

Report No. GA-11-0015

TRANSIT OPERATIONS INSTITUTE:
A MANAGEMENT DEVELOPMENT SEMINAR
FOR WOMEN IN THE TRANSIT INDUSTRY

Dr. Catherine L. Ross
Associate Professor
Georgia Institute of Technology
College of Architecture
Atlanta, Georgia 30332

AUGUST 1984

FINAL REPORT
VOLUME I

Document is available to the U.S. public through the
National Technical Information Service,
Springfield, Virginia 22161

Prepared for

U.S. DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
Office of Technical Assistance
University Research and Training Program
Washington, D.C. 20590

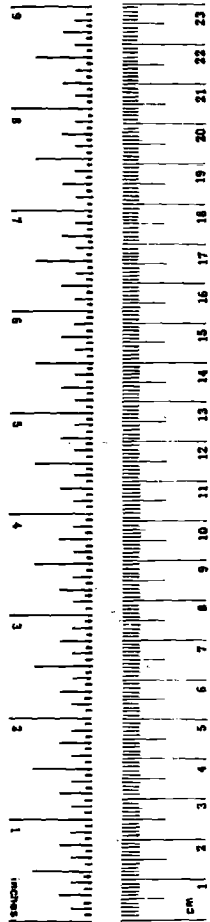
1. Report No. GA-11-0015		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle Transit Operations Institute: A Management Development Seminar for Women in the Transit Industry				5. Report Date August 1984	
				6. Performing Organization Code	
7. Author(s) Dr. Catherine L. Ross, Associate Professor				8. Performing Organization Report No.	
9. Performing Organization Name and Address Georgia Institute of Technology College of Architecture/City Planning Program Atlanta, Georgia 30332				10. Work Unit No. (TRAIS)	
				11. Contract or Grant No. GA-11-0015	
12. Sponsoring Agency Name and Address Office of Technical Assistance University Research & Training Program Urban Mass Transportation Administration 400 Seventh Street, S.W. Washington, D. C. 20590				13. Type of Report and Period Covered Final Report August 1983 - August 1984	
				14. Sponsoring Agency Code	
15. Supplementary Notes					
16. Abstract <p>This report outlines the results of a one-week Institute designed to provide professional growth and enhancement for women currently employed in the transit industry. Georgia Institute of Technology joined with the Metropolitan Atlanta Rapid Transit Authority (MARTA) to provide an overview of the transit operations side of the industry. The intent was to provide a reasonable representation of the range of functions which are needed and the skills and backgrounds women must claim in order to perform these. The Institute combined on-site tours, pre-tour briefings, panel discussions, lectures and a variety of experiential opportunities in an effort to respond to the needs of women for technical/operational training in the transit industry.</p> <p>The scope and thrust of the Institute was designed in part to help fill recently expressed needs in the transit industry for new managerial personnel and simultaneously to improve utilization of women throughout all levels of the industry. Issues that were addressed included major actual operations involvement, real and perceived problems regarding women in the field, real skills and experience requirements, and improved self-image for women regarding their own professional validity and their interactions with their peers, supervisors and subordinates. Extensive evaluations of various sessions were conducted and may be used to assist in the conduct of a similar effort.</p>					
17. Key Words Training, women, management, transportation education, career-pathing, skills development, professional development, transit operations			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	22. Price

METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

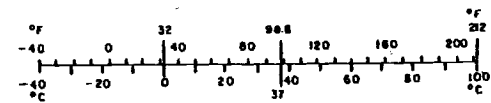
Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
AREA				
in ²	square inches	6.5	square centimeters	cm ²
ft ²	square feet	0.09	square meters	m ²
yd ²	square yards	0.8	square meters	m ²
mi ²	square miles	2.6	square kilometers	km ²
	acres	0.4	hectares	ha
MASS (weight)				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
VOLUME				
tsp	teaspoons	5	milliliters	ml
tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft ³	cubic feet	0.03	cubic meters	m ³
yd ³	cubic yards	0.76	cubic meters	m ³
TEMPERATURE (exact)				
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

*1 in = 2.54 (exactly). For other exact conversions and more detailed tables, see NBS Alloc. Publ. 280, Units of Weights and Measures. Price \$2.25, SD Catalog No. C12-10-286.



Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
km	kilometers	1.1	yards	yd
		0.6	miles	mi
AREA				
cm ²	square centimeters	0.16	square inches	in ²
m ²	square meters	1.2	square yards	yd ²
km ²	square kilometers	0.4	square miles	mi ²
ha	hectares (10,000 m ²)	2.5	acres	
MASS (weight)				
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
VOLUME				
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m ³	cubic meters	35	cubic feet	ft ³
m ³	cubic meters	1.3	cubic yards	yd ³
TEMPERATURE (exact)				
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



ACKNOWLEDGEMENTS

The author would like to express her appreciation to all of those employed by the Metropolitan Atlanta Rapid Transit Authority (MARTA) who assisted in the conduct of the Institute. In particular, the tireless effort and enthusiasm put forth by Ann Johnson, Manager of Research and Analysis was pertinent to its success. Of course, all of this was made possible through the commitment and dedication of Mr. Ken Gregor, General Manager, for continued progress in the transit industry.

Funding for this effort was provided by the UMTA University Research and Training Program. The author appreciates the support and participation of the project monitor, Ms. Judy Meade. Her foresight and intelligence contributed immensely to the accomplishment of Institute objectives.

TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
1.1	Executive Summary	1
2.1	Introduction	2
2.2	Status of Women in the Industry	2
3.1	Institute Time/Task Schedule	4
4.1	Institute Design and Curriculum	6
4.2	Institute Structure	6
4.3	Recruitment and Selection of Participants	10
4.4	Conduct of Institute	12
4.5	Institute Staff	13
4.6	Institute Organization	13
4.7	Institute Schedule	14
4.8	Classroom Sessions and On-Site Tours	14
4.9	Guest Officials	16
5.1	Institute Evaluation	16
5.2	Bus Operations	17
5.3	Women in Transit/Non-Traditional Roles	17
5.4	Rail Operations	18
5.5	Scheduling, Evaluation and Public Intervention	18
5.6	Accomplishment of Participant Objectives	18
	General Evaluation (Objective Accomplishment)	
5.7	General Evaluation	21
5.8	Staff Evaluation	23

FIGURES

<u>Figure</u>		<u>Page</u>
1	Time/Task Plan	5
2	Format for On-Site Sessions	6

TABLES

<u>Table</u>		<u>Page</u>
1	Issues, Objectives, and Methods	7
2	Positions Held by Institute Participants	12
3	Sample Daily Schedule	15
4	Objective Accomplishment	19
5	Evaluation: Transit Operations Institute	22

TRANSIT OPERATIONS INSTITUTE: A MANAGEMENT DEVELOPMENT SEMINAR
FOR WOMEN IN THE TRANSIT INDUSTRY

EXECUTIVE SUMMARY

A week-long Institute, to strengthen the operations/management-development background of women in the transit industry, was held February, 6-10, 1984, in Atlanta, Georgia. Its purpose was to increase the number of women prepared to assume positions of major responsibility within the industry.

