions; negotiating raises and pay freezes, transfers, etc.
   C. Planning/Marketing--Strategic decisions about operations, advertising, contracting with other agencies and private companies, etc.
   D. Scheduling/Dispatch--Routes, schedules, etc.
   E. Vehicle Operations/Vehicle Maintenance--Driving, maintenance, repair, driver assignments, etc.

Which of the above functions do you or your supervisees perform? Describe the 3 or 4 basic tasks that you perform in each of these functional areas.

  
  Finance
  1.
  2.
  3.
  4.

  Personnel
  1.
  2.
  3.
  4.

  Planning/Marketing
  1.
  2.
  3.
  4.
____Scheduling/Dispatch

1.
2.
3.
4.

____Vehicle Operations/Maintenance

1.
2.
3.
4.

2. Are there functions which you or your supervisees do that are not covered by the above categories?

If yes, describe those functions.
PART III

OBJECTIVE: To identify the relative importance of the duties of transit management/ supervisory personnel.

Please tell us how important you feel your different job duties are for the smooth running of your agency. Using the specific tasks that you mentioned earlier, please rate the tasks in their importance to your overall job performance. Note: "least important" (1), "most important" (5).

FUNCTION AREA 1--Current tasks:

<table>
<thead>
<tr>
<th></th>
<th>Least Important</th>
<th>Most Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

A2-6
FUNCTION AREA II--Current tasks:

<table>
<thead>
<tr>
<th></th>
<th>Least Important</th>
<th>Most Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

FUNCTION AREA III--Current tasks:

<table>
<thead>
<tr>
<th></th>
<th>Least Important</th>
<th>Most Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

FUNCTION AREA IV--Current tasks:

<table>
<thead>
<tr>
<th></th>
<th>Least Important</th>
<th>Most Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Function Area V -- Current tasks:</td>
<td>Least Important</td>
<td>Most Important</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----------------</td>
<td>---------------</td>
</tr>
<tr>
<td>1.</td>
<td>1  2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>1  2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>1  2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>1  2  3  4  5</td>
<td></td>
</tr>
</tbody>
</table>
OBJECTIVE: To identify topics for short courses to meet the training needs of management/ supervisory personnel.

The following list of subject areas may be related to your job. In which of these areas would it be most useful for you to acquire training or additional expertise?

Finance and Administration

- Budgeting Transit Revenues and Expenses
- Financial Reporting Techniques
- Internal Audit Procedures for Transit Systems
- Computer Applications for Transit System Administration
- Performance Monitoring and Analysis
- Other: __________

Labor Relations

- Preparing for Grievances and Arbitrations
- Union Contract Negotiation
- Implementing Progressive Disciplinary Policies and Incentives
- How to Write Policies and Procedures Effectively
- Legal Issues for Transit Managers
- Other: __________

Risk Management

- Implementing a System Safety Plan
- Insurance Audit and Procurement
- Employee Safety and Worker's Compensation
- Fare Collection, Cash Handling, and Revenue Security
- Accident Investigation and Claims Administration
- Other: __________

Service Planning and Scheduling

- Patronage and Cost Estimation Techniques (Fixed Route) Service
- Service Analysis
- Run Cutting and Scheduling
- Route Planning
- Pricing of Transit Services
- Transportation Systems Management/Intermodal Coordination
- Computer Applications for Service Planning and Scheduling
- Other: __________

A2-9
Transit Marketing

- Customer Relations/Passenger Attitude Surveys
- User Information Techniques
- Internal Marketing/Employee Communications
- Public/Media Relations
- Special Events Planning/Operation
- Fare Prepayment Techniques
  Other: _______________________________

Maintenance

- Implementing a Fleet Maintenance Plan
- Preventive Maintenance Strategies
- Facilities Maintenance
- Inventory Control Techniques
- Purchasing Procedures
- Performance Monitoring for Maintenance Operations
- Fluids Analysis
  Other: ______________________________

