

HE  
18.5  
.A37  
no.  
DOT-  
TSC-  
UMTA-  
83-40

TA-MA-06-0126-83-3  
T-TSC-UMTA-83-40



Massachusetts Department  
of Transportation  
**Commonwealth of Massachusetts**  
**Department of Transportation**  
**Administration**

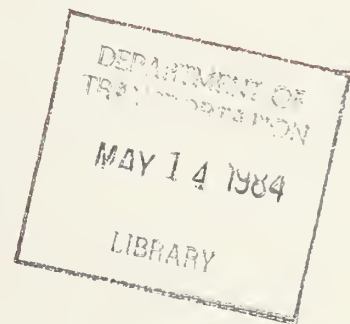
# Study of the Careers of Participants in UMTA's Transit Management Programs (Section 10)

Roy E. Lave

Systan, Inc.  
P.O. Drawer U  
Los Altos CA 94022

November 1983  
Final Report

This document is available to the public  
through the National Technical Information  
Service, Springfield, Virginia 22161.



**UMTA Technical Assistance Program**

#### NOTICE

This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

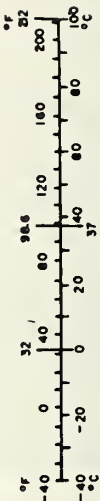
#### NOTICE

The United States Government does not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the object of this report.

1. Report No. UMTA-MA-06-0126-83-3	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle STUDY OF THE CAREERS OF PARTICIPANTS IN UMTA'S TRANSIT MANAGEMENT PROGRAMS (SECTION 10)		5. Report Date November 1983	6. Performing Organization Code TSC/DTS-64
7. Author(s) Roy E. Lave	8. Performing Organization Report No. DOT-TSC-UMTA-83-40		9. Performing Organization Name and Address *SYSTAN, Inc. P.O. Drawer U Los Altos, CA 94022
12. Sponsoring Agency Name and Address U.S. Department of Transportation Urban Mass Transportation Administration Office of Technical Assistance Washington, DC 20590		10. Work Unit No. (TRAIS) UM364/R3674	11. Contract or Grant No. DTRS-57-81-C-00063
15. Supplementary Notes *Under contract to:		13. Type of Report and Period Covered Final Report 1970 - 1979	
U.S. Department of Transportation Research and Special Programs Administration Transportation Systems Center Cambridge, MA 02142		14. Sponsoring Agency Code URT-42	
16. Abstract <p>This paper contains the results of a study of two Transit Management Training Programs for which UMTA provides fellowships. From 1969 to 1982, 428 fellowships were granted for attending a program at Carnegie-Mellon University, and 769 for attending Northeastern University, the two programs included in the study. The study focuses on determining certain characteristics of the careers of over 400 employees who attended these courses from 15 transit agencies. A typical employee was promoted two and one half years after taking the course. A high percentage of the attendees reported that the courses had had dramatically positive effects on them. Another finding is that almost 60 percent of those employees who attended a course remained with the agency that sent them and almost 7 percent transferred to other transit agencies. Excluding involuntary job changes (retirement, dismissal, etc.) only 11 percent of the sample of transit personnel taking the course have left the transit industry.</p>			
17. Key Words Management Training Managers' Careers		18. Distribution Statement  DOCUMENT IS AVAILABLE TO THE PUBLIC THROUGH THE NATIONAL TECHNICAL INFORMATION SERVICE, SPRINGFIELD, VIRGINIA 22161	
19. Security Classif. (of this report) UNCLASSIFIED	20. Security Classif. (of this page) UNCLASSIFIED	21. No. of Pages 48	22. Price

# METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures				Approximate Conversions from Metric Measures			
Symbol	When You Know	Multiply by	To Find	Symbol	When You Know	Multiply by	To Find
<b>LENGTH</b>				<b>LENGTH</b>			
in	inches	2.5	centimeters	mm	millimeters	0.04	inches
ft	feet	30	centimeters	cm	centimeters	0.4	inches
yd	yards	0.9	meters	m	meters	3.3	feet
mi	miles	1.6	kilometers	km	kilometers	1.1	yards
						0.6	miles
<b>AREA</b>				<b>AREA</b>			
in <sup>2</sup>	square inches	6.5	square centimeters	cm <sup>2</sup>	square centimeters	0.16	square inches
ft <sup>2</sup>	square feet	0.09	square meters	m <sup>2</sup>	square meters	1.2	square yards
yd <sup>2</sup>	square yards	0.8	square meters	km <sup>2</sup>	square kilometers	0.4	square miles
mi <sup>2</sup>	square miles	2.6	square kilometers	ha	hectares (10,000 m <sup>2</sup> )	2.5	acres
	acres	0.4	hectares				
<b>MASS (weight)</b>				<b>MASS (weight)</b>			
oz	ounces	28	grams	g	grams	0.035	ounces
lb	pounds	0.45	kilograms	kg	kilograms	2.2	pounds
	short tons (2000 lb)	0.9	tonnes	t	tonnes (1000 kg)	1.1	short tons
<b>VOLUME</b>				<b>VOLUME</b>			
teaspoon	teaspoons	5	milliliters	ml	milliliters	0.03	fluid ounces
tablespoon	tablespoons	15	milliliters	l	liters	2.1	pints
fl oz	fluid ounces	30	milliliters	l	liters	1.06	quarts
c	cups	0.24	liters	l	liters	0.26	gallons
pt	pints	0.47	liters	m <sup>3</sup>	cubic meters	35	cubic feet
qt	quarts	0.95	liters	m <sup>3</sup>	cubic meters	1.3	cubic yards
gal	gallons	3.8	liters				
ft <sup>3</sup>	cubic feet	0.03	cubic meters				
yd <sup>3</sup>	cubic yards	0.76	cubic meters				
<b>TEMPERATURE (exact)</b>				<b>TEMPERATURE (exact)</b>			
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature





1. Report No. UMTA-MA-06-0126-83-3	2. Government Accession No. <b>PB84-147461</b>	3. Recipient's Catalog No.	
4. Title and Subtitle Study of the Careers of Participants in UMTA's Transit Management Programs (Section 10).		5. Report Date November 1983	
		6. Performing Organization Code TSC/DTS-64	
7. Author(s) Roy E. Lave		8. Performing Organization Report No. DOT-TSC-UMTA-83-40	
9. Performing Organization Name and Address SYSTAN, Inc.* P.O. Drawer U Los Altos, California 94022		10. Work Unit No. (TRAIS) .. MA-06-0126(UM364/R3674)	
		11. Contract or Grant No. DTRS-57-81-C-00063	
12. Sponsoring Agency Name and Address U.S. Department of Transportation Urban Mass Transportation Administration 400 Seventh Street, S.W. Washington, D. C. 20590		13. Type of Report and Period Covered Final Report 1970 - 1979	
		14. Sponsoring Agency Code URT-42	
15. Supplementary Notes *Under contract to: U.S. Department of Transportation Research and Special Programs Administration Transportation Systems Center Cambridge, Massachusetts 02142			
16. Abstract <p>Since 1967, the Urban Mass Transportation Administration has provided fellowships for Transit Management Training Programs under authority granted in Section 10 of the Urban Mass Transportation Act. Fellowships were offered for attending courses at two universities: Carnegie-Mellon University (CMU) and Northeastern University (NU). From 1969 to 1982, 428 fellowships were granted for attending a program at CMU and 769 were granted for attending at NU. This study focuses on determining certain characteristics of the careers of over 400 employees from 15 transit agencies who attended these courses. The period studied is from 1970 to 1979 when CMU and NU shared about 100 fellowships each year.</p> <p>A typical employee was promoted two and one half years after taking the course. A high percentage of the attendees reported that the courses had dramatically positive effects on them. Another finding is that almost 60 percent of those employees who attended a course remained with the agency that sent them and almost 7 percent transferred to other transit agencies. Excluding involuntary job changes (retirement, dismissal, etc.), only 11 percent of the sample of transit personnel taking the course have left the transit industry.</p> <p>The report points out that more is included in the study than a tracking of the individuals. The original terms of reference described a complete evaluation of the program. Although this objective was later reduced to focus on the question of what happened to attendees, findings already collected pertaining to the broader scope are included.</p>			
17. Key Words Carnegie-Mellon University; Employees; Management Training; Northeastern University; Management Careers; Transit Management Training Programs		18. Distribution Statement Available to the Public through the National Technical Information Service, Springfield, Virginia 22161.	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 48	22. Price <b>A03</b>



## PREFACE

This report presents the results of a study of Urban Mass Transportation Administration sponsored management training programs. Specifically, the careers of the persons attending these programs are examined. Some assessments of the programs by others are also reported.

The study was prepared under Contract No. DTRS-57-81-C-00063 for providing technical support. The work was supported by John Durham and Charles Morison of UMTA and Arthur Priver of the Transportation Systems Center. SYSTAN is indebted for the help and cooperation received from Richard Uher (Director, Rail Systems Center) and Pam Soletti of Carnegie-Mellon University and Malcolm Campbell (Director, National Institute of Transportation Management) and Michele Blanchart of Northeastern University. Finally SYSTAN expresses its thanks to the following staff members of the transit agencies for their cooperation in providing the information:

Alameda-Contra Costa Transit District Oakland, CA (ACTransit)	Pam Granger
Bi-State Development Agency St. Louis, MO	Hayman Bell
Chicago Transit Authority Chicago, IL (CTA)	Fred King
Fort Wayne Public Transportation Corporation Fort Wayne, IN	Joy Hansen
Greater Cleveland Regional Transit Authority Cleveland, OH	Tom Griess
Kansas City Area Transportation Authority Kansas City, MO	Carmen Moody
Massachusetts Bay Transportation Authority Boston, MA (MBTA)	Joan Kapolchok
Metropolitan Atlanta Rapid Transit Authority Atlanta, GA (MARTA)	Douglas Gaspardo
The Metropolitan Transportation Authority New York, NY	Len Armon

Port Authority of Allegheny County  
Pittsburgh, PA

John Tipton  
William Millar

Port Authority Trans-Hudson Corporation  
New York, NY (PATH)

Tom Cullen

Port Authority Transit Corporation  
Camden, NJ (PATCO)

