

5-1989


## The Contribution of Manager and Organizational Characteristics to Transit Agency Performance: A National Study of United States Transit Providers

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### Citation Details

White, Charles and Edner, Sheldon, "The Contribution of Manager and Organizational Characteristics to Transit Agency Performance: A National Study of United States Transit Providers" (1989). *Center for Urban Studies Publications and Reports*. Paper 104.

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Report No. UMTA OR-11-0004

**THE CONTRIBUTION OF MANAGER AND  
ORGANIZATIONAL CHARACTERISTICS TO TRANSIT  
AGENCY PERFORMANCE:**

A National Study of United States Transit Providers

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**May, 1989**

**FINAL REPORT**

PREPARED FOR:  
U.S. Department of Transportation  
URBAN MASS TRANSPORTATION ADMINISTRATION  
University Research and Training Program  
Washington, D.C. 20590

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1. Report No. UMTA-OR-11-0004	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle The Contribution of Manager and Organizational Characteristics to Transit Agency Performance: A National Study of United States Transit Providers		5. Report Date May, 1989	6. Performing Organization Code
7. Author(s) Charles White and Sheldon M. Edner		8. Performing Organization Report No.	
9. Performing Organization Name and Address Center for Urban Studies Portland State University P. O. Box 751 Portland, OR 97207-0751		10. Work Unit No. (TRIS)	11. Contract or Grant No.
12. Sponsoring Agency Name and Address U. S. Department of Transportation, UMTA Office of Transit Assistance University Research and Training Washington, D.C. 20590		13. Type of Report and Period Covered	
14. Sponsoring Agency Code		15. Supplementary Notes	
16. Abstract <p>The primary objective of the report is to relate attitudinal and demographic characteristics of transit management personnel and agency institutional characteristics to agency performance. The purpose of this analysis is to determine the relative contributions of manager and institutional characteristics as explanatory factors in transit agency performance. The study is based upon the responses of 1033 managers from 134 agencies representing the full range of agency size, institutional, and locational characteristics.</p> <p>Across six basic performance measures (cost efficiency, labor efficiency, service effectiveness, maintenance efficiency {measured in two different ways} and vehicle efficiency) used here, manager characteristics and attitudes do not appear to be consistently associated with performance outcomes. That is, while the analysis established that these are important factors, these relationships point in differing directions. Thus, efforts to increase manager capability may also add to the forces differentiating organizational capacity without contributing to overall industry performance. In sum, the turbulence experienced by the transit industry may not have lead it toward greater refinement of performance abilities but rather introduced even greater tensions and centrifugal forces. The result may be an even further reduced ability to specify the keys to successful transit service delivery.</p> <p>It is also clear that the changing nature of the industry in terms of its role and function in urban settings may be reflected in our findings. Increasingly, efforts toward the development of new, specialized services have been paralleled by the development of new organizational provider types. In some instances this has brought new management opportunities, demands and attitudes into the industry. The elderly and handicapped have generated an increasing involvement of health service providers in transportation. The expectations of service performance have concurrently undergone re-examination. As transit agencies have focused on more than fixed route, scheduled service the keys to improved performance have changed with the service mix.</p>			
17. Key Words Transit, Management, Transit Performance, Organizations, Manager, Transit Agencies, Transit Institutions, Manager Characteristics, Transit Manager Characteristics		18. Distribution Statement	
19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price

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## EXECUTIVE SUMMARY

The primary objective of the report is to relate attitudinal and demographic characteristics of transit management personnel and agency institutional characteristics to agency performance. The purpose of this analysis is to determine the relative contributions of manager and institutional characteristics as explanatory factors in transit agency performance.

In 1983, 493 transit agencies operating ten or more vehicles were surveyed to obtain basic institutional information and a list of their current managers. Of these, 207 or forty-two percent completed the survey. A survey instrument was developed and sent to 3050 managers in late 1984. By July of 1985, completed responses from 1301 managers had been received for a response rate of forty-three percent. This information was combined with performance indicators for those agencies included in our sample which report to the Section 15 data program reducing the sample of agencies and managers was further. The result is that this study is based upon the responses of 1033 managers from 134 agencies representing the full range of agency size, institutional, and locational characteristics.

The data establish that current managers are substantially better educated overall, but that this has not fully carried over into the areas of operations and maintenance. What has emerged are some clear distinctions between personnel in the traditional line areas of transit delivery and the "new professionals" who have been recruited into personnel, marketing, and finance positions which have been created as agencies have become organizationally more complex.

Further, these differences are more than demographic but carry over into satisfaction with career and advancement opportunities and career plans. In general, it is personnel which are better educated, younger, and performing non-core transit functions who are the least satisfied and positive about the industry and who indicate that they are more likely to take their specialized skills to other career settings. From an industry perspective, there are several significant ironies in this profile. Substantial effort was exerted during the 1970's toward upgrading the management cadre of transit. These efforts focused both on improving the abilities of the traditional operations core of the industry and in diversifying the management pool through the introduction of new manager specialties. Concomitantly, the nature of transit organizations underwent significant change. The result has been an increasingly diverse industry, institutionally, and managerially. Rather than being perceived as a growth industry with plenty of opportunity, our findings suggest a significant skepticism amongst the newest transit managers concerning their future in the industry.

The results of our regression analysis suggest a differential impact of manager characteristics on transit performance. Across six basic performance measures (cost efficiency, labor efficiency, service effectiveness, maintenance efficiency {measured in two different ways}, and vehicle efficiency) used here, manager characteristics and attitudes do not appear to be consistently associated with performance outcomes. That is, while the analysis established that these are important factors, these relationships point in differing directions. Thus, efforts to increase manager capability may also add to the forces differentiating organizational capacity without contributing to overall industry performance. In sum, the turbulence experienced by the transit industry may not have lead it toward greater refinement of performance abilities but rather introduced even greater tensions and centrifugal forces. The result may be an even further reduced ability to specify the keys to successful transit service delivery.

For our purposes, we did not pursue the relationships amongst the performance measures and the extent to which they portray an interrelated picture of agency service delivery. Our results show more powerful explanatory relationships appear to exist between Cost Efficiency and Service Effectiveness measures and our manager and institutional variables than in other service measures. This would suggest that some dimensions of transit service delivery may be differentially susceptible to change through the manipulation of the management pool or institutional form. As a consequence, policymakers and executives should not expect consistent tendencies in agency output as a result of organizational development initiatives.

It is also clear that the changing nature of the industry in terms of its role and function in urban settings may be reflected in our findings. Increasingly, efforts toward the development of new, specialized services have been paralleled by the development of new organizational provider types. In some instances, this has brought new management opportunities, demands and attitudes into the industry. The elderly and handicapped have generated an increasing involvement of health service providers in transportation. The expectations of service performance have concurrently undergone re-examination. As transit agencies have focused on more than fixed route, scheduled service the keys to improved performance have changed with the service mix.