Transit Operations

- Operator Training and Retraining Programs
- Ideal Manpower Planning
- Dispatching/Supervision of Street Operations
- Monitoring and Analysis of Street Service
- Contingency Planning/Responding to Emergencies
  Other: ______________________________

Paratransit Operations

- Service Contracting
- Service Evaluation and Analysis
- Demand and Cost Estimation
- Scheduling Demand-Response Service
- Intermodal Integration
  Other: ______________________________
Policy/Management

- Regulatory Compliance
- Performance Monitoring and Analysis
- Management Systems
- Employee Compensation/Benefits Administration
- Orientation Training for Board Members/Local Elected Officials
- Orientation to Federal Transit Assistance Programs
- Employee Assistance Programs/Drug-Free Workplace
- Implementing Total Quality Management
- Long Range Capital Planning and Procurement
- Other: ______________________

A2-11
APPENDIX 3: TRANSIT AGENCIES SELECTED FOR FOCUS GROUP INTERVIEWS
1. Northeast Transit: Waterbury
2. Southeast Transit: Norwich
3. Northeastern Connecticut Transit District: Brooklyn
4. Norwalk Transit District
5. Milford Transit District
6. Connecticut River Estuary Transit District
7. Connecticut Transit: Hartford
I. The following are the titles of the transit management related short courses which are recommended in the Task 4 Interim Report.

1. ASSIGN A GROUP NUMBER STARTING WITH 1 (1 = the highest priority, 2 = next highest priority, etc.) TO EACH OF THE SHORT COURSE TITLES WHICH YOU AGREE SHOULD BE INCLUDED IN A TRAINING/EDUCATIONAL PROGRAM FOR MANAGERS AND SUPERVISORS OF CONNECTICUT'S PUBLIC TRANSIT ORGANIZATIONS. IN ASSIGNING THE NUMBERS, A MAXIMUM OF FOUR (4) SHORT COURSES SHOULD BE INCLUDED IN EACH GROUP.

2. ASSIGN A "D" (delete) TO ANY OF THE SHORT COURSE TITLES WHICH YOU THINK SHOULD NOT BE INCLUDED IN A TRAINING/EDUCATIONAL PROGRAM FOR MANAGERS AND SUPERVISORS OF CONNECTICUT'S PUBLIC TRANSIT ORGANIZATIONS.

3. ADD ANY SHORT COURSE TITLES TO THIS LIST, WHICH YOU THINK SHOULD BE INCLUDED IN A TRAINING/EDUCATIONAL PROGRAM FOR MANAGERS AND SUPERVISORS OF CONNECTICUT'S PUBLIC TRANSIT ORGANIZATIONS, AND ASSIGN THE APPROPRIATE GROUP NUMBER TO THEM.

<table>
<thead>
<tr>
<th>SHORT COURSE TITLE</th>
<th>GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing and Promotion</td>
<td></td>
</tr>
<tr>
<td>Personnel Management</td>
<td></td>
</tr>
<tr>
<td>Financial Management</td>
<td></td>
</tr>
<tr>
<td>Transit Board Member Orientation</td>
<td></td>
</tr>
<tr>
<td>Strategic Management</td>
<td></td>
</tr>
<tr>
<td>Total Quality Management</td>
<td></td>
</tr>
<tr>
<td>System Performance Evaluation</td>
<td></td>
</tr>
<tr>
<td>Planning and Implementing</td>
<td></td>
</tr>
<tr>
<td>Micro-Computer Systems</td>
<td></td>
</tr>
<tr>
<td>Contracting and Procurement</td>
<td></td>
</tr>
<tr>
<td>Risk Management</td>
<td></td>
</tr>
<tr>
<td>Maintenance Management</td>
<td></td>
</tr>
<tr>
<td>Micro-Computer Applications for Vehicle Maintenance</td>
<td></td>
</tr>
<tr>
<td>Principles of Transit Routing and Scheduling</td>
<td></td>
</tr>
</tbody>
</table>