Ed Fager

Southern California Rapid Transit District  
Los Angeles, CA (SCRTD)

Joann Bowman

Central New York Regional Transportation  
Authority  
Syracuse, NY (CENTRO)

John Clare

Via Metropolitan Transit  
San Antonio, TX

Wayne Cook



## TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1. INTRODUCTION .....	1
2. SUMMARY OF FINDINGS .....	2
3. THE STUDY PROCEDURE .....	3
4. WHICH AGENCIES PARTICIPATED .....	5
4.1 Types of Agencies Participating .....	5
4.2 Coverage of Transit Agencies .....	7
5. WHO ATTENDED .....	10
5.1 Characteristics of the Participants .....	10
6. WHAT HAPPENED TO THE ATTENDEES .....	13
6.1 Employment Status of Attendees .....	13
6.2 Differences in Employment Over Time .....	16
7. GENERAL MANAGERS WHO ATTENDED THE COURSES .....	17
8. ASSESSMENT OF COURSES .....	19
8.1 Assessment of Course Quality .....	20
8.2 Impact of Courses .....	22
9. COST OF COURSES .....	24

## APPENDICES

A. DATA SOLICITED FOR EACH SAMPLED ATTENDEE .....	26
B. TOTAL TRANSIT EMPLOYEES AND COURSE BY AGENCY .....	27
C. CHARACTERISTICS OF EMPLOYEES ATTENDING TRANSIT MANAGEMENT TRAINING PROGRAMS .....	28
D. WHO ATTENDED AND WHAT HAPPENED TO THEM YEAR BY YEAR TRENDS .....	29
E. CAREERS OF EMPLOYEES ATTENDING TRANSIT MANAGEMENT TRAINING PROGRAMS AFTER ATTENDING COURSES .....	30
F. NORTHEASTERN SURVEY .....	31
G. REPORT OF NEW TECHNOLOGY .....	38

## LIST OF EXHIBITS

<u>Exhibit</u>	<u>Page</u>
1. NUMBER OF FELLOWSHIPS BY TYPES OF EMPLOYERS .....	6
2. COVERAGE OF TRANSIT AGENCIES .....	8
3. DISTRIBUTION OF ATTENDEES AMONG 50 LARGEST AGENCIES.	9
4. AVERAGE AGE AND YEARS OF SERVICE .....	11
5. DISTRIBUTION OF AGE AND YEARS OF SERVICE .....	11
6. AGES AND LENGTH OF SERVICE BY YEAR .....	12
7. CURRENT EMPLOYMENT OF ATTENDEES .....	15
8. YEARS OF SERVICE AFTER COURSE .....	15
9. CAREERS OF GENERAL MANAGERS .....	18
10. COURSE ASSESSMENT .....	21
11. IMPACT ASSESSMENT .....	23
12. COSTS .....	25

## 1. INTRODUCTION

Since 1967, the Urban Mass Transportation Administration has provided fellowships for transit management training programs under authority granted in Section 10 of the Urban Mass Transportation Act. Fellowships were offered for attending courses at two universities, Carnegie-Mellon (CMU) and Northeastern Universities (NU) through 1979 and then at Northeastern and Wharton School through 1981. In 1982, the program was expanded to eleven sites.

The study described in this paper focuses on identifying selected characteristics of transit agency employees who attended these courses and on answering the question, "What has happened to them?" The period studied is from 1970 to 1979 when Northeastern University and Carnegie-Mellon University shared about 100 fellowships each year.

More is included in the study than a tracking of the individuals. The original terms of reference described a complete evaluation of the program. Although this objective was later reduced to focus on the question of what happened to attendees, findings already collected pertaining to the broader scope are included.

## 2. SUMMARY OF THE FINDINGS

A listing of the most important findings are included in this section. All quantitative comments refer to transit agencies and their employees and are based on a sample from fifteen agencies. Qualitative comments are based on interviews and written assessments solicited by the offering universities.

There is little tendency for attendees to leave the agencies that sent them to the course. Excluding reasons for leaving beyond the attendees' control (retirement, death and involuntary termination), 80% of the attendees are in the transit agency that sponsored them and 89% are in transit.

If attendees have left the transit agency that sponsored them, it is most likely that they have retired.

If attendees are working for a different organization, it is most likely that they are working in the public sector and most likely in transit.

Based on the averages of attendees sampled, the typical attendee was 43 years old, worked in the sponsoring agency for fifteen years and was promoted slightly over two years prior to taking the course. He/she was promoted two and one half years after taking the course.

During interviews, a high percentage of attendees reported that the courses had had dramatically positive effects on them.

Over 50 general managers have taken one of the courses. A number of these are visible and influential in transit. At least thirteen of the 50 largest transit agencies have been identified as being managed by an attendee.

Almost 80% of all transit employees work in agencies participating in Section 10 courses. One-third of all transit agencies send employees and almost 80% of the 50 largest agencies participate.

The costs of the Section 10 courses are less than comparable courses offered by a variety of universities and other profit and not-for-profit organizations.



### 3. THE STUDY PROCEDURE

Eighteen transit agencies were selected as the target group for the study. The agencies were selected to include both the largest as well as small ones, and intensive users of Section 10 fellowships as well as agencies who sent fewer attendees than the average for their size.

Contact with the departments of personnel, training and grant administration from the eighteen transit agencies provided the data shown on the form comprising Appendix A for over 427 individuals of the 941 who took the course. Three agencies did not submit data for various reasons, including the tight deadlines established for responding made tighter in some cases by delays in getting the request to the proper persons. The loss of the three agencies is not disturbing as the number selected was chosen in anticipation of some non-reponses. The results do include data for 45% of the employees attending the courses from all transit agencies and the non-responses are not thought to cause biases.

Although the cooperation from the transit agencies was excellent, one issue arose which affects the uniformity of the data. Agencies have different policies toward the confidentiality of items of personnel data. One was not able to reveal ages. Although not explicitly stated to the investigators, some did not distinguish involuntary terminations (labelled terminations in this study) from resignations since this information is usually considered to be sensitive. Some other difficulties in determining the reasons for leaving an agency and the identity of the new employer arose and are discussed in the appropriate sections below.

In order to allow a time span to see what employees do after attending the course, only participants in the courses from 1979 and earlier were included in the detailed study. This selection also made the time periods for the two courses comparable since CMU offered its last course in 1979. This approach yielded a sample size of 427 course participants. This sample is used to generate the findings about the characteristics and work histories of the course participants (Sections 5 & 6). The results in Section 4 are based on counts of all participants in all transit agencies. Data on each of the 427 individuals was coded in a data base management system on a microcomputer for use in the analysis.



Because the study started with a broader evaluation scope, a number of interviews were held with persons who played various roles in the program. Thus in addition to the almost two dozen course attendees who were interviewed, many of the personnel managers in the fifteen target firms were interviewed as was the UMTA staff person in charge of Section 10 during the time period studied. The creators of the courses from both universities were interviewed at length. Two days were spent reviewing the files at CMU which were opened by the present Administrator. One day was spent at the Northeastern course at the invitation of the present Administrator of that program. This attendance provided an opportunity to understand the NU process as well as time to discuss it with faculty and attendees.

A shortcoming of the present study is that no norms of transit employee career patterns were available to be used as points of comparison with the careers of the course attendees.

#### 4. WHICH AGENCIES PARTICIPATED

##### 4.1 TYPES OF AGENCIES PARTICIPATING

The number of all attendees through 1982 from all the types of participating agencies is shown in Exhibit 1. The numbers shown are counts of fellowships, not of individuals, as some employees participated in both courses. The following observations are supported by this data.

1. 79% of the positions in the courses were filled by transit agency employees. Ninety-nine percent of NU attendees were from transit agencies compared to 43% of CMU participants.
2. The CMU course was intended for transportation operators, planners and administrators. They attempted to select one-third of attendees from each of these disciplines. Although no breakdown of actual disciplines is possible, the variety of agencies represented suggests that they came reasonably close to their objectives.
3. Twenty-five percent of CMU attendees were from state government organizations, typically from state departments of transportation or their predecessor highway departments. It was reported by some states that they used the program to prepare their personnel for the transition from highway departments to transportation departments.
4. Twenty-seven attendees (6.3% of the total) attended both courses. This duplication is not redundant training as the courses were significantly different representing two ends of a spectrum of possible management training courses.

EXHIBIT 1. NUMBERS OF FELLOWSHIPS BY TYPES OF EMPLOYERS\*

Program Employers	CMU		NU		Total	
	No.	%	No.	%	No.	%
TRANSIT AGENCIES	182	43	759	99	941	79
CITIES	51	12	0	0	51	4
COUNTIES	12	3	1	0	13	1
REGIONAL PLANNING AGENCIES	42	10	0	0	42	4
STATE GOVERNMENTS	106	25	1	0	107	9
PRIVATE FOR PROFIT	12	3	5	1	17	1
FOREIGN	12	3	2	0	14	1
OTHER	11	3	1	0	12	1
TOTAL	428	100	769	100	1197	100

\* Attendees at NU from 1969-1982  
Attendees at CMU from 1970-1979  
Attendees at both programs are counted twice  
(27 people)

#### 4.2 COVERAGE OF TRANSIT AGENCIES

Exhibit 2 indicates the number of transit agencies participating in the courses. It also indicates the number of participants from the 50 agencies employing more than 440 employees. This data is taken from the table in Appendix B.

5. Of the 319 agencies listed in the U.S. DOT Section 15 report, about one-third sent employees to one or the other of the courses.

6. NU received employees from 30% of the Section 15 agencies while CMU received those from 14%.

7. Of the 50 largest transit agencies, which employ 88% of all transit employees, 39 (representing 80% of all employees) sent at least one employee to one or both of the courses and 35 sent more than one employee.