Findings of task forces commissioned by the American Public Transit Association (APTA) and the Metropolitan Atlanta Rapid Transit Authority (MARTA) have outlined two major needs in the transit industry: 1) opportunities for women to acquire managerial and technical skills; and 2) a "new talent pool" to fill positions vacated by the collectively aging top level management. This Institute was designed to meet those needs by improving the present managerial skills of women in the industry; illuminating attitudinal barriers to upward mobility and offering solutions to help overcome them; and exposing women to the operational or "nuts and bolts" side of the transit industry. This was accomplished through a unique industry/university approach utilizing MARTA and Georgia Institute of Technology (Georgia Tech). The success of various components as well as the Institute in its entirety was assessed by extensive evaluations which took place during the week.

INTRODUCTION

The need for the Transit Operations Institute became obvious as a direct result of two documented facts: the lack of managerial training opportunities for women and the general low-level status of women in the transit industry. The increased number of female-headed households and increases in the cost of living have contributed to women seeking employment outside the home. While more women than ever before are entering the work force, their particular under-representation in the transit industry has been the subject of much discussion and analysis.

The aim of the Institute was to provide professional growth and enhancement for women currently employed in the transit industry (primarily sub-middle-management level employees). Participants were selected from the south-east, i.e., Georgia, Florida, Tennessee, Alabama, Mississippi, North Carolina, South Carolina, Kentucky and Puerto Rico.

The Institute was designed: to provide an overview of the operations side of the workforce which women have heretofore been hindered in acquiring; to indicate logical career paths; to provide assistance in increasing the number of women entering the industry and moving up the professional/management ladder; and to improve the climate within which men and women work together in the urban transportation field.

The main concern was not to transmit all existing knowledge about every aspect of transit operations activities in one super packed week. Rather, the intent was to provide a reasonable representation of the range of functions which are needed and the skills and backgrounds which women must achieve in order to provide those functions to the industry. The Institute performed a unique role in the industry. There are a few transit-related Institutes or study sessions in operation, but they tend to reflect the historical male-orientation of the field; and the highly-advertised women's career symposia, etc. are very general in nature. Thus, women who currently desire to move ahead in the transit industry have virtually no source of assistance which is both attuned to the specific needs of women in this field, and also is technically proficient.

STATUS OF WOMEN IN THE INDUSTRY

Prior to World War II, representation of women in the transit industry was at best limited, with only a few employees in technical and clerical positions. Women were recruited to perform many traditionally male functions in the industry during the war years, but generally did not progress to managerial functions. At the conclusion of the war, most women were phased out of the industry and their absence was notable until the mid 1960's.

In an effort to evaluate the status of women in the industry the American Public Transit Association (APTA) established a Women in Transit Task Force in

1979. The task force conducted a survey of 31 transit systems throughout the country and reported its findings in the Women In Transit Task Force Report in October, 1980. (1) The task force found:

1. Females comprised 42.1 percent of the total American work force but only 13.2 percent of the transit work force.
2. Females were most represented in the "office/clerical" category with 59.9 percent of the transit work force.
3. Females were least represented in the "craftsmen" category with 1.4 percent of the transit work force.
4. Females were under-represented (less than 13.2 percent of the work force) in the following categories:
 - a. Craftsmen 1.4 percent
 - b. Officials/Managers 7.0 percent
 - c. Technicians 15.9 percent
 - d. Operators/Service 9.8 percent

In addition to the above information, survey results indicated that:

- * Sixty-eight percent of the systems surveyed had no females in the craftsmen category.
- * All systems had females working in the operators/service category.
- * Twenty-three of the systems had 100 percent female employment in the office/clerical category.
- * Thirty-seven percent of the transit systems surveyed had no females employed in the officials/managers category. (2)

These findings clearly outline the under-representation of women in the industry with the greatest deficiencies occurring in the craftsmen, officials/managers and the operators/service categories.

Women in the industry identified a number of real or perceived barriers to employment, training, and career mobility. These may be either attitudinal or functional in nature. They perceived a lack of acceptance of women in non-traditional jobs. The barriers most frequently mentioned were continuance of stereotyped ideas, negative attitudes toward women in top management positions, and educational disparities. Along functional lines respondents to the APTA Women's Survey generally expressed a desire for greater exposure to all facets of transit. Such knowledge was seen as a vehicle for enhancing mobility. To this end, the report suggested the need for training programs designed, "to have the maximum impact on the career development and aspirations of women." (3)

In September of 1982, an Announcement from the Urban Mass Transportation Administration's (UMTA's) University Research and Training Program solicited applications to develop training programs for urban transportation managers and professionals.

-
1. Women In Transit Task Force Report, The American Public Transit Association, Washington, D.C. October 1980, p.4.
 2. Ibid, p.8.
 3. Ibid, p. 10.

Perceiving this Announcement as an opportunity to respond to the needs of women in the transit industry and to the APTA report, Dr. Catherine L. Ross, Associate Professor, College of Architecture, Georgia Institute of Technology (Georgia Tech) and Ann F. Johnson, Manager of Research and Analysis, Metropolitan Atlanta Rapid Transit Authority (MARTA), joined forces to author an application from Georgia Tech to UMTA. In July 1984, funding was granted to Georgia Tech to conduct the "Transit Operations Institute: A Management Development Seminar for Women in the Transit Industry." An agreement was struck with MARTA to provide in-kind professional enhancement elements. MARTA was particularly interested in the Institute as a consequence of its concern for the advancement of women in-house.