A-4-2
Micro-Computer Applications for Vehicle Operations
Supervisory Skills for Transit Managers
Orientation to Federal, State, and Local Regulations

Additional Short Courses:

II. If you want to recommend topics to be included in or deleted from any of the above short courses [see "II. RECOMMENDED TRAINING SUBJECTS," attached for topics presently recommended in the Task 4 Interim Report for each of the short courses listed above], complete the following:

1. SHORT COURSE TOPICS TO BE ADDED

<table>
<thead>
<tr>
<th>SHORT COURSE TITLE:</th>
<th>TOPICS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SHORT COURSE TITLE:</th>
<th>TOPICS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SHORT COURSE TITLE:</th>
<th>TOPICS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. SHORT COURSE TOPICS TO BE DELETED

SHORT COURSE TITLE: __________________________
TOPICS: ____________________________________
____________________________________________
____________________________________________

SHORT COURSE TITLE: __________________________
TOPICS: ____________________________________
____________________________________________
____________________________________________

SHORT COURSE TITLE: __________________________
TOPICS: ____________________________________
____________________________________________
____________________________________________

SHORT COURSE TITLE: __________________________
TOPICS: ____________________________________
____________________________________________
____________________________________________

III. Please include any additional comments you may wish to make.
IV. PLEASE COMPLETE AND RETURN THE ABOVE, BY FAX, BY THURSDAY, FEBRUARY 11, TO:

FAX: 486-2298

Gerald M. McCarthy
Associate Director
Transportation Institute
U-37-TI
University of Connecticut
Storrs, CT 06269-3037
APPENDIX 5: SHORT COURSE CURRICULUM OUTLINES
(PRIORITY GROUPS II, III, IV)
PRIORiTY GROUP II SHORT COURSE CURRICULUM OiTLINES:

Short Course Subject: Principles of Transit Routing And Scheduling

Course Objectives:

-To present the principles and techniques of transit service route layout, scheduling and run cutting.

Target Group: Vehicle Operations Managers, Dispatchers

Topics:

- Routing/Scheduling Considerations: Travel Time (Walking To and From Bus Stop, Waiting, Riding, Transfer), Convenience (Service Frequency, Hours of Service, Number of Transfers, Fare Collection System), Comfort (Crowding/Standing, Vehicle Characteristics, Bus Stop Shelters), Reliability (Schedule Adherence, Delays on Route), Fares.


- Forecasting Demand.

- Routing: Radial Patterns, Grid Patterns, Other (Through Routing, Cycle Routing, Reverse Routing, Balloon Routing). Access to Routes (Fine-Grained Service, Loose-Grained Service, Subscription Service, Demand Responsive Service) Guidelines for Routing, Evaluating Existing Routes (On-Board Passenger Counts including Boarding and Alighting, Transfer Analyses, Surveys, Monitoring Land Use Changes, Monthly Route Performance Reports), Service Integration.


- Resource Allocation.

References:


-Design of Public Transportation Services, Transportation Research Record 818, Transportation Research Board, Washington, DC, 1981.


Short Course Subject: Orientation To Federal, State and Local Regulations

Course Objectives:

-To provide an overview of the requirements of current Federal, State and Local transit-related regulations.

Target Group: All Management and Supervisory Personnel

Topics:

- Americans With Disabilities Act  
- Equal Opportunity  
- Minority and Women Owned Business  
- Sexual Harassment  
- Drug Free Workplace  
- OSHA  
- Third Party Procurements

- Buy America  
- Federal Title VI  
- Clean Air Act  
- Commercial Driver Licensing  
- Contracting Procedures  
- Section 15 Reporting  
- Triennial Review

References:

-Relevant Federal, State and Local transit-related regulations.