# EXHIBIT 2. COVERAGE OF TRANSIT AGENCIES

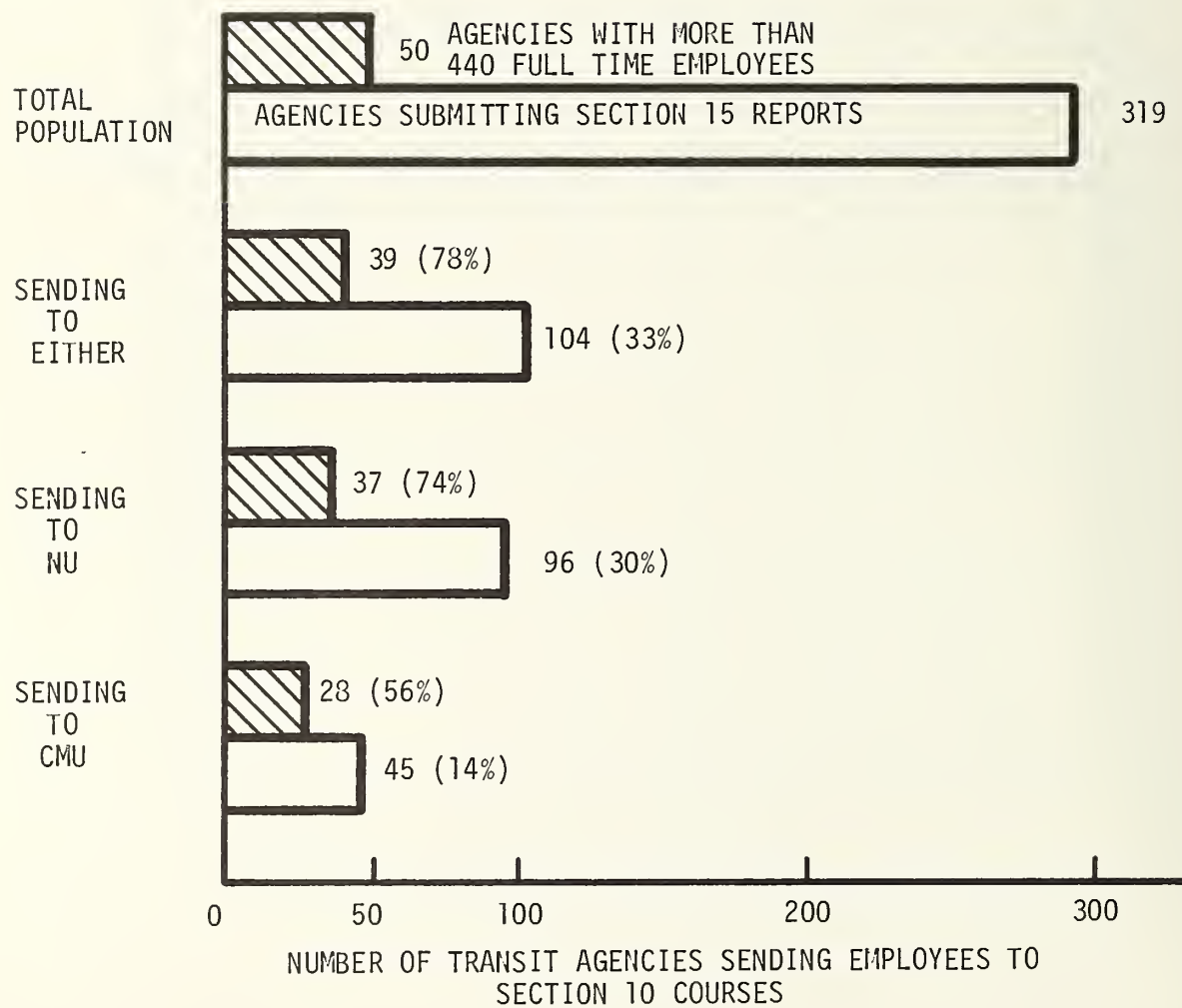
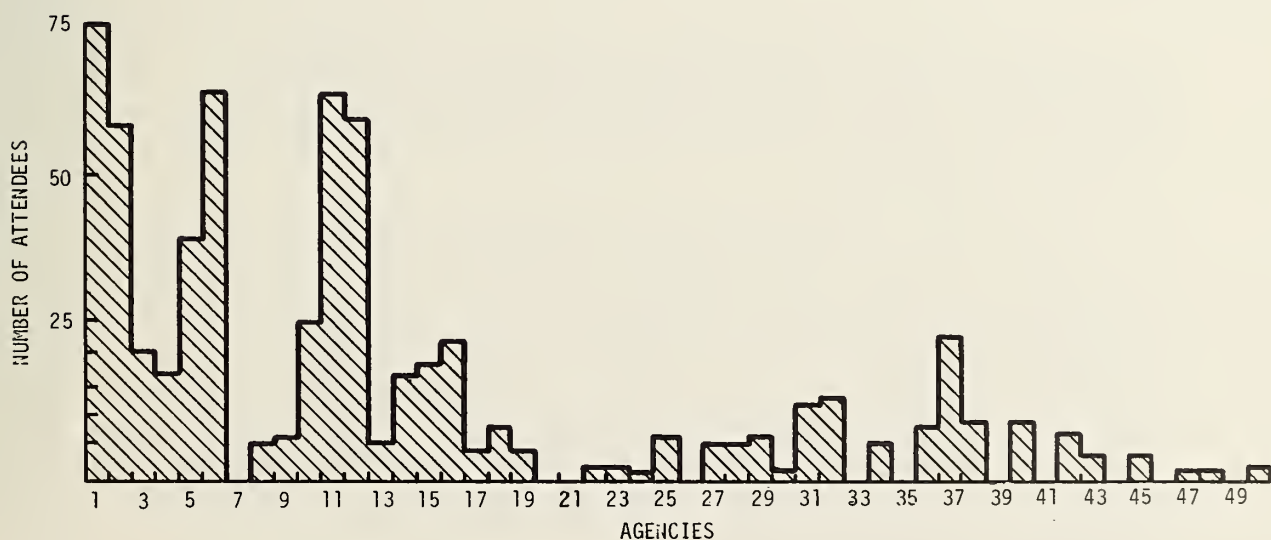




Exhibit 3 indicates the number of participants from each of the 50 largest agencies.

8. The distribution of attendees in the top 50 agencies is not well correlated to the size of the agencies. Some large agencies seem to underutilize the program, while some small agencies are disproportionately active participants.

EXHIBIT 3. DISTRIBUTION OF ATTENDEES AMONG 50 LARGEST AGENCIES



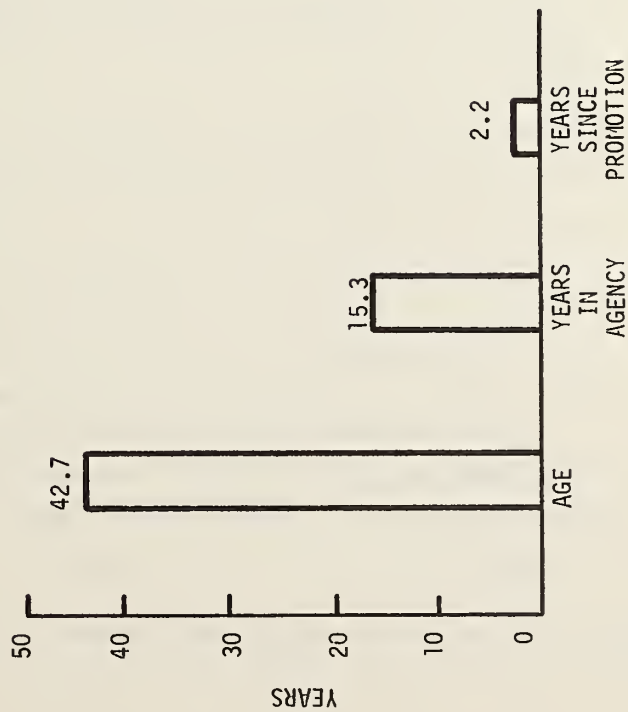
## 5. WHO ATTENDED

### 5.1 CHARACTERISTICS OF THE PARTICIPANTS

The material on the participants' careers is based on the sample of 427 participants. Exhibit 4 indicates average ages, years of service and years since promotion for this sample. This data for each agency is shown in Appendix C and by year of course in Appendix D. Exhibit 5 shows the frequency distributions for age and length of service.

1. The average age of attendees is 42.7 years; employees aged 23 to 60 attended.
2. The average length of service is 15.2 years; attendees range from new hires to those with almost 40 years of service.
3. The bimodal distribution of age and length of service indicates a well known characteristic of transit management. Many in management have worked up from drivers and unskilled jobs while others are younger college graduates.
4. Eighty-four percent of the attendees were promoted within the sponsoring agency prior to the course. Those promoted were, on the average, promoted 2.2 years before attending the course. The count of promotions is uncertain, since in many cases titles changed to ones seeming to have more authority and responsibility, but discussions with agency personnel pointed out that these were not really promotions. Since it was not possible to obtain this information from all agencies, a change in title to one suggesting increased responsibility was counted as a promotion.

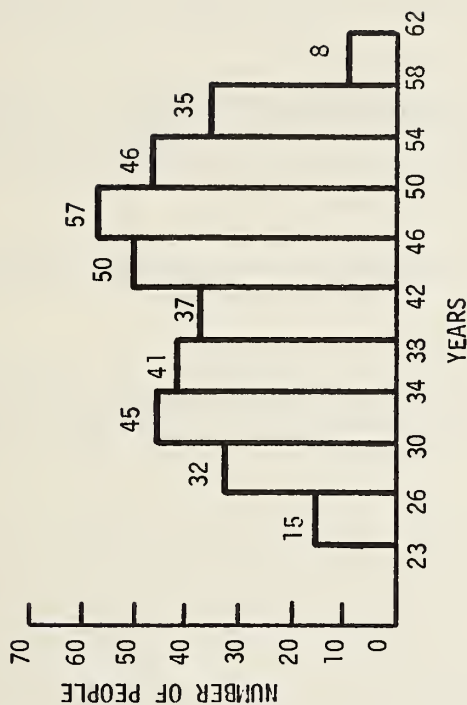
EXHIBIT 4. AVERAGE AGE AND YEARS OF SERVICE AT TIME OF ATTENDANCE\*



\*Sample of 427 people from both courses attended 1969-1970.