## TABLE OF CONTENTS

INTRODUCTION.....	1
BACKGROUND.....	1
PROJECT OVERVIEW.....	2
SUMMARY.....	6
MANAGER PROFILES.....	7
OVERALL PROFILE.....	7
DIFFERENCES AMONG MANAGERIAL ROLES “NEW AND OLD PROFESSIONALS”.....	12
SUMMARY.....	16
SATISFACTION AND CAREER COMMITMENT.....	17
SATISFACTION WITH CURRENT POSITION.....	17
SATISFACTION WITH CAREER OPPORTUNITIES.....	21
Satisfaction with Advancement Opportunities in the Current Agency.....	22
Satisfaction with Career and Advancement Opportunities in Transit.....	25
Summary.....	30
COMMITMENT TO TRANSIT.....	31
Career Commitment and Agency Characteristics.....	32
Commitment and Manager Characteristics.....	33
SUMMARY.....	35
MANAGERS AND AGENCY PERFORMANCE.....	36
PERFORMANCE MEASURES.....	36
MANAGER CHARACTERISTICS.....	37
AGENCY CHARACTERISTICS.....	38
ANALYSIS.....	39
Cost Efficiency.....	40
Service Effectiveness.....	41
Labor Efficiency.....	42
Vehicle Efficiency.....	43
Maintenance Efficiency.....	44
SUMMARY.....	48
MANAGER PROFILES AND AGENCY PERFORMANCE.....	49
REFERENCES.....	52
APPENDIX A.....	53

## LIST OF TABLES

Regional Distribution of Agencies in the Sample .....	4
Size Distribution of Agencies in the Sample.....	4
Distribution of Agencies by Institutional Setting.....	4
Distribution of Manager Sample by Region .....	4
Distribution of Manager Sample by Total N of Vehicles.....	5
Distribution of Manager Sample by Institutional Setting.....	5
Distribution of Transit Managers by Age in 1973.....	7
Current Sample Age Distribution .....	7
Educational Achievement of Transit Managers.....	8
Field of Study Reported by Managers.....	8
Years of Industry Experience.....	9
Years in Current Position .....	9
Years with Agency.....	10
Gender and Ethnic Characteristics of Managers.....	10
Job Categories Reported by Managers .....	11
Occupational Characteristics of Managers .....	12
Age of Managers in Relation to Functional Job Categories.....	13
Years in Industry by Functional Category .....	14
Years at Current Agency by Functional Category.....	14
Gender by Functional Category.....	15
Educational Attainment by Functional Category .....	15
Level of Satisfaction with Position .....	18
Satisfaction with Position by Institutional Context .....	18
Satisfaction with Position by Organizational Complexity.....	19
Satisfaction with Position by Organizational Size.....	19
Satisfaction with Position by Level of Education .....	20
Satisfaction with Position by Age.....	20
Satisfaction with Position by Gender.....	20
Satisfaction with Position by Job Category.....	20
Satisfaction with Industry Career Opportunities .....	21
Advancement Opportunities in Agency.....	21
Advancement Opportunities in Industry.....	22
Rating of Agency Advancement Opportunities by Organizational Type.....	23
Rating of Agency Advancement Opportunity by Organizational Complexity.....	23

Rating of Agency Advancement Opportunity by Organizational Size .....	23
Rating of Agency Advancement Opportunities by Education.....	24
Rating of Agency Advancement Opportunities by Age.....	24
Rating of Agency Advancement Opportunities by Gender.....	25
Rating of Agency Advancement Opportunities by Job Categories.....	25
Satisfaction with Career Opportunities by Institutional Type.....	25
Satisfaction with Career Opportunities by Organizational Complexity .....	26
Satisfaction with Career Opportunities by Organizational Size.....	26
Rating of Industry Advancement Opportunities by Institutional Type.....	26
Rating of Industry Advancement Opportunities by Organizational Complexity.....	26
Rating of Industry Advancement Opportunities by Organizational Size.....	27
Satisfaction with Industry Career Opportunities by Education .....	27
Satisfaction with Industry Career Opportunities by Age .....	28
Satisfaction with Industry Career Opportunities by Gender .....	28
Satisfaction with Industry Career Opportunities by Job Categories .....	28
Rating of Industry Advancement Opportunities by Education.....	28
Rating of Industry Advancement Opportunities by Gender.....	29
Rating of Industry Advancement Opportunities by Job Categories.....	29
What Position in Five Years?.....	31
Where will you be in Five Years?.....	31
Where in Five Years by Institutional Type.....	32
Where in Five Years by Organizational Complexity?.....	33
Where in Five Years by Institutional Size? .....	33
Where in Five Years by Education.....	34
Where in Five Years by Age.....	34
Where in Five Years by Gender.....	34
Where in Five Years by Job Category.....	34
Revenue Vehicle Hours/Operating Expenditures.....	40
Total Passengers/Revenue Vehicle Hours .....	42
Total Vehicle Hours/Total Employees.....	43
Total Vehicle Miles/Number of Peak Vehicles .....	44
Total Vehicle Miles/Per Maintenance Employee.....	46
Total Vehicle Miles/Operating Expenditures.....	47



## CHAPTER I

### INTRODUCTION

This report presents the results of the third phase of a three part study of management issues in the transit industry. The primary objective of the report is to relate attitudinal and demographic characteristics of transit management personnel and agency institutional characteristics to agency performance. The purpose of this analysis is to determine the relative contributions of manager and institutional characteristics as explanatory factors in transit agency performance.

This first chapter develops the background for the research and an elaboration of the specific issues addressed. A review of the data collection procedures and a summary of the resultant sample of managers and agencies follows.

### BACKGROUND

That the industry has undergone substantial change in the past twenty-five years is clear. The most obvious manifestation of this is the shift from private to public ownership and the variety of institutional forms and arrangements that have resulted. These institutional changes have also included the addition of new functions within agencies (e.g., planning and marketing) as well as the addition of new agency functions (e.g., car pool programs). These structural and organizational changes also have been accompanied by an increasing emphasis on improving agency performance, particularly those factors most closely related to service delivery. Less obvious and studied have been the significant changes in the characteristics of transit managers and their consequences for agency performance.

The most recent prior effort at a comprehensive description of the background, education, and career experiences of transit managers was conducted in 1973 by Spsychalski and Mundy who surveyed managerial personnel in forty-one agencies. This study found transit managers to be largely "up-from-the-ranks" professionals with some ninety percent of the industry's managers beginning their careers in basic non-supervisory positions (Spsychalski and Mundy: 146). Individuals began their careers as drivers, in maintenance, or operations and would move up to management positions within a single agency. Many had little formal education beyond the high school level.

The 1970's saw many agencies adding new types of positions or creating new departments to respond to changing service demands, new technologies, and organizational

settings. Marketing, planning, and personnel tasks expanded, resulting in the recruitment of managerial personnel with an increasingly diverse array of training, prior experience, and career expectations. Overall, our respondent managers are younger, have more formal education, and are less likely to have begun a career in the ranks of non-managerial transit personnel. Many trained for a particular profession (e.g., planning) rather than having planned or even expected to apply that training in transit. The information presented in the second chapter suggests that it is possible to divide current managers into two broad categories: new professionals (personnel, marketing, etc.) and mainline transit (operations and maintenance). There are some distinct differences among these groups which are explored in Chapter II.