The Transit Operations Institute's primary objectives were to respond to: the professional/advancement needs of women in the industry; the needs of women for technical/operational training; and fulfill the need for new managerial talent to replace the now-aging top level managers in the transit industry.

INSTITUTE TIME/TASK SCHEDULE

In order to accomplish the objectives specified above, it was determined that a week-long Institute (February 6-10, 1984) would be convened. It was directed towards women, in the Southeastern UMTA Region IV, currently employed by transportation agencies at the middle or sub-middle management level. To initiate activities a time/task plan was developed. This plan encompassed twelve general tasks, each of which involved a number of smaller sub-tasks. The project covered the time period from August 1983 through July 1984. As can be seen, there were varying degrees of immediacy attached to the tasks. The ones that needed to be to be accomplished in the initial few months included:

1. Conduct Administrative Activities - Begin initiating procedures to employ an administrative assistant and graduate research assistants and bring the project on line at Georgia Tech.
2. Detail Institute Schedule - Development of a daily schedule for the Institute.
3. Select Steering Committee - Identification of five persons to evaluate applications and select participants to attend the Institute.
4. Develop Institute Brochure and Announcements - Development of a brochure and a one-page announcement detailing Institute activities and distribution among transit agencies in Region IV.

A timetable for the Institute is shown in Figure 1.

FIGURE I

TRANSIT OPERATIONS INSTITUTE:

TIME/TASK PLAN

TASKS	TIME (in months)											
	1	2	3	4	5	6	7	8	9	10	11	12
A. Select Steering Committee		—										
B. Select Technical Personnel				—								
C. Develop Evaluation Materials			—	—	—	—						
D. Develop Materials for Technical Sessions			—									
E. Detail Institute Schedule	—	—										
F. Develop Institute Brochure and Announcements		—	—									
G. Conduct Administrative Activities	—	—	—	—	—	—	—	—	—	—	—	—
H. Select Participants					—							
I. Develop Participant Packets					—							
J. Conduct Institute Session							—					
K. Preparation of Progress Reports			—			—			—			—
L. Preparation of Final Report												—
	A	S	O	N	D	J	F	M	A	M	J	J

INSTITUTE DESIGN AND CURRICULUM

The structure of the Institute was largely determined by the specific objectives it was designed to accomplish. While primary goals have been mentioned previously, there were a number of secondary objectives. Once these were specified, the challenge was one of organizing a program which facilitated their accomplishment. These provided initial thoughts about structure.

Secondary objectives were developed as the direct result of the identification of main issues affecting women in the transit industry. These were not limited to technical considerations, but included attitudinal problems encountered by women and other barriers to their career development. The Institute's secondary goals with corresponding methods for their accomplishment are outlined in Table I.

INSTITUTE STRUCTURE

The Institute combined the capabilities of practitioners, academicians and consultants to meet the extensive goals of providing accurate career development and professional enhancement assistance specifically oriented to the small, but growing group of women in the industry. It provided a close-up study of the operations end of the transit industry, the area which is generally recognized as the most lacking in women's professional backgrounds. In order to accomplish this, Georgia Tech and MARTA entered into a cooperative effort. MARTA provided in-kind services which included personnel to direct technical sessions, tours of its facilities, and the services of an in-house project director. Since the Institute placed great emphasis on hands-on operations, a number of site visits were scheduled to MARTA facilities. These on-site sessions generally followed a common format:

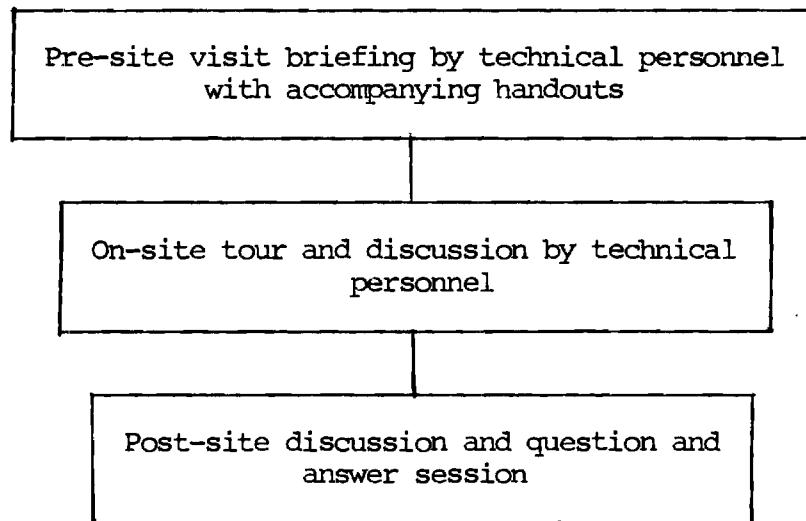


FIGURE 2. Format for On-Site Sessions

In addition to the technical information shared, topics were approached from the view point of women who might occupy various positions. In all contexts the Institute highlighted real skills requirements, and real experience requirements, while simultaneously identifying outmoded or traditional job requirements.

TABLE 1
ISSUES, OBJECTIVES, AND METHODS

ISSUE	OBJECTIVE	METHOD FOR RE-SOLVING PROBLEM
1. A lack of knowledge of the transit industry in general	To improve general knowledge about the transit industry	Overview instruction regarding industry in general
2. A lack of knowledge among lower level transit employees regarding their agency in general, resulting in unclear views about the planning of career paths	To provide knowledge of one major transit agency (MARTA) as a generalizable example for comparison with participants' own agencies	Instruction, visits and discussion of MARTA structure, functioning and interaction
3. A lack of knowledge among women in transit regarding career possibilities in "non-traditional" job areas	To provide information to women regarding career possibilities in urban transportation	Career guidance, individual women's career stories, and basic job sequence information provided in course session
4. A lack of appropriate technical background among women as qualification for "non-traditional" jobs	To demonstrate to women participants where and how the necessary experience can be gained, a basic qualification for moving into more responsible positions	On-site visits, verbal discussions regarding length of time needed in various on-line activities in order to more fully master them
5. Uncertainties among women regarding reaching out for positions of higher level activity and/or responsibility	To improve the confidence-level of women as they consider occupying more responsible positions	Awareness-raising regarding the sources and types of uncertainties women have entertained, combatted by both general and specific information and techniques