EXHIBIT 5. DISTRIBUTION OF AGE AND YEARS OF SERVICE

AGES OF ATTENDEES (AT TIME OF ATTENDANCE)



LENGTH OF SERVICE OF ATTENDEES (AT TIME OF ATTENDANCE)

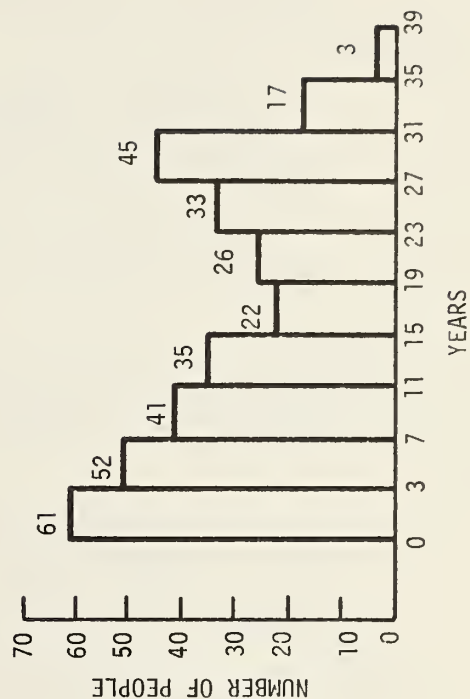
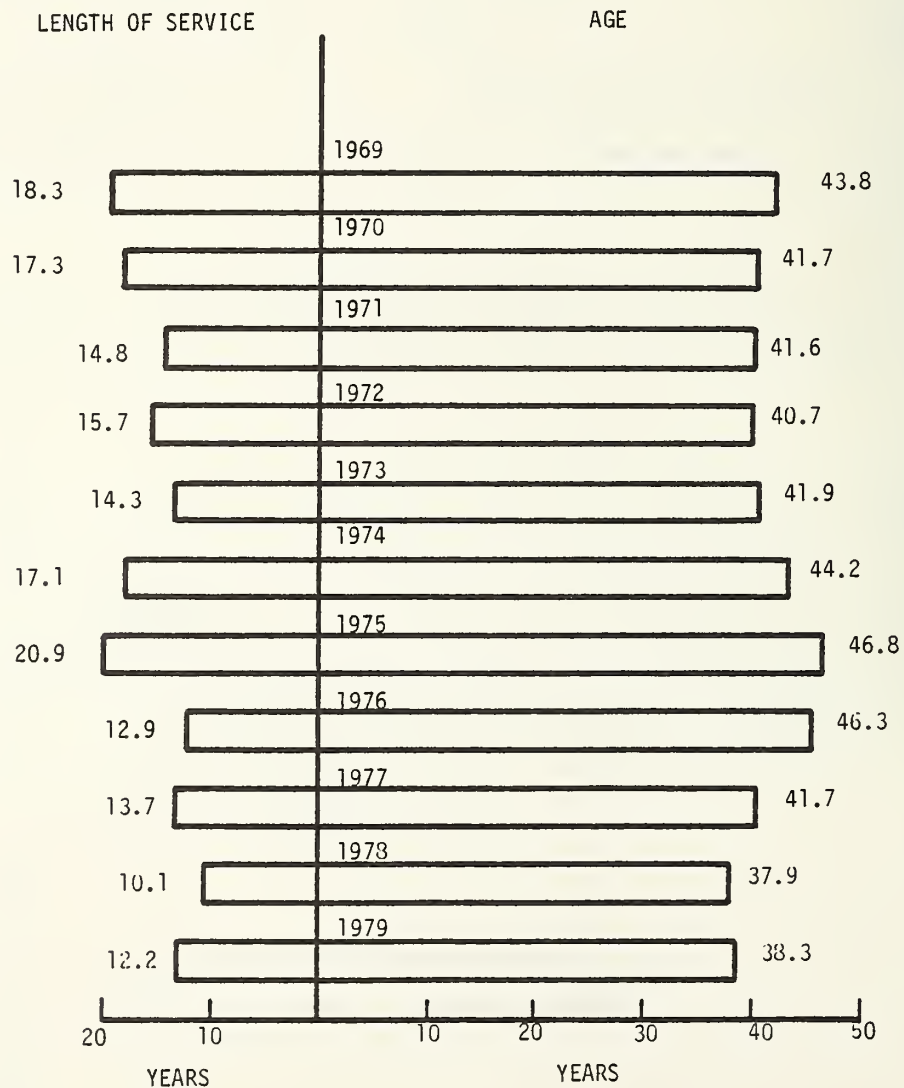


Exhibit 6 displays average age and length of service of classes by course year.

5. Although the average age varies from year to year, the variations seem to be statistical, displaying no trend over the time period except that the averages were three to four years younger in 1978 and 1979.

6. The lengths of service likewise vary from year to year with an irregular trend to shorter terms.

EXHIBIT 6. AGE AND LENGTH OF SERVICE BY YEAR\*



\*Sample of 427 people from both courses attended 1969-1979.

## 6. WHAT HAPPENED TO ATTENDEES

### 6.1 EMPLOYMENT STATUS OF ATTENDEES

Exhibit 7 (based on the tables in Appendix E) indicates the present employment status of the sample of attendees. Exhibit 8 indicates the years of service provided after course completion according to the types of changes of employment.

The number of persons in some of the categories indicating present employment are small and judgement decisions on counting can have significant effects on the numbers. For example, one retired employee now works in the public sector. In the summaries here, he is counted as retired whereas adding him to the public sector would increase that total by more than 10%. (In every case where such a decision was made, the point of view of the sponsoring agency has been taken.)

Another counting difficulty occurs in the "other occupation" category. Some respondents noted that some of the females of child-bearing age left to start a family, but others who probably left for this reason were not noted. While this should be a separate category, the personnel data does not typically contain this information.

Application of these assumptions leads to the findings in the next few pages.



1. The majority of attendees (59%) have remained in the agency sponsoring their attendance. This percentage varies greatly from agency to agency (see Appendix E for individual agency data). Through 1983, these 'stayers' have been in the sponsoring agency, on the average, for 7.9 years.

2. Almost 20% of attendees have retired. Retirees have served their agencies an average of 6.6 years after taking the course.

3. The percentage of attendees switching to other transit districts is 6.9%. Both small and large agencies serve as training grounds for other agencies (see Appendix E). The average length of service after the course for 'switchers' is 3.6 years or half that of the stayers.

4. Almost 5% of the participants go into other occupations. Although the data is not precise, it is estimated that more than half of these 'leavers' remain in private transportation related businesses such as consulting or trucking.

5. 2.3% remain in the public sector taking jobs in state departments of transportation, counties, the federal government (UMTA and AMTRAK, for example), or special purpose agencies such as housing authorities. No systematic count of the number of participants transferring into transit agencies from non-transit agencies exists as the study traced only persons sent by transit agencies. Some of these transfers are known to have occurred and are indicated in the histories on general managers discussed in Section 7.

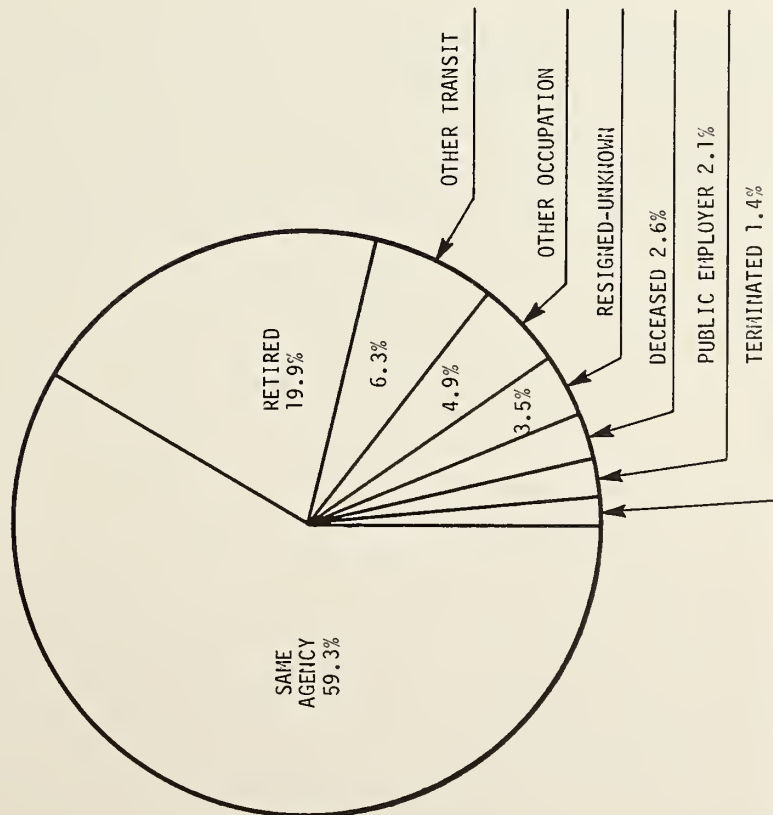
6. A small number (1.4%) were terminated by the agency including those reportedly laid off. (One of the six terminated employees has been employed by another transit agency and another by a public transportation agency, but they were not counted in their new categories.)

7. The whereabouts of a small number of attendees (3.5%) are unknown to their sponsoring agencies.

8. About two-thirds of attendees remain in the employ of the public sector, that is, stay with the sponsoring agency or move to a public sector job.

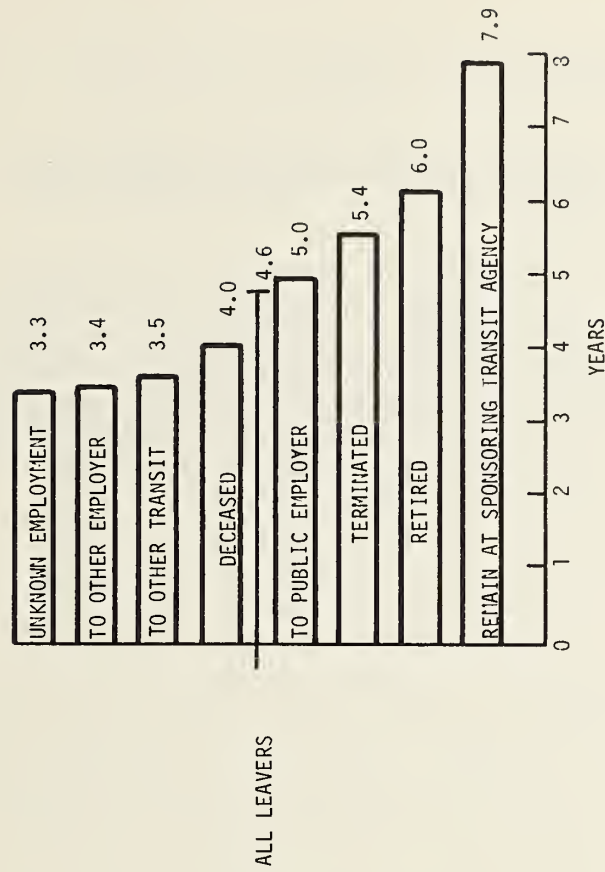
9. Considering only the voluntary reasons for leaving (excluding retirement, death and involuntary termination), only 20% of all attendees have changed their employment. At the most 11% have left transit.