Short Course Subject: Risk Management For Transit Management Personnel

Course Objectives:

-To provide an understanding of the need for and benefits of an effective risk management system.
-To provide an overview of the concepts and principles of risk management.
Target Group: Chief Executive Officers, Financial Managers, Vehicle Operations Managers, Maintenance Managers

Topics:

-Loss Control Methods and Their Application.

References:


SHORT COURSE CURRICULUM OUTLINES:

Short Course Subject: Strategic Management for Transit Management Personnel

Course Objectives:
- To explain the benefits of the application of the Strategic Management concept to public transit agencies
- To explain the concept of Strategic Management, including how it differs from Strategic Planning
- To present the methodology and techniques of Strategic Management appropriate for small and medium size transit providers
- Upon completion of the course, the target group will be able to apply the techniques of Strategic Management in their agencies

Target Group: Chief Executive Officers, Transit Agency Board Members

Topics:
- Strategic Management vs. Strategic Planning.
- Situation Assessment: Re-Examining/Identifying the Need/Role of Transit in the Community, Identifying and Assessing Capabilities, Determining the Mission/Goals/Objectives.

References:


Short Course Subject: Contracting and Procurement For Transit Management Personnel

Course Objectives:

-To provide an understanding of the need for and benefits of an effective contracting and procurement system.
-To provide an overview of the concepts and principles of contracting and procurement in the public transit environment.
-To provide an understanding of the techniques and practices of an effective public transit contracting and procurement system.

Target Group: Chief Executive Officers, Financial Managers, Maintenance Managers

A-5-6
Topics:
- Types of Procurement: Supplies, Fuel/Lubricants, Parts, Services.
- Coordinating the Development of Specifications.
- Developing Criteria for Vendor Selection.
- Managing Inventory: Inventory Levels, Reorder Points.

References:
Course Objectives:

-To provide an understanding of the need for and benefits of an effective maintenance management system.
-To provide an overview of the concepts and principles of a public transit maintenance management system.
-To provide an understanding of the techniques and practices of an effective public transit maintenance management system.

Target Group: Chief Executive Officers, Maintenance Managers/Supervisors

Topics:

-Responsibilities of the Maintenance Manager: Fleet Size (including Spares Ratio), Vehicle Selection, Vehicle Replacement, Preventive Maintenance, Repair, Budgeting, Communication, Quality Control.
-Preventive Maintenance: Failure Pattern Analysis Techniques, Developing the Schedule of Preventive Maintenance Inspections/Services/Adjustments, Organizing for the Preventive Maintenance Activities, Monitoring the Preventive Maintenance Activities.

References:

Short Course Subject: Microcomputer Applications For Managing the Maintenance of Transit Vehicle Maintenance

Course Objectives:

-To present an overview of state-of-the-art of microcomputer applications for vehicle maintenance functions for public transit agencies.

Target Group: Maintenance Managers/Supervisors

Topics:

-Vehicle Histories: Generic Software, Application Software.
-Maintenance Schedule: Generic Software, Application Software.
-Daily Servicing: Generic Software, Application Software.
-Vehicle Assignment: Generic Software, Application Software.
-Purchasing: Generic Software, Application Software.
-Oil Analysis: Generic Software, Application Software.
-Parts Inventory: Generic Software Application Software.
-Tire Inventory: Generic Software, Application Software.
-Fuel Inventory: Generic Software, Application Software.

References:

PRIORITY GROUP IV SHORT CURRICULUM OUTLINES:

Short Course Subject: Evaluating The Performance of Transit Systems

Course Objectives:

-To provide an understanding of the purpose and elements of an effective performance evaluation management information system for small and medium-size transit agencies.
-To provide sufficient information to enable course participants to implement a performance evaluation management information system in small and medium-size transit agencies.

Target Group: Chief Executive Officers, Financial Managers, Vehicle Operations Managers, Maintenance Managers

Topics:

- Selecting Functions to Evaluate and Evaluation Indicators: Management, Financial, Service, Maintenance.
- Data Collection.
- Calculation of Indicators.
- Analyzing and Interpreting Performance Indicators.
- Taking Corrective Actions.
- Monitoring.