Additional factors which may be related to agency performance are the attitudes of managers toward their career development and commitment to continuing their career in transit. Unlike those who began their careers in non-management positions and then worked their way up, many who have been recruited more recently may be more committed to a particular profession than to the industry. We suspect that manager perspectives on job and career satisfaction and commitment to a career in the industry may be related to agency performance.

Changes in organizational patterns and the selection, education, and functions of managers are not found equally in every agency. This allows the opportunity to explore whether differences in these characteristics are related to differences in agency performance. These relationships are examined in Chapter IV.

## PROJECT OVERVIEW

The first phase of this study consisted of a questionnaire sent to the executive director or general manager of every transit service provider operating ten or more vehicles. The purpose of this effort was to gain descriptive information about the characteristics of these agencies and to acquire a listing of management personnel. The list of agencies contacted was gathered from the following sources:

Bus Ride, Bus Industry Directory 1982-83.  
UMTA Urban Directory.  
UMTA Rural Directory.  
Section 15 Report, 1981.  
APTA 1982 Membership Directory.  
APTA 1983 Membership Directory.

During the compilation of the agency list in 1983, it was discovered that there was no single source of information on transit agency mailing addresses or characteristics. Moreover, the above sources were inconsistent with one another. After eliminating duplicate entries and those which were entered under more than one name, a list of 509 agencies operating ten or more vehicles was completed. It was subsequently discovered that some of the agencies on the list no longer existed and some which had been listed as operating vehicles in fact operated none. The final population consisted of 493 agencies. Of these, 207 or forty-two percent completed the survey and supplied a listing of management personnel and information about the structure of their organization. This self-selected sample included agencies from forty-four states, the district of Columbia, and Puerto Rico. The sample also included a broad range of agency sizes as measure by the number of vehicles operated. The results of this part of the study are reported in "Transit Agency Characteristics: An Industry Profile" (White and Edner, 1986).

The next step in the project was the survey of the individual managers identified by the personnel lists and/or organization charts provided by the 207 responding agencies. A survey instrument was developed and pre-tested during the summer and fall of 1984 and sent to 3050 managers in late 1984. Managers were sent individually addressed questionnaires with one follow-up mailing sent to those who did not respond initially. By July of 1985 we had received completed responses from 1301 managers for a response rate of forty-three percent. Given this sampling process we cannot argue that our respondents comprise a scientifically drawn, random sample of transit managers. The information needed to draw such a sample was not available. Further, as is explained below, when this information was combined with performance indicators, the sample of agencies and managers was further reduced. The result is that this study is based upon the responses of 1033 managers from 134 agencies representing the full range of agency size, institutional, and locational characteristics (see Tables I-1 through I-6). Thus, we believe that our sample includes a good cross-section of industry managers and agencies.

**TABLE I - 1**  
**Regional Distribution of Agencies in the Sample**

Region	N	Percent
Pacific	22	16.4
West/Rockies	2	1.5
Southwest	10	7.5
Great Plains	12	9.0
North Central	41	30.6
New England	8	6.0
Mid-Atlantic	14	10.4
South	25	18.7
Total	138	100.1

**TABLE I - 2**  
**Size Distribution of Agencies in the Sample**

Number of Vehicles	N	Percent
LT 50	47	37.3
50 - 99	26	20.6
100 - 249	26	20.6
250 - 499	11	8.7
500 - 999	7	5.6
1000 - 1999	5	4.0
2000+	4	3.2
Total	134	100.0

**TABLE I - 3**  
**Distribution of Agencies by Institutional Setting**

Institutional Setting	N	Percent
City - Council Government	62	47.0
Multi-Purpose Agency	13	9.8
Special District	42	31.8
Non-Profit	5	3.8
Other-Private	10	7.6
Total	132	100.0

**TABLE I - 4**  
**Distribution of Manager Sample by Region**

Region	N	Percent
Pacific	232	22.5
West/Rockies	79	7.6
Southwest	46	4.5
Great Plains	37	3.6
North Central	323	31.3
New England	93	9.0
Mid-Atlantic	102	9.9
South	121	11.7
Total	1033	100.1



TABLE I - 5  
**Distribution of Manager Sample by Total N of Vehicles**

Number of Vehicles	N	Percent
LT 50	116	11.4
50 - 99	113	10.9
100 - 249	156	15.1
250 - 499	105	10.2
500 - 999	158	15.3
1000 - 1999	178	17.2
2000+	193	18.7
Total	1019	98.8

TABLE I - 6  
**Distribution of Manager Sample by Institutional Setting**

Institutional Setting	N	Percent
City - Council Government	286	27.7
Multi-Purpose Agency	92	8.9
Special District	415	40.2
Non-Profit	166	16.1
Other-Private	74	7.2
Total	1033	100.1

The questionnaire (see Appendix A) requested information on several topics including career experience, education, attitudes toward career development and job satisfaction, short term career plans, and some basic demographic information (see White and Edner, 1987). The analysis first describes the demographic and attitudinal characteristics of the sample and then relates them to indicators of agency performance.

Concomitant with the institutional and personnel changes experienced by the industry over the past twenty years has been an increased and significant emphasis on agency performance. As a mechanism for assessing performance UMTA developed the Section 15 data collection system which has been continually refined since its inception. Of particular importance in this area has been the work of Gordon J. (Pete) Fielding and his associates at the University of California, Irvine Institute of Transportation Studies. His organization and refinement of the performance data gathered through the Section 15 reporting mechanism has become the standard for the industry and is an invaluable source of information. The performance data used in this study was supplied by Pete Fielding and we gratefully acknowledge his assistance with this project (see Fielding, et. al., 1987). The measures and their definitions are discussed in the fourth chapter.

## SUMMARY

The linkage, if any, between an agency's performance and the demographic and attitudinal characteristics of its management team provides the focus for the study. The structural characteristics of agencies are incorporated in the analysis to control for their effects on performance and to explore the possibility that they may affect the attitudes and perceptions of managers and, consequently, performance. The number of agencies and managers included in the study mean that this effort is the first to systematically explore these issues across the broad range of transit agency sizes and types.

The data are drawn from three sources: a survey of agencies, a survey of managers, and Section 15 Performance Measures. Thus, the effort is the only research extant which combines these three sources of information in an examination of factors which may be related to agency performance.

The following chapter discusses in some detail the characteristics of the management personnel included in the study and analyzes factors which may be related to differences in career satisfaction and future commitment to the industry. The third chapter consists of the analysis of the attitudes and career plans of the respondents. The fourth chapter presents our examination of the effects of managerial and agency characteristics on agency performance. The implications of this study are discussed in the fifth and concluding chapter.

## CHAPTER II

### MANAGER PROFILES

In the Introduction we noted that our sample of managers was younger and better educated than was the case for the 1973 sample reported by Mundy and Spychalski. In this chapter we review those and other demographic characteristics of our sample and then explore the extent to which there are differences among different managerial functions and among different types of agencies.