# EXHIBIT 7. CURRENT EMPLOYMENT OF ATTENDEES



\*Does not count transfers into transit - sample of 427 people from both courses attending 1969-1979.

# EXHIBIT 8. YEARS OF SERVICE AFTER COURSE (BY REASON FOR LEAVING)



## 6.2 DIFFERENCES IN EMPLOYMENT CHANGES OVER TIME

Appendix D contains the breakdown of present employment by the year of attendance.

10. No time trends in the types of employment or career moves made by employees are evident except those caused by proximity to the present. For example, the proportion of attendees having retired is greater for the early course years than the later years simply because there has been more time for attendees to reach retirement age. The same effect has shortened the average time for making a career change after attending the course.

## 7. GENERAL MANAGERS ATTENDING

The population of general managers who attended the course either before they became managers or after is a useful population for study. General managers are the most important population of candidates for management training. Moreover, they are more easily identifiable and trackable.

Using rosters of those attending the courses and discussions with persons in UMTA and in the industry, a total of 50 course participants who are, or had been, general managers was identified. The present whereabouts of these persons was tracked by discussions with their agencies and others in the transit field. This tracking is not complete as 11 managers have not been located. Three of the managers have made multiple career moves since the course, but only the first move to general manager or the first move if they were a general manager is considered. The results of the investigation are shown in Exhibit 9.

1. Seven of the fifteen agencies studied here are managed by graduates of one of the programs. At least thirteen of the 50 largest transit agencies are managed by attendees.
2. Half (14 of 27) of the general managers who took the course are still general managers. Thirteen of these are in the same agency and one has moved to another agency.
3. Twenty-two attendees have become managers since they attended the course. Ten of these have come from another agency or another employer.

# Exhibit 9

## CAREERS OF GENERAL MANAGERS (50 individuals)

	<u>Number</u>	<u>%</u>
General Manager When Took Course		
Same Transit Agency Now .....	13	46%
General Manager Another Transit Agency ..	1	4
Left Transit Agency - Unknown .....	8	28
Left Transit Agency - To Transportation .	4	14
Retired .....	1	4
Deceased .....	1	4
	<u>-----</u>	<u>-----</u>
TOTAL	28	100%
Promoted to General Manager after Course		
In Same Transit Agency .....	12	55%
In Another Transit Agency .....	8	36
From Other Type of Organization .....	2	9
	<u>-----</u>	<u>-----</u>
TOTAL	22	100%



## 8. ASSESSMENT OF THE COURSES

Initially, the terms of reference for the work included assessing the impact and the quality of the courses. This task was subsequently dropped, but after existing assessments had been collected and compiled. These assessments are performed by participants and solicited by the universities. An independent assessment would use a different approach to assure a broader and more assuredly unbiased expression of opinion. Nevertheless this data is readily available and does reflect an accurate picture of participants' feelings toward the courses.

All findings shown in this section are based on a questionnaire mailed in July 1980 by Northeastern to its alumni, unless otherwise specified. The questionnaire and the cover letter are shown in Appendix F. SYSTAN has tabulated all questionnaires received from alumni attending earlier than 1978, a total of 98. A 1978 cut-off was to obtain opinions from those who have been out of the course for sufficient time to judge the course with some time perspective.

Northeastern's motivation was to solicit information to aid in the design of their program as well as to make a case for continuation of the certification of the course by UMTA. The design of the questions and responses would have been different for an objective assessment of impact and value.

Carnegie-Mellon requested each attendee to prepare an assessment after the completion of the course. These were typically mailed back shortly after the European trip that concluded their course. The completed questionnaires are available in the files at CMU. Since there does not seem to be a comprehensive tabulation, SYSTAN staff reviewed about 50 of these responses and indicate how they compare to the equivalent NU responses in the text below.

## 8.1 ASSESSMENT OF COURSE QUALITY

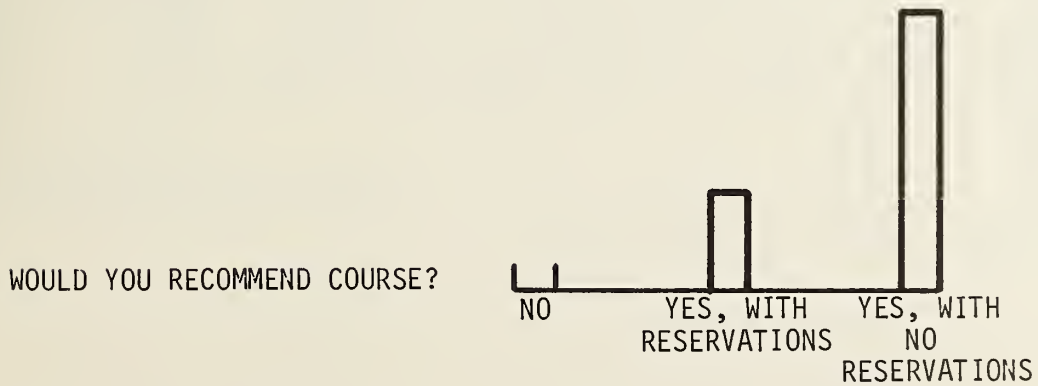
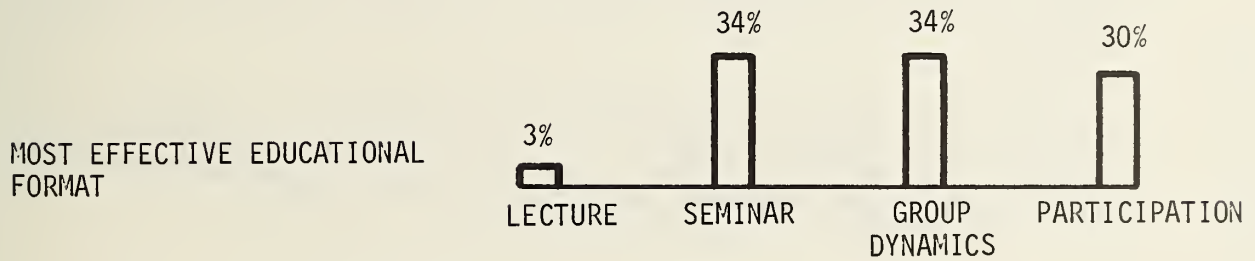
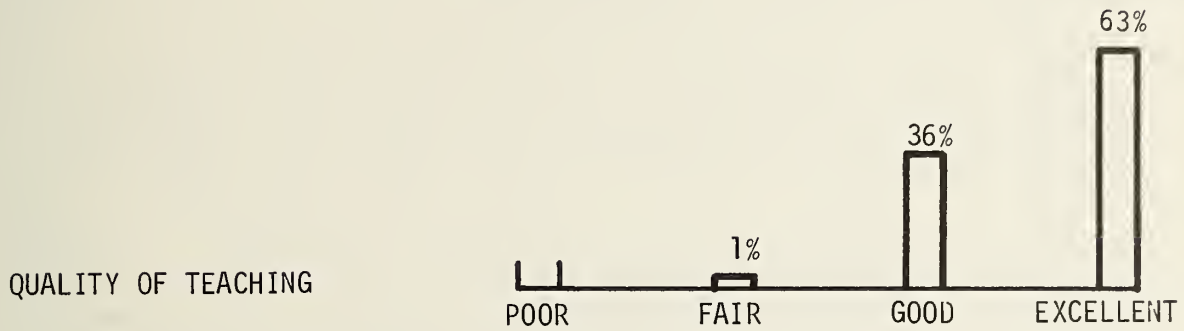
Four questions seem to evaluate the quality of the course offering. The distribution of responses to these questions is shown in Exhibit 10.

1. The answers to the question on quality of teaching are skewed strongly to excellent, the highest rating. This is a strong statement of the appreciation of the attendees for the instructors. The skew also sets a basis for comparison for how a strongly held view appears in a frequency distribution.

2. The preference for the interactive type of presentation and the low rating of lectures shown on the question on educational format indicates that attendees were appreciative of the variety of formats used. Since it seems that most of the teachers at the NU course emphasize interaction, it is not clear what the students considered as lectures, although some instructors not known to the SYSTAN team may use a more formal style.

3. The question asking if the respondents would recommend the course is a positive statement of support. A similar question appeared on the CMU assessment. In a review of about 50 CMU responses, not one negative answer was seen; not even from two attendees who were very critical of some aspects of the CMU program and took great care to write long critiques of the program.

EXHIBIT 10. COURSE ASSESSMENT - NU ATTENDEES PRIOR TO 1978



## 8.2 IMPACT OF THE COURSES

Four questions seem to be directed at identifying the value or impact of the course. The distribution of the responses to these questions is shown in Exhibit 11.

4. The first question deals with the importance of the contacts made. Contacts are felt to be of considerable importance by the vast majority of respondents. The skew of the answers to this question also sets a standard of positiveness to be used for judging other responses.

The importance of contacts was perhaps the most frequently mentioned and strongly held favorable opinion mentioned in the interviews. These contacts seem to be more lasting among NU attendees than among CMU attendees. This result is due, no doubt, to the emphasis on personal interaction in the NU courses.