References:


Short Course Subject: Planning And Implementing Micro-Computer Systems In Public Transpit Agencies

Course Objectives:

-To provide a general understanding of the potential for microcomputer applications in small and medium-size transit agencies transit operating agencies.
-To present a methodology for the assessment of microcomputer needs and the implementation of a microcomputer system in small and medium-size transit agencies.

Target Group: Chief Executive Officers, Financial Managers, Personnel Managers, Vehicle Operations Managers, Maintenance Managers

Topics:

- Microcomputer Software: Generic Programs (Word Processing, Spreadsheet, Data Base Management), Application Program.
Microcomputer Needs Assessment: Potential Microcomputer Applications (Financial, Operations, Maintenance, Service Planning, Scheduling, Administration, Personnel). Considerations for Selecting Tasks to be Computerized (Time-Consuming Calculations, Repetitious Tasks, Improved Organization of Information, Time Savings, Increased Flexibility, Potential for added Information, Staff Capabilities).

Generic and Application Software Available for Transit Applications.

Implementing The Microcomputer System: Software Selection (Software Evaluation Criteria), Hardware Selection (Hardware Evaluation Criteria), Procurement (Guidelines for RFP for Direct Purchase, Guidelines for RFP for Turnkey Purchase), Staff Training, Technical Assistance.

References:


Short Course Subject: Orientation For Transit Policy Board Members

Course Objectives:
-To provide public transit Policy Board Members with an understanding of the general role and mission of public transportation and the nature of the public policy/decision-making environment within which it functions.
-To provide public transit Policy Board Members with an understanding of their role in the functioning of the public transit agency.
-To provide public transit Policy Board Members with an understanding of the skills which will enable them to more effectively carryout their duties.

Target Group: Transit Agency Board Members

Topics:
- Legal Basis for the Transit Agency.
- Mission of the Transit Agency.
- By-laws of the Transit Agency Board.
- Relationship to Other Governmental Agencies: Mandated Reporting/Coordinating Relationships, Voluntary Reporting/Coordinating Relationships.
- Sources of Funding.
- Service Provided.
- Organizational Structure of the Transit Agency.
- The Role of Transit Boards: Policy vs. Administration, Managing the Administrator’s Tenure (Selection/Hiring, Evaluating, Terminating).
- Duties/Responsibilities of Board Officers and Members.
- Formal Meeting Procedures: Parliamentary Procedure/Robert’s Rules of Order, Quorum Order of Business (Call to Order, Roll Call, Minutes, Officers’ Reports, Committee Reports, Special Business, Unfinished Business, New Business, Announcements, Adjournment), Motions (Types Presenting, Seconding, Debating, Voting).
- Designing and Managing Effective Meetings: Common Meeting Problems (Process, Roles of Participants, Decision-Making, Meeting Environment, Preparation and Follow-up), Purpose and Types of Meetings (Providing Information, Receiving information, Problem Solving, Decision-Making), Methods and Techniques for Types of Meetings, Roles of Meeting Participants (Chairperson, Recorder, Facilitator, Group Member).
References:

- Comprehensive Rural Policies (Board Policies and By-Laws, General Operating Procedures, etc.), Isabella County Transportation Commission, Mt. Pleasant, MI, 1990.

Short Course Subject: Microcomputer Applications For Transit Vehicle Operations

Course Objectives:

- To present an overview of state-of-the-art microcomputer applications for vehicle operations functions for small and medium-size transit agencies.

Target Group: Vehicle Operations Managers, Dispatchers

Topics:

- Bus Stop Inventory: Generic Software, Application Software.
- Scheduling: Generic Software, Application Software.
- Operating Documents: Generic Software, Application Software.
- Time Keeping: Generic Software, Application Software.

- References:


A-5-14