TABLE.1 -cont'd

ISSUES, OBJECTIVES, AND METHODS

ISSUE	OBJECTIVE	METHOD FOR RE-SOLVING PROBLEM
6. The existence of fears and misconceptions among men regarding women in technical and/or authoritative positions	The emergence of the graduates of the institute will provide a growing community of women with documented professionalism	Participants will take their positions throughout the industry with a new sense of their own validity and a broader understanding of the industry itself
7. The existence of common socialization/training in womens' general background which require identifiable "counter socialization" to foster effective career performance in "non-traditional" areas	Identify modes of behavior (some of which are consistently made part of mens' socialization process) which produce more successful office relationships	Discussions, panel sessions and individual case histories, along with tools such as role-reversal, etc.
8. The overabundance of women hired into clerical positions regardless of extent and specialization in their educational background	To improve the correlation between womens' educational background and the positions they hold, also increasing the number of men hired into routine clerical positions	Raising the issue of 1) positions that women are normally considered for, whether as initial hire or internal promotion; and 2) the tendency not to hire men into clerical positions even when expressly desired by candidate
9. Documented under-utilization of women in many areas in public transportation agencies	To attract and retain greater number of women into positions formerly considered "non-traditional" jobs for women, e.g., engineering maintenance, upper management, etc.	Specifically to point out current areas of under-utilization, examining educational and experiential requirements for filling these positions, encouraging interested women to take whatever steps might be necessary to compete for them

TABLE.1 -cont'd

ISSUES, OBJECTIVES, AND METHODS

ISSUE	OBJECTIVE	METHOD FOR RE-SOLVING PROBLEM
10. Infrequent opportunities provided for women to travel for job-related educational purposes	To increase the numbers of women traveling for job-related education purposes, and increase the receptivity of those with whom they must come into contact — hotel and travel personnel especially	Reserve a minimum of one-half the participant slots for persons who must travel out-of-town to attend the sessions
11. The prevailing lack of motivation for women to aspire to positions of authority in the urban transit field	To improve the motivation of women (program participants and their acquaintances) to seek to attain positions of technical activity and increasing responsibility/authority	To have women who can serve as role models address participants. To organize discussion groups; question and answer sessions and intersperse these throughout technical sessions
12. The lack of mentors to/for women	To increase the number of professional women who 1) have an active mentor and 2) are actively mentoring a younger women	Provide information about what mentoring is (many times it exists but is not recognized as such); the value of mentoring to effective career growth; the importance of extending an effort to help others, and considerable opportunity for reflection and feedback
13. General absence of casual work-oriented information and support networks for women.	To improve womens' access to and participation in the day-to-day information flow	1) Increase womens' awareness of those networks; and 2) of their value the job-effectiveness of those who are included; 3) then experiment with ways to join ongoing networks and/or create new ones

In conjunction with the technical sessions, professionals discussed issues, problems, and skills required in the performance of their various functions throughout MARTA. This information was presented through discussion sessions focusing on both technical and interpersonal aspects of women's careers within the profession. Panel discussions were structured around a presentation by women in various technical areas supported by two or three other panelists. After the presentation, an open discussion ensued. These sessions were monitored by a female psychologist trained in group interaction who helped facilitate interchange. The intended result was an enhanced understanding of what is needed in order to perform adequately in a technical capacity, an improved self-assurance in the participants regarding their own functional capabilities, and some realistic views on setting career goals.

The Institute was held at Georgia Tech in Atlanta, Georgia. The campus is located in close proximity to the administrative offices of MARTA.

RECRUITMENT AND SELECTION OF PARTICIPANTS

Recruitment of participants was accomplished through the use of three primary tools: an initial news release, an announcement flier and a brochure/application.

A news release, published by the Georgia Tech Information Bureau was disseminated to newspapers located in southeastern cities with an operating transit system. In addition, it was forwarded to national trade journals and women's magazines.

An 8 1/2 x 11 inch announcement flier describing the Institute was the second step in the publicity effort. Six-hundred fliers were distributed to transit authorities, Women's Transportation Seminar (WTS) members, elected officials, transportation organizations and other interested persons in the southeast.

A combination brochure/application was designed and printed as a reply mechanism for inquiries illicit by the news release and flier. The format was two-fold, four-panel, two-sided, with the following headings: Summary Schedule, Who Should Attend, Cost Involved, Selection Process (with key dates), and Benefits Gained. One panel served as an application form. Brochures were mailed to transit authorities, WTS members, city governments and a variety of transportation organizations in the southeast.

Although the brochure was effective, the application form, on one panel of the brochure, was not extensive enough. This became evident when the selection committee began its work. The principal consequence of not requesting more information on the application was a reduced ability to evaluate potential participants. The selection process was based on information submitted on the Institute application. This was limited to personal information, data on the number of years in the industry, positions held and reasons for wishing to attend the Institute. There was initial concern that the application form not be too extensive and this subsequently led to a situation where not enough information was requested.

The Atlanta and Washington Chapters of WTS printed articles about the Institute in their newsletters. This brought the Institute substantial publicity and resulted in its being discussed by many potential applicants.

WTS is a national professional organization whose membership is comprised primarily of women who are employed in the transportation sector. Thus, the Institute was brought into a principal network of those toward whom it was targeted.

Both the Georgia Tech Whistle, a campus newspaper, and the MARTA Transit Times carried an article on the Institute. The Transit Times is MARTA's newspaper and is routinely forwarded to other authorities. As a result, the larger transit community was informed of the upcoming Institute. While the program was given a great deal of national exposure, only women working in the southeast were eligible to participate. However, other women across the United States expressed interest in attending.

An unusual opportunity for pre-Institute publicity presented itself when Dr. Catherine Ross, Project Director, and Ann F. Johnson, Project Technical Coordinator, were invited to be the guests of Ike Newkirk on his Atlanta radio station talk show "Open Line" on Sunday morning, February 5, 1984. In discussing the Institute and responding to the questions posed by listeners, who called in, the public's awareness of the Institute's purpose and goals was heightened. During and after the Institute, articles were printed in the Atlanta Constitution, the Georgia Tech Whistle, the MARTA Transit Times, The Dekalb News/Sun and APTA's Passenger Transport.