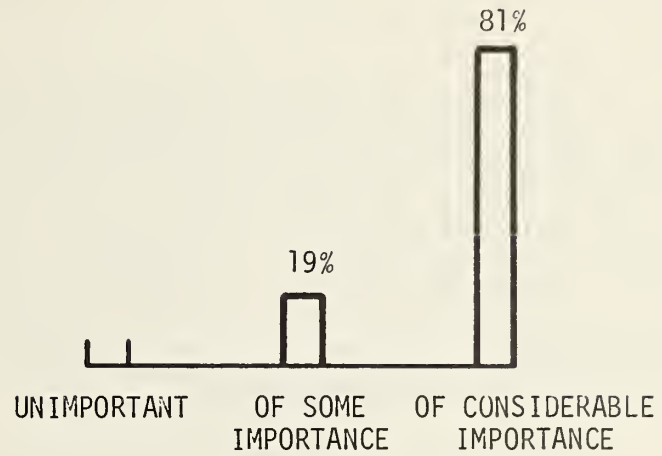
5. The second question is not directly relevant to assessing the impact on the transit agency as it deals specifically with outside interpersonal relationships. It does, however, provide a point of comparison for the next question.

6. The third question explores the degree of increased knowledge of human relations in management. The positive response was selected four times as often as the weak response indicating that respondents felt positively about the impact of the course on these skills.

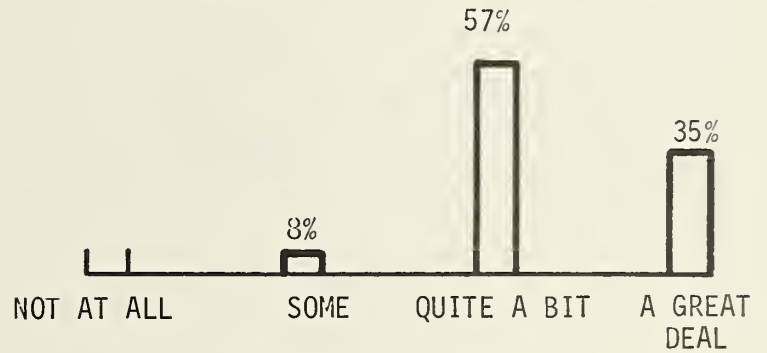
7. The question exploring the applicability of material learned to the job reflects a positive feeling toward the material. The positive response 'very much' is chosen twice as often as the weak response 'somewhat'. The question is deficient in not including a 'not at all' category.

EXHIBIT 11. IMPACT ASSESSMENT - NU ATTENDEES PRIOR TO 1978

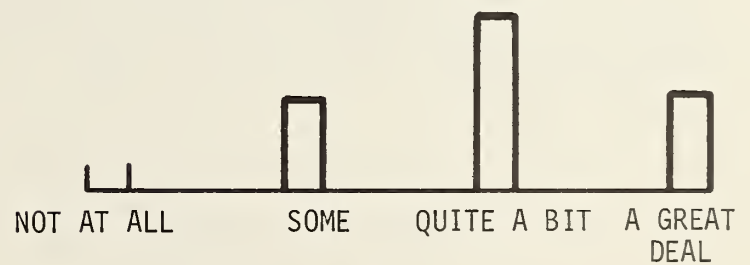
IMPORTANCE OF CONTACTS



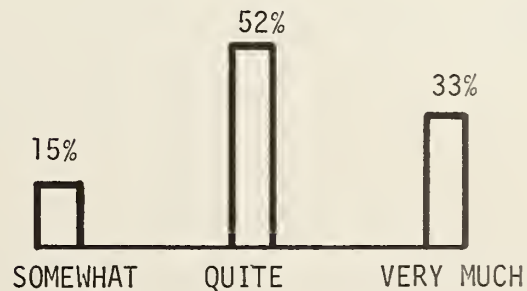
INCREASED KNOWLEDGE OF HUMAN RELATIONS IN MANAGEMENT



HELP IN NON-WORK INTERPERSONAL RELATIONSHIPS



APPLICABILITY OF MATERIAL TO JOB





## 9. COST OF COURSES

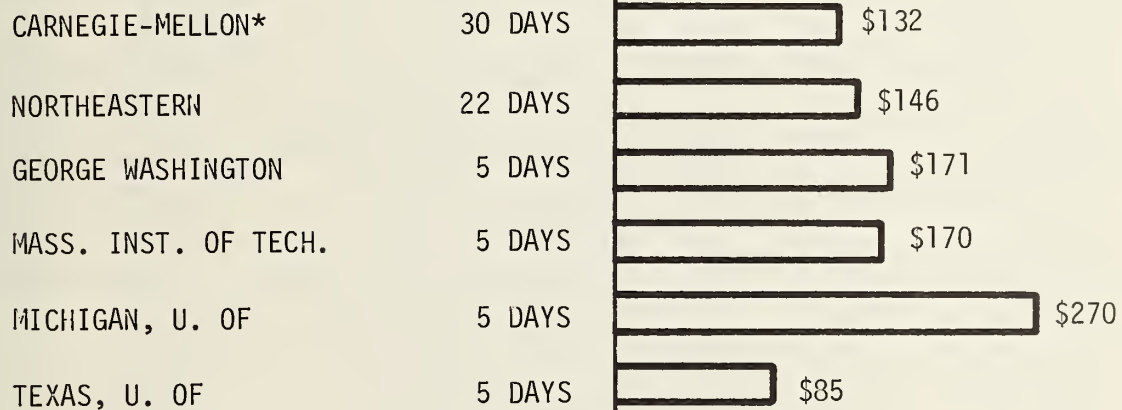
Exhibit 12 lists the charges made by eleven organizations offering short courses including the Section 10 courses. The sample of courses listed was selected by collecting announcements received over a several month period and selecting the long courses offered. Several additional courses of particular relevance for training in management were added. The costs are of the next offering of the courses taken from the brochures. The NU cost is the current offering and the CMU cost is the estimate by the CMU staff for the cost of the next proposed offering including the European trip.

To provide a common basis for comparison, the total price of the courses has been adjusted to eliminate the cost of meals (assuming breakfast at \$7, lunch at \$15 and dinner costing \$20) and lodging (\$25) to obtain a cost of instruction per day. Since the number of instruction hours per day varies from course to course, the cost per hour would be more useful. However, course descriptions do not uniformly provide sufficient information to make this determination. Moreover, programs such as Northeastern's and the European portion of the CMU course, provide opportunities for extensive unstructured contact among students and instructors. These contacts may occur to a greater or lesser degree in all programs but there is no accurate means of measuring them or equating them to classroom time. For these reasons, the cost of identifying classroom hours was not deemed to be justified.

The costs of both programs are on the low side of those sampled. While the cost of administering these programs which provide living services and a personalized nature is probably higher than courses open to the general public, the marketing costs are probably lower. It is concluded that both courses seem to be reasonable compared to similar offerings.

# EXHIBIT 12. COSTS - DAILY COST OF INSTRUCTION

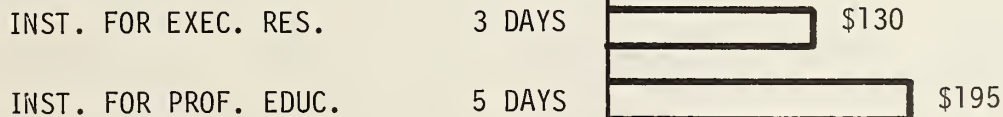
## UNIVERSITIES SECTION 10



## ASSOCIATIONS



## COMPANIES



0 100 200 300

\*Estimate by CMU staff with European trip, 1983.

Appendix A

DATA PROFILE OF ATTENDEES

1. Transit property \_\_\_\_\_ 2. Today's date \_\_\_\_\_
3. Participants name \_\_\_\_\_ 4. Birth date \_\_\_\_\_
5. Program attended: \_\_\_\_\_ Carnegie-Mellon \_\_\_\_\_ Northeastern
6. Month & year attended \_\_\_\_\_
7. Job title when hired \_\_\_\_\_
8. Dates held \_\_\_\_\_ to \_\_\_\_\_
10. Job title when attended \_\_\_\_\_
11. Dates held \_\_\_\_\_ to \_\_\_\_\_
13. Subsequent job \_\_\_\_\_
14. Dates held \_\_\_\_\_ to \_\_\_\_\_
16. Current job title \_\_\_\_\_, or:  
\_\_\_\_\_ retired \_\_\_\_\_ deceased \_\_\_\_\_ left property
17. Date of leaving \_\_\_\_\_
18. Current organization (if different than 1. above)  
\_\_\_\_\_

19. Education:

<u>School</u>	<u>Degree</u>	<u>Field</u>	<u>Year</u>
_____	_____	_____	_____
_____	_____	_____	_____