#### OVERALL PROFILE

The first table compares the age distribution of our sample to the 1973 sample analyzed by Mundy and Spychalski. In 1973, a majority of managers was over the age of 50. Twelve years later we found that a majority were aged 40 or younger. To some extent this change reflects the retirement and replacement pattern anticipated by the earlier study, but it is also, we suspect, a product of the addition of new managerial functions.

TABLE II - 1  
Distribution of Transit Managers by Age in 1973

Age	Percent
21 or less	1.01
22-35	13.97
36-50	33.19
51-65	50.61
65+	1.22

#### Current Sample Age Distribution

Age	Frequency	Valid Percent
20 - 30	78	7.6
31 - 40	445	43.5
41 - 50	260	25.4
51 - 60	189	18.5
61 - 70	51	5.0
Total	1023	100.0

Perhaps the most dramatic distinction between the results of the 1973 study and our sample is in the level of education. In 1973, Mundy and Spychalski reported that only 14.8% of their sample had completed a college degree and that the most common area of

specialization was engineering (29%) followed by general business (20%), accounting (13%), management (8%), and economics (6%). Only 1.14% of their sample had specialized directly in some aspect of transportation. Given these fields, it is not surprising that they find that few managers with college degrees were found in the traditional line functions of transportation and maintenance (Mundy and Spsychalski, 1973: 16-17).

As presented in Table II-2, a majority of this sample of the respondents have completed a college degree and over twenty-five percent have earned a graduate degree. The listing of fields of specialization shows that engineering is no longer the predominant field with only 10.9% indicating an engineering specialty. Management (business and public) appears to be the most common field (23.8%) in an otherwise diverse array of educational backgrounds as typifying these managers.

TABLE II - 2  
Educational Achievement of Transit Managers

Level of Education	Frequency	Valid Percent
High School	222	22.0
Junior College	162	16.0
College Degree	367	36.3
Graduate Degree	260	25.7
Total	1011	100.0

Field of Study Reported by Managers

Field of Study	Frequency	Valid Percent
None	91	10.6
General - LA	73	8.5
Social Science	77	8.9
Engineer	48	5.6
Civil Engineer	34	3.9
Transportation Engineer	12	1.4
General Business	33	3.8
Business Finance	78	9.0
Business Marketing	21	2.4
Business Management	148	17.2
Public Management	57	6.6
Public Finance	11	1.3
Education	24	2.8
Law	18	2.1
Transit	32	3.7
Planning	28	3.2
Other	76	8.8
Total	862	100.0

This data is indicative of our earlier observation that the “up-from-the-ranks” recruitment pattern found in the previous study is no longer the most common career pattern in the industry. Rather, demands for increased training and specialization, accompanying the diversification of managerial tasks, has resulted in a substantially different managerial cadre than that described by Mundy and Spsychalski.

Concomitantly, these managers also have somewhat less experience in the industry and with their agency. These figures are not directly comparable with those presented by the earlier study which indicated in 1973 that more than 50% of all managers had sixteen or more years of experience in the industry (Mundy and Spsychalski, 1973: Page 17). For this sample, a substantial majority (64.8%) indicated that they had been in the industry for fewer than fifteen years. Further, most (53.9%) have been with their current agency for ten or fewer years and an even greater proportion (74.1%) have held their present position for less than ten years.

TABLE II - 3  
Years of Industry Experience

Value Label	Frequency	Valid Percent
1 - 4 Years	175	17.0
5 - 9 Years	232	22.5
10 - 14 Years	260	25.3
15 - 19 Years	130	12.6
20 - 29 Years	127	12.3
30+ Years	105	10.2
Total	1029	100.0

Years in Current Position

LT 3 Years	142	13.8
3 - 5 Years	240	23.3
6 - 10 Years	381	37.0
11 - 20 Years	200	19.4
20+ Years	68	6.6
Total	1031	100.0

### Years with Agency

LT 1 Year	44	4.3
1 - 2 Years	112	10.9
3 - 5 Years	239	23.2
6 - 10 Years	272	26.4
11 - 20 Years	233	22.6
21-30 Years	78	7.6
30+ Years	53	5.1
Total	1031	100.0

The racial and gender characteristics of the sample show that the profession is still dominated by white males. We know that efforts to bring women and minorities into the ranks of transit managers have been made. We do not have, however, comparative information upon which to evaluate the extent of the changes produced by those efforts.

TABLE II - 4  
Gender and Ethnic Characteristics of Managers

Gender	Frequency	Valid Percent
Female	162	16.3
Male	830	83.7
Total	992	100.0

Ethnic Identity	Frequency	Valid Percent
American Indian	9	.9
Hispanic	33	3.3
Asian	16	1.6
Black	81	8.0
White	870	85.7
Other	6	.6
Total	1015	100.0

To determine the managerial role of the respondents each was asked to provide their job title and a brief description of their responsibilities. These were coded into thirty-five distinct categories which, for analytic purposes, were collapsed into ten, more general functional categories. Both distributions are presented in Table II-5.

TABLE II - 5  
Job Categories Reported by Managers

Job Categories	Frequency	Valid Percent
General Manager	99	9.6
Lower General Manager	46	4.5
Grants	12	1.2
Program Analysis	7	.7
Public Information	20	1.9
Other General Manager	21	2.0
Director Planning	26	2.5
Capital Planning	28	2.7
Route Planning	16	1.6
Development	17	1.7
Engineering	20	1.9
Systems Analyst	12	1.2
Other Planning	19	1.8
Director Personnel	35	3.4
Employee Compensation	3	.3
Benefits	17	1.7
Affirmative Action	4	.4
Records	1	.1
Other Personnel	28	2.7
Director Operations	85	8.3
Driver Support	35	3.4
Maintenance Support	107	10.4
Safety	25	2.4
Dispatch	24	2.3
Other Operations	106	10.3
Director Marketing	17	1.7
Market Research	2	.2
Market Operations	10	1.0
Other Market	13	1.3
Director Finance	41	4.0
Accounting	17	1.7
Other Finance	43	4.2
Director Special Projects	11	1.1
Other Special Projects	15	1.5
Other Management	48	4.7
<b>Total</b>	<b>1030</b>	<b>100.0</b>

### Occupational Characteristics of Managers

Functional Categories	Frequency	Valid Percent
General Manager	99	9.6
Other Administration	106	10.3
Planning	138	13.4
Personnel	88	8.5
Director Operations	85	8.3
Maintenance Support	107	10.4
Other Operations	190	18.4
Marketing	42	4.1
Finance	101	9.8
Other Management	74	7.2
Total	972	100.0

The above shows the diversity of managerial roles performed by our respondents and also indicates that the most common functional arenas are those immediately concerned with the delivery of transit services: operations and maintenance (37.1%). While again we have no comparative information, we suspect that this proportion has declined as many agencies have become more complex institutions and hired managers with specialties that are not immediately linked to service delivery. Some support for this notion is found when the age and length of service of managers in different roles are compared. Further, there are some significant differences with respect to educational attainment.