Response to the recruitment effort was strong with 46 applications received from the 9 state Region IV area and a few others from other ineligible areas of the country. Selection of participants involved three-steps: 1) appointing a five-member selection committee; 2) developing selection criteria and; 3) convening the selection committee to finalize a class list. Appointment to the selection committee was based on a person's knowledge of transit, industry experience, organizational affiliation, and interest in human resource development. Committee members were Bobbie Ibarra, Director of Planning, Metro-Dade Transportation Administration, Miami, Florida; Ann F. Johnson, Project Technical Coordinator and Manager of Research and Analysis at MARTA; Judy Meade, University Research and Training Program, UMTA, Washington, D.C.; Catherine L. Ross, Project Director and Associate Professor of Architecture at Georgia Tech; and Robert Stanley, Director of Planning and Policy Analysis, APTA, Washington, D.C. Members agreed to seek funds from his/her agency to travel to Atlanta and finalize the selection process.

Guidelines for selecting Institute participants included:

1. Current work position
2. Geographical area
3. Racial background
4. Extent of experience in industry
5. Management potential
6. Interest in attending

A package of 46 applications was mailed to each of the committee members and they were asked to make a tentative selection of 25 class members and five alternates prior to the selection committee meeting. Only one meeting of the committee was necessary and it occurred on Friday, January 6, 1984, at Georgia Tech, in Atlanta, Georgia. One member, unable to attend, communicated her selections by telephone.

Deliberations took place from 9 a.m. until 4 p.m. Members toured facilities to be used during the course of the Institute and lunched during a two-hour break. The class list was finalized and five alternates were selected.

One week following the selection committee's meeting, participants received a package containing a congratulatory/informational letter; an updated Institute schedule summary, a map highlighting Georgia Tech, MARTA headquarters and the hotel where participants would be housed; and a confirmation of attendance card due back by January 18, 1984. Of the 25 participants notified, only one declined and an alternate was contacted.

Participants came from the following states and territories: Georgia, Florida, Alabama, South Carolina, North Carolina and Puerto Rico. They were employed in the following positions:

TABLE 2

POSITIONS HELD BY INSTITUTE PARTICIPANTS

Training Specialist	State Rideshare Coordinator
Transportation Analyst	Community Relations Officer
Contract Administrator	Finance Supervisor
Executive Director	Acting Property Manager
Administrative Assistant	Maintenance Manager
Assistant Director	Special Projects Administrator
Bus Operator	Special Projects Manager
Budget Analyst	Transportation Planner
Transit Market Analyst	Transit Customer Representative
Acting Assistant General Manager/Operations	Transportation Coordinator
Special Assistant to Puerto Rican Secretary of Transportation	

CONDUCT OF INSTITUTE

The scope and thrust of the Institute were designed in part to help fill recently expressed needs in the transit industry for new managerial personnel and simultaneously to improve utilization of women throughout all levels of the industry. Since the purpose of this Institute was to provide the widest possible exposure to all technical aspects of transit operations, a great deal of group movement was required. Further, since one of the most fundamental elements of a transit system is the usage of that system, the group utilized existing public transit (either bus, rail or both) for as many of the trips as possible. In this manner, specific experiences from the "rider" view point could be employed in discussing the transit "provider" functions. Since MARTA was the cooperating transit agency in this project, the group moved between bus operating facilities, the rail central control location, rail maintenance facility, various check points throughout the system, and the central office building by MARTA buses and trains. When public transportation was not available, the group used a charter bus.

The discussion/lecture sessions were held on the Georgia Tech campus at the Continuing Education facilities. A nearby hotel was selected for participant's lodging because of its proximity to Georgia Tech and MARTA's central offices.

Completion of this unique educational experience was recognized by the awarding of 4.0 Continuing Education Units (CEU's), from Georgia Tech, certified by a framed diploma, a dual-agency certificate issued by both MARTA and Georgia Tech and personal photographs documenting participation.

INSTITUTE STAFF

Institute staff members were involved in all aspects of the preparation, execution and follow-up activities associated with the Institute. This included the project director, Professor Catherine Ross, who had overall responsibility for the conduct of the Institute. Ann Johnson, project coordinator for MARTA, had responsibility for structuring of the technical content of the tours and coordination of the MARTA personnel involved in the Institute. In addition to these two primary staff members, two consultants were employed. Lucy Freedman, a human resource development specialist, conducted sessions on women in non-traditional roles; women in transit; career pathing; discrimination and other aspects of management skills development. Sarah Lopez, a practicing clinical psychologist, worked as a facilitator in addition to conducting presentations on time management, conflict resolution, communication within organizations and strategies for evaluation.

Susan Goodrick, administrative secretary, and two Georgia Tech graduate research assistants were also involved in all aspects of Institute activities. This included compiling mailing lists, arranging lodging, meal plans, designating classroom space, making transportation arrangements, making signage and handling communications with applicants, consultants and guest officials.

In addition, MARTA staff assisting included Julie Kell, Staff Analyst in the Department of Transit Operations; June L. Burrige, Transportation Analyst in the Department of Transit Operations; and Lauren Solomon, Affirmative Action Administrator.

INSTITUTE ORGANIZATION

The week-long Institute got underway on Sunday, February 5, 1984, with a get-acquainted session at the hotel which included introduction of the participants and distribution of the classroom and technical session materials.

Materials for the technical and classroom sessions, packaged in a 10 x 11 1/2 x 1 1/2 inch 3-ring notebook, consisted of an official daily schedule, a list of participants and their addresses, forms and information to support technical presentation (e.g., management ladder of operational units toured, and a monthly crime report for MARTA police). Additionally, management-related articles from various publications were included (e.g., Wall Street Journal, Savvy, Management Review). Also, a bibliography of transportation education programs and pertinent books and articles and evaluation forms for individual sessions and for the entire Institute were distributed to each participant. Materials were compiled according to the Institute schedule and indexed by the

day of the week. Volume II of this report contains selected materials from the notebook distributed to participants. It primarily consists of handouts which served as a basis for discussion by technical personnel.

In addition to the distribution of materials, the Sunday evening session was used as an opportunity for participants to mingle and become acquainted with each other. This initial session was attended by the UMTA grant manager as the sponsoring agency (UMTA) representative.