Appendix B  
TOTAL TRANSIT EMPLOYEES AND COURSE ATTENDEES BY AGENCY

Agency		Vehicles	Employees				Attendees			
			Number	Percent	Cum. No.	Cum. %	Number	Percent	Cum. No.	Cum. %
1	NYCTA-New York	10871	46542	26.86	46542	26.86	75	7.97	75	7.97
2	CTA-Chicago	3520	12772	7.37	59314	34.23	58	6.16	133	14.13
3	SCRTD-Los Angeles	3362	7910	4.56	67224	38.79	21	2.23	154	16.37
4	WMATA-Wash. DC	2300	6904	3.98	74128	42.78	17	1.81	171	18.17
5	SEPTA-Philadelphia	2519	6865	3.96	80993	46.74	40	4.25	211	22.42
6	MBTA-Boston	1877	6727	3.88	87720	50.62	64	6.80	275	29.22
7	New Jersey TC	1957	4210	2.43	91930	53.05	0	0.00	275	29.22
8	Muni-San Francisco	1110	3714	2.14	95644	55.19	6	0.64	281	29.86
9	SEMTA-So.E.Mich.TA	1560	3505	2.02	99149	57.22	7	0.74	288	30.61
10	MARTA-Atlanta	1089	2983	1.72	102132	58.94	26	2.76	314	33.37
11	PAT-Pittsburg	1059	2965	1.71	105097	60.65	64	6.80	378	40.17
12	GCRTA-Cleveland	1202	2618	1.51	107715	62.16	61	6.48	439	46.65
13	StPaulMTC	1081	2408	1.39	110123	63.55	6	0.64	445	47.29
14	Seattle	1196	2375	1.37	112498	64.92	17	1.81	462	49.10
15	Bi-State St. Louis	1004	2245	1.30	114743	66.22	19	2.02	481	51.12
16	ACTransit-Oakland	997	2187	1.26	116930	67.48	23	2.44	504	53.56
17	Baltimore MTA	1089	2117	1.22	119047	68.70	5	0.53	509	54.09
18	RTD-Denver	661	1897	1.09	120944	69.79	9	0.96	518	55.05
19	BART	439	1759	1.02	122703	70.81	5	0.53	523	55.58
20	Harris Co	837	1734	1.00	124437	71.81	0	0.00	523	55.58
21	Dade Co	673	1618	0.93	126055	72.74	0	0.00	523	55.58
22	Tri-Met-Portland	583	1573	0.91	127629	73.65	2	0.21	525	55.79
23	Hato Rey, PR	365	1551	0.90	129179	74.55	2	0.21	527	56.00
24	Milwaukee	719	1466	0.85	130645	75.39	1	0.11	528	56.11
25	Orange Co.	599	1441	0.83	132086	76.22	7	0.74	535	56.85
26	New Orleans	528	1427	0.82	133513	77.05	0	0.00	535	56.85
27	Santa Clara Co. TD	544	1341	0.77	134854	77.82	6	0.64	541	57.49
28	Honolulu	456	1199	0.69	136043	78.51	6	0.64	547	58.13
29	Dallas	520	1005	0.58	137048	79.09	7	0.74	554	58.87
30	Niagra Frontier,NY	486	990	0.57	138038	79.66	1	0.11	555	58.98
31	VIA-San Antonio	555	970	0.56	139008	80.22	13	1.38	568	60.36
32	SOBTA-Cincinnati	445	962	0.56	139970	80.77	14	1.49	582	61.85
33	Tidewater-Norfolk	424	494	0.29	140464	81.06	0	0.00	582	61.85
34	San Diego	392	860	0.50	141324	81.56	6	0.64	588	62.49
35	Metro Suburb.BA,NY	322	916	0.47	142140	82.03	0	0.00	588	62.49
36	Utah TA	342	791	0.46	142931	82.48	9	0.96	597	63.44
37	Kansas City	372	774	0.45	143705	82.93	24	2.55	621	65.99
38	Golden Gate BHTD	339	732	0.42	144437	83.35	11	1.17	632	67.16
39	River City, KY	322	674	0.39	145111	83.74	0	0.00	632	67.16
40	Central Ohio TA	273	670	0.39	145781	84.13	11	1.17	643	68.33
41	Memphis	323	651	0.38	146432	84.50	0	0.00	643	68.33
42	Sacramento	246	614	0.35	147046	84.86	8	0.85	651	69.18
43	Rhode Island	242	560	0.32	147606	85.18	4	0.43	655	69.61
44	Hartford	254	555	0.32	148161	85.50	0	0.00	655	69.61
45	POBTA-Rochester,NY	253	555	0.32	148716	85.82	4	0.43	659	70.03
46	Green Bus Lines,NY	222	523	0.30	149239	86.12	0	0.00	659	70.03
47	Phoenix	312	520	0.30	149759	86.42	1	0.11	660	70.14
48	Indianapolis, IN	232	499	0.29	150258	86.71	1	0.11	661	70.24
49	Queens Transit, NY	231	452	0.26	150710	86.97	0	0.00	661	70.24
50	Albany	238	443	0.26	151153	87.23	2	0.21	663	70.46
51	Omaha	243	422	0.24	151575	87.47	1	0.11	664	70.56
52	Pioneer Valley, MA	235	389	0.22	151964	87.70	0	0.00	664	70.56
53	SAMTRANS-San Mateo	335	383	0.22	152347	87.92	2	0.21	666	70.78
Column Total		52354	152347				666			
Population Total			173285				941			



Appendix C  
CHARACTERISTICS OF EMPLOYEES ATTENDING THE CARNEGIE-MELLON & NORTHEASTERN  
TRANSIT MANAGEMENT TRAINING PROGRAMS  
(by property)

Agency	No. of Employees  (1)	Number of Attendees(2)			Age at Attendance		Years Ser- vice Before Course	Promoted Before Course	
		CMU	NU	Total	Average	% Grtr 55		%	Yrs. Before
New York CTA	46540	15	49	62	43.92	1.6	20.5	96.55	2.6
Chicago T A	12770	10	41	48	44.17	10.4	19.6	89.13	1.9
So Cal R T D	7910	6	15	20	43.52	10.0	14.8	85.71	1.3
MBTA-Boston	6730	2	43	45	(3)	(3)	(3)	(3)	(3)
MARTA-Atlanta	2980	9	15	23	43.14	0.0	(4)	(3)	(3)
PAT-Pittsburg	2960	15	42	51	(3)	(3)	15.6	(3)	(3)
Cleveland	2620	10	43	49	45.41	12.2	18.2	93.33	2.7
Bi-State-StLs	2245	2	16	18	40.17	0.0	15.2	78.26	2
ACTransit-CA	2190	9	14	19	45.74	21.1	(3)	(3)	(3)
San Antonio	970	0	7	7	37.71	0.0	9.3	85.71	2.3
PATH-NY (5)	995	7	5	10	40.10	0.0	14.7	100.00	2.9
Kansas City	774	3	16	19	43.44	22.2	12.2	72.22	3.2
PATCO-Camden	329	9	27	33	40.64	6.1	5.1	71.88	2.3
Syracuse	325	0	9	9	39.67	0.0	8.5	75.00	2.3
Ft Wayne	154	1	14	14	28.75	0.0	3.7	75.00	1.1
TOTAL	90492	98	356	427					
POPULATION AVERAGE (6)					42.72	7.34	15.32	84.81	2.25

- (1) - Sec. 15 data
- (2) - '79 & before; includes those attending both
- (3) - Insufficient data reported
- (4) - Reported from takeover only
- (5) - Number of employee data from APTA
- (6) - Of those reporting



Appendix D  
YEAR BY YEAR TRENDS OVER TIME  
WHO ATTENDED AND WHAT HAPPENED TO THEM

Year	No. Attending	Remain At Sponsor Agency No. %	When Attending		Left For:			
			Age	Yrs of Service	Retirement		Other Transit	
			No. Yrs Avg.	No. Yrs Avg.	No. Yrs. Avg. %		No. Yrs. Avg. %	
1969	9	3 33.3	8 350 43.8	9 165 18.3	3 14 4.67 33.3			
1970	23	12 52.2	23 959 41.7	19 329 17.3	5 48 9.6 21.7		2 8 4 8.7	
1971	37	19 51.4	31 1290 41.6	30 443 14.8	12 59 7.38 32.4		2 14 7 5.4	
1972	43	18 41.9	38 1547 40.7	34 533 15.7	15 68 8.5 34.9		6 20 3.33 14.0	
1973	39	19 48.7	32 1342 41.9	27 385 14.3	10 41 5.13 25.6		4 18 4.5 10.3	
1974	48	23 47.9	36 1590 44.2	36 616 17.1	17 69 5.75 35.4		5 14 3.5 10.4	
1975	50	32 64.0	39 1826 46.8	36 751 20.9	11 42 4.67 22			0
1976	60	40 66.7	52 2406 46.3	48 619 12.9	4 12 6 6.7		6 20 5 10	
1977	48	39 81.3	42 1752 41.7	39 534 13.7	5 14 3.5 10.4		1 2 2 2.1	
1978	42	34 81.0	37 1403 37.9	36 365 10.1	1 5 5 2.4		2 4 4 4.8	
1979	29	24 82.8	28 1071 38.3	23 281 12.2		0	1 1 1 3.4	

Year	Left For:																			
	Public Employment				Other Occupation				Unknown				Deceased				Termination			
	No. Yrs. Avg. %				No. Yrs. Avg. %				No. Yrs. Avg. %				No. Yrs. Avg. %				No. Yrs. Avg. %			
1969	1	4	4	11.1	1	6	6	11.1				0	1	13	13	11.1				0
1970				0	1	6	6	4.3	4	7	1.75	17.4				0				0
1971				0	1	7	7	2.7				0	2	4	4	5.4	1	7	7	2.7
1972				0				0				0				0	2	10		4.6
1973	2	13	6.5	5.1	1	9	9	2.6				0	3	6	6	7.8	1	-		2.6
1974				0	2	7	3.5	4.2	2	3	1.5	4.2	1	0	0	2.1				0
1975	1	4	4	2	2	6	3	4	2	4	4	4	2	4	4	4				0
1976	1	3	3	1.7	4	9	2.25	6.7	2	10	5	3.3				0	1	5	5	1.7
1977				0	1	6	6	2.1	3	1	.333	6.2				0	1	5	5	2.1
1978	1	1	1	2.4	4	12	3	9.5	1		0	2.4	1	1	1	2.4				0
1979	1	0	0	3.4	3	4	1.33	10.3	1		0	3.4				0				0

Appendix E  
CAREERS OF EMPLOYEES ATTENDING CARNEGIE-MELLON & NORTHEASTERN TRANSIT  
MANAGEMENT COURSES DURING 1969 - 79 AFTER ATTENDING THE COURSES  
(by property)