#### DIFFERENCES AMONG MANAGERIAL ROLES: "NEW AND OLD PROFESSIONALS"

In the Introduction, we raised the possibility that current industry managers may be roughly divided into those who function in the more traditional, long standing areas of transit (operations and maintenance) and those who perform new specialized tasks which have been recently added to many agencies (e.g., marketing, finance). In this section, we explore the extent to which this distinction is found within the sample in terms of demographic characteristics. Subsequently, we examine whether there are also distinctions with respect to job and career satisfaction and short range career plans.

The relative youth of the management cadre is illustrated by the table below. For all classifications, a majority of managers are under the age of fifty. Especially striking is the indication that nearly half (47.9%) of the general managers are aged forty or younger. For five of the categories (Other Administration, Planning, Personnel, Marketing, and Other



Management), fifty percent or more of the respondents are younger than forty-one years of age.

TABLE II - 6  
Age of Managers in Relation to Functional Job Categories

Category	Age	20 - 30	31 - 40	41 - 50	51 - 60	61 - 70
General Manager		2.0	45.9	25.5	18.4	8.2
Other Administration		8.5	43.4	31.1	11.3	5.7
Planning		11.6	48.6	23.2	13.8	2.9
Personnel		8.1	43.0	20.9	22.1	5.8
Director Operations		6.0	38.1	28.6	23.8	3.6
Maintenance Support		2.8	43.4	24.5	24.5	4.7
Other Operations		4.3	40.6	28.9	20.9	5.3
Marketing		14.3	47.6	26.2	11.9	
Finance		17.2	42.4	21.2	15.2	4.0
Other Management		5.4	44.6	20.3	21.6	8.1

$p < .05$   $V = .12$   $N = 1020$

The industry and current agency experience of these managers reflects the theme of relative youth and less experience than was the case for the 1973 study. For none of the classifications did a majority of the respondents have more than fourteen years of experience in the industry. For two of what we have termed the “new professional” roles (marketing and finance), over fifty percent have been in the industry for less than ten years.

A similar trend is found for the number of years experience at the current agency. In no case did a majority within a classification indicate that they had been with that agency for more than ten years. For “Other Administration” and “Finance,” majorities had five or fewer years experience with their current organization.

**TABLE II - 7**  
**Years in Industry by Functional Category**

Category	Years	1 - 4	5 - 9	10 - 14	15 - 19	20 - 29	30+
General Manager		2.0	19.2	40.4	10.1	16.2	12.1
Other Administration		27.6	17.1	20.0	16.2	11.6	8.0
Planning		12.3	24.6	26.8	16.7	11.6	8.0
Personnel		22.7	20.5	25.0	8.0	12.5	11.4
Director Operations		7.1	27.1	27.1	12.9	7.1	18.8
Maintenance Support		5.6	23.4	21.5	16.8	15.0	17.8
Other operations		12.2	20.6	25.4	12.7	15.9	13.2
Marketing		41.5	26.8	22.0	4.9	4.9	-
Finance		35.6	31.7	16.8	7.9	5.9	2.0
Other Management		21.9	17.8	27.4	13.7	15.1	4.1

$p < .05$   $V = .17$   $N = 1026$

**Years at Current Agency by Functional Category**

Category	Years	LT - 1	1 - 2	3 - 5	6 - 10	11 - 20	21 - 30	30+
General Manager		8.1	7.1	28.3	34.3	15.2	1.0	6.1
Other Administration		6.6	16.0	28.3	12.3	24.5	7.5	4.7
Planning		4.3	13.8	29.0	26.1	18.8	4.3	3.6
Personnel		1.1	11.4	18.2	27.3	23.9	10.2	8.0
Director Operations		4.7	12.9	23.5	28.2	15.3	8.2	7.1
Maintenance Support		1.9	5.6	15.9	29.0	29.9	8.4	9.3
Other Operations		2.6	5.3	15.3	30.0	25.3	14.7	6.8
Marketing		9.8	22.0	12.2	31.7	22.0	2.4	-
Finance		4.0	19.8	30.7	23.8	17.8	4.0	-
Other Management		4.1	4.1	28.4	21.6	33.8	6.8	1.4

$p < .05$   $V = .14$   $N = 1029$

The breakdown of managerial categories by gender shows that some management roles remain almost exclusively male. General managers and the “core” transit functions of operations and maintenance have very few women managers. In contrast, the “new professional” functions are characterized by a relatively high proportion of females, with nearly half (48.8%) of the marketing managers being women.

TABLE II - 8  
Gender by Functional Category

Category	Female	Male
General Manager	4.3	95.7
Other Administration	25.2	74.8
Planning	25.2	84.6
Personnel	35.7	84.6
Director Operations	6.3	93.8
Maintenance Support	1.0	99.0
Other Operations	10.4	89.6
Marketing	48.8	51.2
Finance	24.0	76.0
Other Management	15.1	84.9

$p < .05$   $V = .32$   $N = 989$

Educational background shows the greatest distinction between “old” and “new” professionals. In none of the “core” transit classifications did a majority of the respondents indicate that they had completed a college degree. For “maintenance” and “other operations” personnel, over forty percent indicated no formal education beyond a high school degree. For all other classifications, majorities attained at least a four year degree and many had completed graduate degrees. The educational pattern found to typify industry managers in 1973, thus still continues to be the case for “core” transit managers, but no longer does it typify the industry.

TABLE II - 9  
Educational Attainment by Functional Category

Category	High School	Junior College	College Degree	Graduate Degree
General Manager	9.3	9.3	44.3	37.1
Other Administration	16.3	13.5	35.6	34.6
Planning	5.1	5.1	43.4	46.3
Personnel	17.0	17.0	38.6	27.3
Director Operations	32.1	21.4	26.2	20.2
Maintenance Support	47.6	26.2	19.4	6.8
Other Operations	44.1	22.6	25.8	7.5
Marketing	14.3	9.5	54.8	21.4
Finance	3.1	9.3	54.6	33.0
Other Management	8.5	22.5	39.4	29.6

$p < .05$   $V = .30$   $N = 1008$

## SUMMARY

The results of the survey support the contention that there has been substantial change in the characteristics of transit managers since 1973. Current managers are younger, better educated, and have less transit experience than their earlier counterparts. We also found managers performing a wide array of often very specialized roles which reflect changes in management demands for increasingly complex transit organizations.

The comparison of personnel in different classifications indicated some differences with respect to age and experience. More striking differences were found in terms of gender and, especially, education. We suspect that these data indicate that the more traditional "up-from-the-ranks" recruitment pattern is still the norm for the "old professional" positions and that this contrasts to the recruitment patterns and expected qualifications for managers filling "new professional" roles.

These results suggest two further questions. First, are the overall patterns and distinctions among managers also reflected in attitudes about their agencies and the transit industry? This is explored in the next chapter. The second issue concerns whether these demographic characteristics, in some cases significantly different from the earlier study, are reflected in agency performance. This we explore in the fourth chapter.