INSTITUTE SCHEDULE

Included in the materials distributed to each participant was a schedule of activities for the week of February 5-10, 1984 (see Table 3, sample daily schedule). Highlights of each day's activities were as follows: Monday - transit overview, tour of bus transportation facilities and introductory remarks by Lucy Freedman, consultant; Tuesday - Presentation on women in non-traditional roles, covering issues mentioned and tours of train car maintenance, central control and zone center/security; Wednesday - meetings at MARTA executive headquarters covering scheduling, evaluation and regional interaction, analysis and subsidies, customer services federal requirements and the board of directors and a reception for the participants, technical presenters and MARTA personnel involved in the planning of the Institute; Thursday - observing bus and rail operations and free-intermodal counts by traffic checkers, tours of bus heavy maintenance, bus and rail operators training center, safety instruction and rail system construction; Friday - transit management development and awards banquet.

CLASSROOM SESSIONS AND ON-SITE TOURS

The detailed daily schedule evolved from an outline contained in the grant application. The philosophy in planning the day-to-day activities was to logically unfold the inner-workings of a transit system by presenting a briefing on each operational unit for the women to gain an understanding of the male-oriented upper-level management mind-set. A number of lecture/group interaction sessions were conducted and monitored by consultants.

Efforts were made to avoid disrupting the learning curve wherever possible and meals were often scheduled together. Group movement between activities was facilitated by public transit, with the exception of a few occasions when time constraints made it impractical and a charter bus transported the group.

Presentations by MARTA personnel technical presenters, were coordinated by Ann Johnson. Seven of the 28 presenters were female. They covered issues such as bus operations, rail operations and security, bus heavy maintenance, safety and instruction, bus/rail intermodal activity, scheduling, analysis of service, traffic checking and the board of directors.

Classroom sessions dealt with issues such as women in non-traditional roles, career-pathing, discrimination, management/personal development, communication and bureaucracies, Transit Educational (formal and informal) and professional transportation organizations. Psychotherapists Lucy Freedman of Silver Spring, Maryland, and Sarah Lopez, of Atlanta, directed some sessions, while others were conducted by the project director and technical coordinator. The two psychotherapists utilized the lecture/group interaction format.

TABLE 3

TRANSIT OPERATIONS INSTITUTE:
A MANAGEMENT DEVELOPMENT SEMINAR FOR WOMEN IN THE TRANSIT INDUSTRY

SAMPLE DAILY SCHEDULE

<u>SUNDAY</u>	<u>MONDAY</u>	<u>TUESDAY</u>	<u>WEDNESDAY</u>	<u>THURSDAY</u>	<u>FRIDAY</u>
Informal orientation	Georgia Tech Registration Welcome and orientation Program overview Break Transit overview Luncheon Brady Avenue Garage Bus transportation Bus maintenance Radio room Dinner and overview of tomorrow's morning session Informal discussions	Georgia Tech Lucy Freedman on "Women in Transit" (non-traditional roles) Break Lucy Freedman Lunch Avondale Rail Station Avondale yard activities Car maintenance Central control Zone center/security Dinner Informal discussions	Marta Administration Scheduling Evaluation and Regional Interaction Break Analysis and subsidies Customer services Lunch Overview and federal requirements Board of Directors Individual discussions Reception	Arts Center Station Observe Bus and rail Free-intermodal counts Break - breakfast Browns Mill Garage Lunch Laredo Garage Break Bus tour through construction areas Lenox Square Mall (Free time)	Georgia Tech Transit Management Development Management/Personal Development Issues Banquet

15

GUEST OFFICIALS

Playing an integral role in the Institute were the guest officials who participated in three of the Institute's functions. Representation of all organizations instrumental in making the Institute a reality was sought for the welcome session. This included: The Georgia Department of Transportation, Georgia Tech, MARTA, City of Atlanta government, and UMTA Regional Office and Headquarters. Technical presentors, MARTA board members and Georgia Tech officials were invited to the reception on Wednesday. At the Friday awards banquet, guests included MARTA's general manager, Georgia Tech's Associate Dean of the College of Architecture and the Director of the City Planning Program.

INSTITUTE EVALUATION

The Institute was evaluated in a number of different contexts. Specific sessions were assessed as well as the Institute in its entirety by the participant. Evaluations were conducted for:

1. Bus Operations
2. Women In Transit/Non-Traditional Roles
3. Rail Operations
4. Scheduling, Evaluation, and Public Interaction
5. Accomplishment of Participant Objective
6. General Evaluation

For bus operations, women in transit/non-traditional roles, rail operations, and scheduling, evaluation and public interaction, a common evaluation format was used. Six structured questions were asked about each of these sessions with a fixed response set. Participants were encouraged to share any comments or suggestions they had by writing these on the back of the evaluation form. The questions asked are listed below:

- | | |
|--|--|
| 1. The physical setting was... | excellent
good
fair
poor |
| 2. The length of time spent on this topic was... | more than enough
about right
needed more time
absolutely too long |
| 3. The presenters were... | well prepared & interesting
adequately prepared & interesting
adequately prepared, but boring
poorly prepared |
| 4. The organization of the information was... | excellent
good
fair
poor |

- | | |
|--|--|
| 5. The usefulness of the information was... | immediately useful
may be useful later
is not useful |
| 6. The appropriateness of the information was... | very appropriate
appropriate
inappropriate |

Bus Operations

The majority of participants felt the physical setting for the bus operation sessions was either excellent or good with approximately 25 percent saying it was fair. This session, held in the Brady Avenue Garage, was the lead-off and helped shape participant expectations of subsequent on-site visits. One problem was the radio-room which was too small to accommodate the group comfortably. While this was somewhat unavoidable it may be beneficial to prepare participants by informing them of such situations prior to arriving. Participants generally felt the amount of time spent on the topic was adequate.

It is interesting to note that participants were evenly split between thinking presenters were well prepared and interesting, and adequately prepared and interesting, but still they offered a number of suggestions for improvement. Many felt the presenters were very knowledgeable, but inexperienced at conveying information. Additionally, some felt the session would have been more effective if they had received written copies of the presentations. This would have better oriented participants and assisted presenters in focusing their discussions. This is demonstrated by the fact that 70 percent felt the organization of the information was either good or fair, not excellent. All felt the information was useful and appropriate. There was general agreement that the enthusiasm of the garage employees contributed much to the overall effectiveness of the session.