Agency	Employees Remaining Total			Employees Promoted, Remaining & Leaving			Employees Leaving																					
							Retire			Other Transit			Othr Public Employment			Other Occupation			Resign-Unknown			Deceased			Terminated			Yrs to Leave
	#	%	Yrs	#	%	Yrs	#	%	Yrs	#	%	Yrs	#	%	Yrs	#	%	Yrs	#	%	Yrs	#	%	Yrs				
New York CTA	46	74	7.6	39	63	3.3	14	23	5.9	0			0			1	2	6	0			1	2	6	0			5.9
Chicago T A	34	71	8.1	33	69	1.9	7	15	5.9	2	4	4.5	0			0			2	4	2.5	1	2	4	2	4.2	5	4.9
So Cal R T D	12	60	9.6	15	75	2.2	4	20	6.5	4	20	6	0			0			0			0			0			6.3
MBTA-Boston	15	33	6.5	-	-	-	20	44	-	1	0	-	0			0			5	0	-	3	7	-	1	2.2	-	-
MARTA-Atlant	13	57	6.8	11	48	2.3	2	9	7	3	13	5.7	1	4	4	2	9	4.5	2	9	2	0			0			4.8
PAT-Pitt	36	71	9.7	27	53	4.3	2	4	7	4	8	2.8	1	2	6	5	10	2	2	4	6.5	1	2	0	0			3.6
Cleveland	22	45	7.6	24	49	2.0	20	41	5.5	4	8	4	1	2	0	0			0			2	4	6.5	0			5.1
St. Louis	8	44	11.	14	78	2	2	11	8.5	1	6	1	2	11	3.5	2	11	5	2	11	4	1	6	4	0			4.7
A C Transit	10	53	7.9	12	63	1.6	6	32	6.2(1)	0			0			2	11	6(1)	0			1	5	-	0			6.2(1)
San Antonio	3	43	5.3	4	57	1.8	0			0			0			3	43	3.3	0			1	14	1	0			2.8
FATH - NY	9	90	9.2	7	70	1.4	0			0			1	10	10	0			0			0			0			10
Kansas City	12	63	5.7	10	53	2.4	3	16	6.7	0			0			2	11	2	2	11	1.5	0			0			3.9
PATCO-Caaden	24	73	8.5	15	45	3.9	4	12	6.3	1	3	3	1	3	1	0			0			0			3	9	5.7	5.1
Syracuse	7	78	6.3	6	67	2.3	0			2	22	1	0			0			0			0			0			1
Ft Wayne	2	14	6.5	6	43	1.2	1	7	-	6	43	1.6	1	7	7	4	29	3.3	0			0			0			2.5(1)
							(1)																					
TOTAL	253			223			85			28			8			21			15			11			6			
POPULATION AVERAGE	59.	7.9		52.	2.6		20.	6.0		6.6	3.5		1.9	5		4.9	3.4		3.5	3.3		2.6	4		1.4	5.4		4.6
							(1)			(1)						(1)			(1)			(1)			(1)			

Notes: (1) - designates entry based on number different from that shown in number column because of missing data.

(-) - designates positive entry of unknown value.

Appendix F

NORTHEASTERN SURVEY  
COVER LETTER AND QUESTIONNAIRE

# NORTHEASTERN UNIVERSITY

303 WYMAN STREET  
WALTHAM, MASSACHUSETTS 02154

CENTER FOR CONTINUING EDUCATION

July 15, 1980

Dear

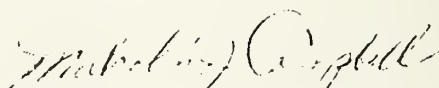
For over a decade the Center for Continuing Education at Northeastern University has maintained a strong commitment to serving the urban mass transportation industry by providing training experiences for management and supervisory personnel. The staff of our Center is dedicated to continuing this service by helping managers to cope with the demands of this rapidly changing and expanding field.

To achieve this end it is important to learn how you as managers in urban mass transit systems see your training needs. We can then custom design programs which will provide managers with maximal benefits for advancement of their own careers as well as positive advancement for the field of urban mass transportation.

You can be of assistance to us and to the industry if you will take about twenty minutes of your time to complete the enclosed questionnaire and return it to the above address. You need not include your name. When the results of this survey are obtained we shall be happy to share them with you if you so desire.

Many thanks for your help and cooperation.

Sincerely,

  
Dean Malcolm J. Campbell  
Director of the Center for  
Continuing Education

-----  
Please draw a circle around the letter which precedes the response which applies to you.  
-----

PART ONE. Biographical Data

1. The area of urban mass transportation in which I work is  
(a) Rail (b) Motor Coach (c) Both Rail & Motor Coach (d) Other
2. My primary responsibility is in the following department:  
(a) Operations (b) Maintenance (c) Fiscal/Financial  
(d) Public Relations (e) Engineering

OR

3. (a) Planning (b) Training (c) Personnel (d) Other
4. For the most part the management level at which I am involved is  
(a) Supervisory (b) Middle Management (c) Upper Management
5. I have worked in the field of urban mass transportation for  
(a) Less than 5 years (b) From 5 to 9 years (c) From 10 to 19 years  
(d) From 20 to 29 years (e) Over 29 years
6. My age is  
(a) 20 to 29 years (b) 30 to 39 years (c) 40 to 49 years  
(d) 50 to 59 years (e) Over 59 years
7. My educational background includes attendance in  
(a) High School (b) College (c) Graduate School (d) Other special courses
8. I attended the Urban Mass Transit Seminar in  
(a) 1967 (b) 1968 (c) 1969 (d) 1970 (e) 1971

OR

9. (a) 1972 (b) 1973 (c) 1974 (d) 1975 (e) 1976

OR

10. (a) 1977 (b) 1978 (c) 1979

11. The Urban Mass Transit Seminar that I attended was  
(a) Two weeks long (b) Four weeks long



PART TWO.

### General Evaluation of the Seminar

Taking into account both the topics discussed and the interaction of participants, please indicate your overall feelings about the value of the seminar to you. Please mark either (a) Agree or (b) Disagree for each.

12. It provided me with new ideas about urban transportation management.
13. It improved my ability to relate productively to other people.
14. Generally speaking, the seminar was a growth experience.
15. It helped me to sharpen my management (or supervisory) skills.
16. It stimulated my thinking in the area of urban transportation management.
17. It increased my self-confidence.
18. It helped me to understand my own style of leadership and how it could be improved.
19. It improved my listening skills.
20. It helped me to improve my communication skills.
21. It helped me to understand why my staff (or my workers) did some of the things they did.

There were many topics introduced and discussed in the seminar, some more valuable to you than others in the conduct of your work. Taken overall, please rate the value of the seminar in helping you accomplish the following tasks. In the parenthesis beside each topic place the appropriate letter (a), (b), (c), (d), or (e) as indicated below.

- (a) of no value      (b) of little value      (c) of some value      (d) of much value  
(e) of great value
22. Organizing my work.
23. Better organizing my subordinates.
24. Developing my skill in clarifying and setting objectives.
25. Identifying and setting priorities.
26. Improving my decision-making capacity.
27. Better directing and controlling the activities of my subordinates.
28. Improving my problem-solving skills.
29. Improving my skills in selecting staff.

30. Improving capacity for training employees.
  31. Improving the means of evaluating the effectiveness of my employees.
  32. Acquiring and /or further developing skills in human relations which have assisted me in relations with people in other departments of my company.
- 

PART THREE. Curriculum

Listed below in Items 33 through 50 are topics introduced and discussed by instructors in the Urban Mass Transit Seminars. Please rate them as you feel they have helped you to improve your functioning as a manager: Place the appropriate letter (a), (b), (c), (d), or (e) as indicated below.

- (a) of no value      (b) of little value      (c) of some value      (d) of much value  
(e) of great value

33. Understanding the behavior of others.
34. Self-awareness.
35. Principles of communication, i.e., listening as well as communicating.
36. Formal and informal organization of companies and enterprises.
37. Performance evaluation techniques.
38. Personal stress, and strategies for reducing it.
39. Problem-solving in management.
40. Delegation of responsibility.
41. Conflict resolution.
42. Adaptation to and management of change.
43. Styles of leadership and their effects.
44. Psychological mechanisms of defense.
45. Fiscal management.
46. Maintenance supervision.
47. Supervising operations.
48. Speaking and writing effectively.
49. Marketing.
50. Management by objectives.

PART FOUR. General Impressions

Circle appropriate letter.

51. In general, the quality of the teaching demonstrated by the instructors who participated in the seminar was  
(a) Poor (b) Fair (c) Good (d) Excellent
52. The material presented at the seminar increased my knowledge of human relations in management  
(a) Not at all (b) Some (c) Quite a bit (d) A great deal
53. What I learned from my participation in the seminar has helped in my inter-personal relationships in areas of life other than work  
(a) Not at all (b) Some (c) Quite a bit (d) A great deal
54. Most of the material to which I was exposed in the seminar was  
(a) Somewhat applicable to my job (b) Quite applicable to my job  
(c) Very much applicable to my job
55. The seminar acquainted me with APTA and UMTA. The opportunity to become familiar with these national transit organizations was  
(a) Not important (b) Valuable (c) Very valuable
56. One of the aspects of the seminars was the opportunity to exchange experience and knowledge with managers and supervisors from other parts of the country. This opportunity was  
(a) Unimportant to me (b) Of some importance to me  
(c) Of considerable importance to me
57. The educational format from which I learned most was  
(a) Straight lecture (b) Seminar-type discussion (c) Group dynamics  
(d) Role playing and other participation-type exercises
58. Because the number of transit seminars is limited at Northeastern University, we have had to refuse admission to applicants from many companies. Do you feel that the number of programs given each year should be increased?  
(a) Yes (b) No
59. Would you recommend this seminar to other managers and supervisors in urban mass transportation?  
(a) No, not at all (b) Yes, with reservations  
(c) Yes, with no reservations
60. If the seminar did not cover some major issues which you have to face in your work, we would like to rectify this situation. Please state any topics not discussed which you would like to see included in future seminars.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

Alumni Survey  
Urban Mass Transit Seminar  
NORTHEASTERN UNIVERSITY  
Center for Continuing Education

---

Below please describe any ideas you have for including different material or for any other changes you would like to see made in future seminars. New seminars might take the form of more advanced training in specific areas you have covered previously, or they might explore new areas in urban mass transit management. We welcome your suggestions and comments.

## Appendix G

### REPORT OF NEW TECHNOLOGY

This work performed under this contract, while leading to no new inventions, has for the first time explored the degree to which results of a program designed to train transit managers in fact benefit the transit industry. The results will help DOT program designers be assured that the results of this program are as intended and thus will help evaluate this expenditure of public funds with respect to public benefit.



HE 18.5 .A37  
UMTA- 83-40  
Lave, Roy E.

Study of th  
participan

Form DOT F 1720  
FORMERLY FORM DO

U.S. Department  
of Transportation

**Research and  
Special Programs  
Administration**

One Dalton Square  
Cambridge, Massachusetts 02142

00352943



Official Business  
Penalty for Private Use \$300

Postage and Fees Paid  
Research and Special  
Programs Administration  
DOT 513