## CHAPTER III

### SATISFACTION AND CAREER COMMITMENT

In addition to the possibility that differences in the demographic characteristics of managers are related to differences in agency performance, we suspect that the attitudes of those managers about their current position and their future careers may also be related to agency performance. The questionnaire included four satisfaction questions and included one item which sought to measure commitment to the industry. Each of these sets of responses is explored below and includes an analysis of institutional and demographic factors which might be related to satisfaction and commitment.

The demographic characteristics considered are education, gender, age, and managerial function. Institutional characteristics are included to gauge the effect of the agency context within which these managers function. These measures consist of agency size (indicated by the total number of vehicles operated), agency type, and a measure of organizational complexity. Agency type identifies whether the organization is part of a city or county government, a separate multi-purpose organization, a single purpose special district, a non-profit organization, or a private/ other agency. These determinations were made from the results of the agency survey which asked each to indicate its organizational setting. Organizational complexity is a composite measure which sums the number of vertical levels within an organization, the number of major departments (horizontal spread), and the number of administrative specialties. These were derived from our analysis of the organization charts supplied by agencies in response to the first phase questionnaire.

#### SATISFACTION WITH CURRENT POSITION

Job satisfaction was measured by the following question: "In general, how satisfied are you with you present position?" The response pattern was a five point scale with "1" meaning very satisfied and "5" meaning very unsatisfied. Over seventy-one percent (71.8%) of the respondents indicated that they were either satisfied or very satisfied with their present position. Very few (3.5%) evidenced extreme dissatisfaction.

TABLE III - 1  
Level of Satisfaction with Position

Satisfaction	Frequency	Valid Percent
Very Satisfied	299	29.0
	441	42.8
	190	18.4
	65	6.3
Very Unsatisfied	36	3.5
Total	1031	100.0

The tables below show that with the exception of the number of vehicles operated by an agency, the organizational context within which these managers function is not related to their level of job satisfaction. That is, neither the institutional setting of the agency nor its organizational complexity appears to affect satisfaction with one's present position.

The relationship between agency size and job satisfaction is statistically significant at the .05 level, but the Cramer's V statistic indicates that this is a relatively weak relationship. Nonetheless, the pattern revealed by the table indicates that managers in larger agencies, i.e. those operating five hundred or more vehicles are somewhat less positive about their present positions than are managers in smaller agencies. However, the data do not support the contention that these respondents are more likely to be unsatisfied or negative about their roles. We suspect that this reflects the presence of more "non-core transit" personnel in larger agencies who as a group are less positive about careers in transit.

TABLE III - 2  
Satisfaction with Position by Institutional Context

Satisfaction Institutional Type	Very Satisfied				Very Unsatisfied
City - County	32.9	40.9	16.4	5.6	14.2
Multi - Purpose	38.0	43.5	12.0	3.3	3.3
Special District	25.7	41.9	21.8	7.5	3.1
Non - Profit	27.1	47.0	16.9	6.0	3.0
Other	25.7	44.6	18.9	6.8	4.1

$p > .05$   $V = .06$   $N = 1031$

### Satisfaction with Position by Organizational Complexity

Satisfaction Complexity	Very Satisfied				Very Unsatisfied
1 - 10	37.5	33.3	20.8	8.3	-
11 - 20	33.3	39.4	15.6	16.1	5.6
21 - 30	27.4	45.3	18.8	6.3	2.3
31+	27.3	43.0	19.5	6.3	4.0

$p > .05$   $V = .06$   $N = 955$

### Satisfaction with Position by Organizational Size

Satisfaction Vehicles	Very Satisfied				Very Unsatisfied
LT 50	29.3	44.8	15.5	6.9	3.4
50 - 99	37.2	42.5	11.5	5.3	3.5
100 - 249	34.6	41.0	17.9	3.8	2.6
250 - 499	36.5	38.5	15.4	6.7	2.9
500 - 999	19.1	39.5	28.0	7.6	5.7
1000 - 1999	26.4	42.7	18.5	9.6	2.8
2000+	24.4	49.2	18.1	4.7	3.6

$p < .05$   $V = .096$   $N = 1017$

Respondent age is significantly related to satisfaction with present position. Managers aged forty or younger are less positive. However, there is not a distinctive difference among age cohorts on the negative side of the rating.

Neither educational attainment nor gender were found to be significantly related to job satisfaction. The differences by functional job classifications indicate that the most satisfied are those in general management while the least satisfied were those in personnel, finance, and marketing. Maintenance supervisors were also less positive than those in operations or general administration. Larger, more complex organizations are more likely to include those managerial roles which evidence a less positive view about their present positions. It must be emphasized, however, that for no category did a majority of the respondents select either "very unsatisfied" or "unsatisfied."

TABLE III - 3  
Satisfaction with Position by Level of Education

Satisfaction Education	Very Satisfied				Very Unsatisfied
High School	30.6	40.5	18.5	5.0	5.4
Junior College	33.5	39.8	16.8	5.6	4.3
College Degree	28.1	43.3	20.4	6.5	1.6
Graduate Degree	26.3	45.6	16.6	7.3	4.2

$p > .05$   $V = .06$   $N = 1009$

Satisfaction with Position by Age

Satisfaction Age	Very Satisfied				Very Unsatisfied
20 - 30	23.1	47.4	17.9	9.0	2.6
31 - 40	23.6	46.8	18.7	6.3	4.5
41 - 50	30.0	41.5	19.6	6.5	2.3
51 - 60	35.6	37.2	18.1	15.3	3.7
61 - 70	52.9	25.5	15.7	3.9	2.0

$p < .05$   $V = .09$   $N = 1021$

Satisfaction with Position by Gender

Satisfaction Gender	Very Satisfied				Very Unsatisfied
Female	24.7	46.9	18.5	5.6	4.3
Male	29.8	42.1	18.7	6.0	3.3

$p > .05$   $V = .05$   $N = 990$

Satisfaction with Position by Job Category

Satisfaction Job Category	Very Satisfied				Very Unsatisfied
General Manager	47.5	38.4	10.1	3.0	1.0
Other Administration	31.1	43.4	17.9	3.8	3.8
Planning	18.8	49.3	15.2	11.6	5.1
Personnel	25.0	39.8	21.6	10.2	3.4
Director Operations	42.9	39.3	11.9	4.8	1.2
Maintenance Support	26.4	40.6	21.7	7.5	3.8
Other Operations	28.9	38.9	17.4	7.9	6.8
Marketing	16.7	52.4	28.6	-	2.4
Finance	22.8	41.6	29.7	5.0	1.0
Other Management	28.4	51.4	17.6	1.4	1.4

$p < .05$   $V = .14$   $N = 1028$



## SATISFACTION WITH CAREER OPPORTUNITIES

Two questions addressed in different ways respondent satisfaction with career opportunities in the industry. A third asked them to evaluate advancement opportunities within their agency. The questions were:

- Overall, how satisfied are you with the career opportunities in the transit industry?
- How would you rate the advancement opportunities for management personnel within your agency?
- Similarly, how would you rate the advancement opportunities for management personnel within the transit industry?