Women In Transit/Non-Traditional Roles

All participants agreed that the physical setting, the Continuing Education building at Georgia Tech, was either excellent or good. They were evenly split between feeling the time allocated was about right or insufficient. This indicates interest in having more time allocated to the topic. Participants generally seemed to feel they needed more information, partly because such information tends to be somewhat inaccessible to them.

Eighty-eight percent agreed that the presenter, Ms. Freedman, was well-prepared and interesting. Perhaps their interest and apparent enthusiasm is related to the importance of the topic to career development. Many responded that they frequently did not take time to evaluate additional considerations, other than their qualifications, which have implication for future positions they may wish to occupy. All agreed the organization of the material was either excellent or good in addition to being useful.

It is interesting to observe that 76 percent of those evaluating the session thought the information was very appropriate, while the remainder thought it was appropriate. A number of suggestions were made. However, it is clear that the session and the material were valued by the participants. This session was one of the most highly rated. One suggestion was for greater use of audio-visual aids and also for case studies which detail how to put various

strategies to work.

Rail Operations

Seventy percent agreed that the physical setting, the Avondale Station and railyard, was very conducive to facilitating learning about rail operations, with the remainder feeling it was good. The majority felt the time was about right with 23 percent wishing the site visit had been lengthier. Approximately 70 percent of the participants felt the presenters were well prepared and interesting. All agreed that the information was well organized, useful and either appropriate or very appropriate (84 percent). One concern was that various participants seemed to utilize a great deal of group time asking questions which were so specific as not to be generalizable. Perhaps the opportunity for some individual discussion with presenters would have alleviated this.

Scheduling, Evaluation and Public Intervention

Participants generally thought the physical setting, MARTA administrative offices, was comfortable. The vast majority, agreed that the time allocated was about right. While all the participants thought the presenters were either well prepared and interesting or adequately prepared and interesting, they offered some interesting observations. A number agreed, as has been suggested previously, that the presentations should be more structured and presenters more coordinated. This is reflected by the fact that 60 percent thought the organization of the information was good with the remainder feeling it was either excellent or fair. All agreed that the information was useful and appropriate.

Again, concern was expressed for the manner in which questions were asked. Some participants felt the way in which they were handled was disruptive. They suggested holding questions until the end feeling that, in some instances, presenters would have covered the information. Two participants wished they had been given more nuts-and-bolts information on scheduling. There was general agreement, however, that MARTA personnel take a great deal of pride in the system and are eager to share their enthusiasm.

Accomplishment of Participant Objectives General Evaluation (Objective Accomplishment)

This was one of two evaluations which focused on the Institute generally, however, they are substantially different in orientation. The purpose of this evaluation was to identify the importance of certain objectives to the participant and assess the extent to which the Institute assisted in achieving these. Ten objectives were identified and participants were asked to rate them as being of great importance, of some importance, of little importance or of no importance. After determining this, they identified the extent to which they felt these objectives were achieved. The response could be very much so, to some extent, or not at all (see Table 4).

Ninety percent of participants agreed that improving their general knowledge about the transit industry was of great importance and over 50 percent of them thought this objective was very definitely achieved with most of the remainder feeling it was accomplished to some extent. One way of accomplishing the above objective was to use MARTA as a generalizable example

TABLE 4

OBJECTIVE ACCOMPLISHMENT

OBJECTIVE	1 IMPORTANCE RATING	2 EXTENT ACHIEVED		
		Very much so	To some extent	Not at all
To improve your general knowledge about the industry.	_____	_____	_____	_____
To provide knowledge of one major transit agency (MARTA) as a generalizable example for comparison with other agencies.	_____	_____	_____	_____
To provide information regarding career possibilities in urban transportation.	_____	_____	_____	_____
To learn where and how the necessary experience can be gained, as a basic qualification for more responsible, non-traditional positions.	_____	_____	_____	_____
To improve your confidence level as you consider occupying a higher position.	_____	_____	_____	_____
To identify modes of behavior which produce more successful office relationships.	_____	_____	_____	_____

TABLE 4 - cont.d

OBJECTIVE ACCOMPLISHMENT

OBJECTIVE	<u>1</u> IMPORTANCE RATING	<u>2</u> EXTENT ACHIEVED		
		Very much so	To some extent	Not at all
To improve networks for women.	_____	_____	_____	_____
To increase the understanding of the role played by mentors in improving a woman's professional growth and attainment.	_____	_____	_____	_____
To make participants aware of the general absence of casual work-oriented information and support networks for women.	_____	_____	_____	_____
To improve access to participation in the day-to-day information networks.	_____	_____	_____	_____

for comparison with other agencies. The majority of respondents agreed this was of great importance and approximately the same number agreed this was very much accomplished.

Participants felt the provision of information regarding career possibilities was of great importance, while only 10 percent said it was of little importance. Ninety percent agreed the Institute very much provided this information. A part of this involved learning where and how the necessary experience can be gained. Responses were evenly split between those who considered this to be of great importance and those who considered it to be of some importance. However, the majority of participants, felt this objective was accomplished to some extent. This suggests more attention should be focused on identifying where experience can be gained. Although this was addressed during the conduct of the Institute, it should probably be accomplished in a more explicit manner.

Not surprisingly, the majority agreed that the improvement of one's self confidence was important in considering occupying a higher position and 80 percent agreed this was either very much accomplished or was accomplished to some extent.

Participants were evenly split between thinking that the identification of behavior which produces successful office relations was of great importance or of some importance. The majority felt the Institute was marginally successful and only accomplished this to some extent. Networking has been cited as one method for improving relations and the majority of respondents felt this was of some importance. All agreed that the Institute was either very successful or was successful to some extent in accomplishing this objective. Networking may result in the identification of a mentor and 75 percent of participants agreed that understanding the role of a mentor is either of great importance or of some importance. Sixty percent thought this was done to some extent, while 30 percent felt it was very much accomplished.

Twenty percent of Institute participants felt that being made aware of the absence of support networks was of little importance while 60 percent thought this was very much accomplished. While 20 percent is a minority, it does indicate some lesser significance attached to this issue. Lastly, 85 percent of participants felt improving their access to the day-to-day information networks was either of great importance or some importance. They generally felt this was achieved.

General Evaluation

This evaluation focused on assessing the Institute in its entirety (see Table 5).