The responses to these questions show that our respondents are somewhat less satisfied with career opportunities than they were with their present position. When the focus shifts to advancement opportunities, particularly within their present agencies, fewer than fifty percent rate the prospects as either excellent or good. This suggests that many of these managers see some difficulties with career development both in their present agency and in the industry. Moving from one agency to another does not appear to be thought of as a generally available career track. The major option for career advancement may be leaving the industry.

TABLE III - 4  
Satisfaction with Industry Career Opportunities

Satisfaction	Frequency	Valid Percent
Very Satisfied	221	21.5
	342	33.2
	287	27.9
	135	13.1
Very Unsatisfied	45	4.4
Total	1030	100.0

Advancement Opportunities in Agency

Excellent	63	6.1
	233	22.6
	381	37.0
	226	22.0
Very Poor	126	12.2
Total	1029	100.0

### Advancement Opportunities in Industry

Excellent	79	7.9
	366	36.4
	437	43.4
	108	10.7
Very Poor	16	1.6
Total	1006	100.0

We suspect that the perceived difficulties for career development are not characteristic of all managers. Rather, as previously noted, the changes in the industry included the need for managers trained in particular specialties. It may be that these individuals are more likely to perceive that they will be able to practice their specialty in other industries. Support for this possibility is found in the analysis of the institutional and demographic factors associated with different responses to these questions.

In particular, we expect managers in larger, more complex organizations to be somewhat more optimistic about their career opportunities. The path of career development would be more clearly identified within their own agency. In contrast, smaller agencies offer fewer opportunities for advancement, and those seeking career opportunities would look outside their present organization. Additionally, we expect that better educated, non-core transit managers would be more likely to see opportunities to develop their careers outside their agency and outside the industry. These individuals would be more likely to express dissatisfaction with career development options within transit. The analysis shows differing patterns for each of the three measures of satisfaction with career development opportunities.

#### Satisfaction with Advancement Opportunities in the Current Agency

Respondent assessment of advancement opportunities with their present agency is related to the organizational characteristics of that agency. Managers in agencies which are part of city or county governments and those who function in agencies classified as "Other" meaning agencies which exist as a product of inter-governmental agreements or through service contracts with other organizations were distinctly less positive about advancement within their present agencies. For those who function within larger governments, we suspect that this results because many top-level managerial tasks are performed by other, non-transit components of the organization. Thus, for example, top level personnel or planning management may be housed outside of the transit service organization. However, it is instructive to note that for none of these organizational categories did a majority of the

managers indicate that in-house advancement opportunities were either “good” or “excellent.”

Managers in smaller, less complex organizations were substantially less positive, even negative, about the prospects for within agency advancement. This is not especially surprising given the relatively small number of managerial positions within these agencies leading to the absence of a clear career ladder. This trend is further supported by the finding that these managers are more positive about advancement opportunities within the industry than are those who currently function within large, complex organizations.

TABLE III - 5  
Rating of Agency Advancement Opportunities by Organizational Type

Opportunity Organizational Type	Excellent				Very Poor
City - County	5.9	16.1	35.3	25.2	17.5
Multi - Purpose	9.9	38.5	30.8	16.5	4.4
Special District	4.4	22.5	37.3	24.0	11.9
Non - Profit	8.4	31.3	41.0	14.5	4.8
Other	6.8	9.6	41.1	21.9	20.5

$p < .05$   $V = .13$   $N = 1029$

Rating of Agency Advancement Opportunity by Organizational Complexity

Opportunity Complexity	Excellent				Very Poor
1 - 10	8.3	16.7	41.7	25.0	8.3
11 - 20	2.8	19.0	30.7	30.2	17.3
21 - 30	5.4	20.3	39.4	22.6	12.3
31+	8.8	26.0	26.0	17.5	9.5

$p < .05$   $V = .10$   $N = 953$

Rating of Agency Advancement Opportunity by Organizational Size

Opportunity Vehicles	Excellent				Very Poor
LT 50	4.3	19.1	33.9	27.8	14.8
50 - 99	4.4	15.9	33.6	27.4	18.6
100 - 249	7.7	18.6	35.9	21.8	16.0
250 - 499	6.7	22.9	31.4	25.7	13.3
500 - 999	3.8	19.2	39.7	19.9	17.3
1000 - 1999	6.2	27.7	38.5	20.3	6.2
2000+	8.3	30.6	39.9	16.6	4.7

$p < .05$   $V = .11$   $N = 1015$

We were surprised to find no statistically significant difference in the assessments of managers performing differing functions. While the table shows that those in planning, personnel, marketing, and finance were the least likely to indicate that in-house advancement opportunities were either good or excellent, the overall response distribution is such that we cannot claim that there is a distinctive pattern.

However, with respect to gender and education the differences are clear and statistically significant. Only about seventeen percent (17.4%) of the female respondents indicate that advancement opportunities within their agencies are either good or excellent. This contrasts with the thirty-one percent of the male managers who are positive about those opportunities.

Age is not significantly related to respondent evaluations of in-house advancement opportunities. Even so, there is a tendency for younger managers to be less positive about those prospects than those who are over the age of fifty.

There is an obvious break between those who have completed at least a four year college degree and those who have not. Those with a college education are significantly less positive about in-house advancement opportunities. This linkage between education and career future in one's current agency and in the industry is consistent for each of the satisfaction measures.

TABLE III - 6  
Rating of Agency Advancement Opportunities by Education

Opportunity Education	Excellent				Very Poor
High School	10.8	22.5	35.6	16.7	14.4
Junior College	19.4	23.8	41.3	16.3	9.4
College Degree	3.3	24.3	36.0	25.9	10.6
Graduate Degree	3.9	20.5	36.7	24.7	14.3

$p < .05$   $V = .10$   $N = 1008$

Rating of Agency Advancement Opportunities by Age

Opportunity Age	Excellent				Very Poor
20 - 30	2.6	18.2	41.6	24.7	13.0
31 - 40	5.0	21.7	37.2	22.8	13.3
41 - 50	5.4	23.9	34.4	24.7	11.6
51 - 60	10.6	24.3	36.5	18.0	10.6
61 - 70	9.8	25.5	43.1	11.8	9.8

$p > .05$   $V = .07$   $N = 1019$

### Rating of Agency Advancement Opportunities by Gender

Opportunity Gender	Excellent				Very Poor
Female	5.0	12.4	40.4	29.2	13.0
Male	6.0	25.0	36.3	20.4	12.2

$p < .05$   $V = .12$   $N = 988$

### Rating of Agency Advancement Opportunities by Job Categories

Opportunity Category	Excellent				Very Poor
General Manager	5.1	28.6	38.8	19.4	8.2
Other Administration	6.6	29.2	34.9	20.8	8.5
Planning	2.9	17.4	40.6	22.5	16.7
Personnel	5.7	14.8	37.5	23.9	18.2
Director Operations	12.9	28.2	28.2	17.6	12.9
Maintenance Support	8.4	24.3	41.1	19.6	6.5
Other Operations	6.4	22.3	34.0	23.4	13.8
Marketing	-	16.7	33.3	35.	14.3
Finance	6.0	18.0	42.0	20.0	14.0
Other Management	5.4	25.7	37.8	23.0	8.1

$p > .05$   $V = .10$   $N = 1026$

### Satisfaction with Career and Advancement Opportunities in Transit

Respondent evaluation of career opportunities in the industry is not significantly related to agency characteristics. However, when attention turns to the question of advancement opportunities in transit a different pattern emerges.