Participants were generally in agreement that the Institute met their expectations (70 percent) based on the advance announcement. The remainder thought their expectations were met to some extent. About 76 percent felt there were other topics which they would have liked to have discussed. These included: vehicle insurance; office attire; clerical management; more experience sharing; and detailed overview of public transportation.

Twenty-one percent of participants thought the tours and field visits were the most helpful sessions, while 17 percent felt the two presentations of women

TABLE 5

EVALUATION: TRANSIT OPERATIONS INSTITUTE

- | | YES | TO SOME EXTENT | NO |
|--|-------|----------------|-------|
| 1. Did the Institute meet your expectations based on the advance announcement? | _____ | _____ | _____ |
| 2. Were there other topics you would like to have discussed? | _____ | _____ | _____ |
| 3. Which sessions did you find most helpful? | _____ | | |
| 4. Which sessions were least helpful? | _____ | | |

- | | EXCELLENT | GOOD | FAIR | POOR |
|------------------------------------|-----------|-------|-------|-------|
| 5. Were the physical facilities... | _____ | _____ | _____ | _____ |

Comments: _____

- | | EXCELLENT | GOOD | FAIR | POOR |
|------------------------------------|-----------|-------|-------|-------|
| 6. Did you find the meals to be... | _____ | _____ | _____ | _____ |

Comments: _____

- | | EXCELLENT | GOOD | FAIR | POOR |
|-------------------------------------|-----------|-------|-------|-------|
| 7. Were the hotel accommodations... | _____ | _____ | _____ | _____ |

Comments: _____

in transit and management development were the most helpful. More than one-fourth thought all sessions were equally helpful. Scheduling, bus operations, and planning were also mentioned by some. Generally, participants were hesitant in identifying the least helpful session with 42 percent not selecting a least helpful session. The remaining 52 percent were split among a number of sessions these included: the welcome session; Avondale Station; bus operations; evaluation and planning; routing and scheduling; and the visit to board room.

Seventy-percent of those attending the Institute judged the physical facilities to be excellent, 24 percent thought they were good. Approximately 65 percent found the meals to be either excellent or good, while only 30 percent felt they were fair. One participant suggested there be more opportunity for those in attendance to make their own dinner arrangements. The hotel was judged to be either excellent or good by only 35 percent of those in attendance. Another 35 percent thought it was either poor or fair. Many suggested they would be willing to pay more for a better quality hotel and would have much preferred a downtown location.

Participants outlined a number of suggestions which apply across the various sessions or which they felt they did not have ample opportunity to comment on. These are listed below:

- * Split into smaller groups according to the interests and needs of the participants. The group remained together through all of the Institute.
- * A short orientation may be appropriate for those totally unfamiliar with transportation authorities.
- * A special training Institute for MARTA personnel only. Some of those in attendance were employed by MARTA.
- * Night sessions should be cancelled when there are early morning sessions following.
- * Don't start earlier than 8:30 a.m.
- * Give participants more time to prepare themselves before the seminar. Send information three months in advance (minimum).
- * The organizers were enthusiastic and dedicated.

Staff Evaluation and Recommendations

Undoubtedly the Institute staff had the final responsibility in organizing activities during the week. Generally the staff thought the major objectives were accomplished. Perhaps the one thing they had not anticipated was the interest, enthusiasm, dedication, and appreciation expressed by those in attendance. The response to the Institute was overwhelmingly positive.

A primary, although unarticulated objective, was the creation of a situation in which both those working in the academic environment and those employed in day-to-day operations at MARTA could work together on a common undertaking. This opportunity explains the tremendous amount of enthusiasm displayed by both. The merging of both of these resulted in the conduct of an

Institute that emphasized real skills development.

As commonly occurs, a variety of recommendations may be made for the future conduct of this or a similar undertaking. Logistics is an area where a number of issues emerged. The question of lead time prior to the conduct of an activity like the Institute is probably the singularly most important consideration. Ideally, this should have been lengthened substantially. However, a number of occurrences influenced this. This has direct implication for all activities. For example, better support from the Georgia Tech Continuing Education Program may have been achieved if they had been brought into the planning process sooner. This was not true for all instances where there were difficulties. There was limited space remaining so that the Institute was convened in older quarters rather than in the new Space Science Building where sessions are typically held. The room where the Institute was held was too cold and an inexperienced staff member was assigned to assist during the week, because the originally assigned, experienced staff member became ill. This person had only recently been employed and was unfamiliar with procedures. There were a number of support functions which were left to the last minute and required additional effort on the part of Institute staff because of the short time remaining before the Institute. This included: signage, the distribution of medical emergency information; and printing of special certificates.

Another important issue is the development of a more functional brochure and application form. Instead of having the brochure contain the application form, it is probably better to have a marketing brochure which identifies how to call or write for further information. Then, interested persons could be sent a much more extensive application than was used in this effort. The lack of information was fairly significant simply because the application form was too abbreviated as a result of being a part of the advertising brochure.

As the week progressed participants became weary of carrying the large notebooks to each session. The availability of a canvas bag to carry material and notebooks would have been helpful. Additionally, while the hotel with closest proximity to the campus was used, it was not within walking distance. This was particularly true given the inclement weather conditions which prevailed during the week. While participants used taxis or public transportation, a better location would have made their trips a bit easier. Also, it is a good idea to provide transportation wherever possible. It also became obvious that a microphone or voice amplifier on the bus of some sort, was necessary for the entire week's activities. Frequently, en route to different places, some member of the group could not hear. Organizers should make sure they can be heard by all participants at all times.

A number of improvements may be suggested in the presentation of material. Presenters should practice presentations and more should be done in classroom or lecture sessions. Participants needed a broader conceptual exposure to material prior to the on-site visit. Written materials distributed and discussed with participants prior to the visit would assist in remedying this. This might include mailing some material for reading purposes, prior to participants' arrival at the Institute. Also, a presenter's list should have accompanied the list of each day's activity.

A number of those in attendance felt that the opening session should have been shorter and the staff agrees with this. It is important that the opening

session be effectively run because it shapes perceptions about what is to follow. As much attention as possible should be given to assuring the conduct of an effective, well paced, enthusiastic initial session to set the tone of what is expected of and by participants.

There was tremendous support for the Institute and the market for future offerings is extensive. Many letters of support have been received and the Institute has been endorsed by numerous transportation organizations and transportation professionals.