TABLE III - 7  
Satisfaction with Career Opportunities by Institutional Type

Satisfaction Institutional Type	Very Satisfied				Very Unsatisfied
City - County	24.1	31.8	28.3	10.8	4.9
Multi - Purpose	24.4	41.1	24.4	10.0	-
Special District	20.8	32.1	28.5	13.5	5.1
Non - Profit	18.7	34.3	29.5	12.7	4.8
Other	17.6	32.4	23.0	24.3	2.7

$p > .05$   $V = .07$   $N = 1030$

**Satisfaction with Career Opportunities by Organizational Complexity**

Satisfaction Complexity	Very Satisfied				Very Unsatisfied
1 - 10	33.3	33.3	12.5	20.8	-
11 - 20	25.6	32.2	30.0	8.3	3.9
21 - 30	22.2	32.4	29.0	11.9	4.5
31+	18.8	34.1	26.6	15.8	4.8

$p > .05$   $V = .07$   $N = 955$

**Satisfaction with Career Opportunities by Organizational Size**

Satisfaction Vehicles	Very Satisfied				Very Unsatisfied
LT 50	25.0	31.0	31.0	9.5	3.4
50 - 99	22.1	35.4	28.3	7.1	7.1
100 - 249	26.9	32.1	28.8	11.5	.6
250 - 499	24.8	31.4	24.8	14.3	4.8
500 - 999	18.4	28.5	29.1	15.8	8.2
1000 - 1999	21.5	37.3	25.4	13.6	2.3
2000+	15.1	35.4	28.1	16.1	5.2

$p > .05$   $V = .09$   $N = 1017$

**Rating of Industry Advancement Opportunities by Institutional Type**

Rating Institutional Type	Excellent				Very Poor
City - County	12.8	36.7	38.1	10.3	2.1
Multi - Purpose	4.4	44.0	42.9	8.8	-
Special District	5.2	36.7	46.1	11.0	1.0
Non - Profit	8.6	32.1	48.87	8.6	1.9
Other	5.6	33.8	38.0	18.3	4.2

$p < .05$   $V = .09$   $N = 1006$

**Rating of Industry Advancement Opportunities by Organizational Complexity**

Rating Complexity	Excellent				Very Poor
1 - 10	13.6	50.0	18.2	18.2	-
11 - 20	11.4	45.7	34.9	7.4	.6
21 - 30	7.0	36.6	45.6	9.0	1.7
31+	6.9	32.0	46.3	12.8	2.0

$p < .05$   $V = .10$   $N = 932$

**Rating of Industry Advancement Opportunities by Organizational Size**

Rating	Excellent				Very Poor
Vehicles					
LT 50	12.4	41.6	36.3	9.7	-
50 - 99	9.8	42.0	32.1	12.5	3.6
100 - 249	11.2	40.1	40.1	7.2	1.3
250 - 499	7.8	33.3	43.1	14.7	1.0
500 - 999	3.9	40.6	41.3	11.0	3.2
1000 - 1999	7.1	32.4	51.8	8.2	.6
2000+	5.8	28.6	51.9	12.2	1.6

$p < .05$   $V = .10$   $N = 993$

Managers in agencies categorized as “Other” were considerably less positive about the availability of advancement opportunities in the industry. In the opposite vein, managers in agencies which are part of city or county governments were collectively the group that was most positive about being able to advance their careers within the industry.

Managers in smaller, less complex organizations are to a statistically significant degree more likely to rate the advancement opportunities offered by the industry as being good or excellent. Those in the very largest agencies (1000 or more vehicles) are much less positive about the opportunities offered by transit. These differences are striking, but not unexpected given the pattern of manager assessments of advancement opportunities within their present agencies.

The level of satisfaction with career opportunities in the transit industry is related to the gender, age, role, and education of the respondents. However, with respect to the assessment of advancement opportunities for managers in the industry only education continues to be related to differences among the respondents.

TABLE III - 8  
Satisfaction with Industry Career Opportunities by Education

Satisfaction Education	Very Satisfied				Very Unsatisfied
High School	30.2	34.7	22.1	8.6	4.5
Junior College	28.0	37.3	22.4	7.5	5.0
College Degree	20.5	31.1	32.8	12.6	3.0
Graduate Degree	11.6	32.4	28.6	21.2	6.2

$p < .05$   $V = .14$   $N = 1008$

**Satisfaction with Industry Career Opportunities by Age**

Satisfaction Age	Very Satisfied				Very Unsatisfied
20 - 30	16.7	30.8	38.5	11.5	2.6
31 - 40	17.3	31.9	31.5	14.8	4.5
41 - 50	19.7	36.3	24.7	14.3	5.0
51 - 60	33.3	31.7	21.2	10.1	3.7
61 - 70	32.0	36.0	20.0	8.0	4.0

$p < .05$   $V = .09$   $N = 1021$

**Satisfaction with Industry Career Opportunities by Gender**

Satisfaction Gender	Very Satisfied				Very Unsatisfied
Female	16.7	25.9	40.1	11.7	5.6
Male	22.4	35.0	25.6	13.1	3.9

$p < .05$   $V = .13$   $N = 991$

**Satisfaction with Industry Career Opportunities by Job Categories**

Satisfaction Category	Very Satisfied				Very Unsatisfied
General Manager	24.7	40.2	25.8	8.2	1.0
Other Administration	18.9	32.1	29.2	13.2	6.6
Planning	13.0	32.6	29.7	21.0	3.6
Personnel	20.7	26.4	29.9	11.5	11.5
Director Operations	37.6	36.5	15.3	9.4	1.2
Maintenance Support	28.0	39.3	19.6	10.3	2.8
Other Operations	26.8	29.5	27.4	11.1	5.3
Marketing	9.5	33.3	31.0	19.0	7.1
Finance	9.9	26.7	43.6	16.8	3.0
Other Management	17.6	39.2	28.4	12.2	22.7

$p < .05$   $V = .14$   $N = 1027$

**Rating of Industry Advancement Opportunities by Education**

Rating Education	Excellent				Very Poor
High School	13.6	35.2	40.4	8.0	2.8
Junior College	10.8	38.0	41.8	8.9	.6
College Degree	5.5	39.9	43.2	10.2	1.1
Graduate Degree	5.1	29.9	47.2	15.7	2.0

$p < .05$   $V = .10$   $N = 986$



**Rating of Industry Advancement Opportunities by Age**

Age	Rating	Excellent				Very Poor
20 - 30		2.7	40.0	50.7	6.7	-
31 - 40		7.8	34.6	44.5	11.3	1.8
41 - 50		6.3	34.0	46.2	11.9	1.6
51 - 60		10.8	43.2	33.0	11.9	1.1
61 - 70		12.0	36.0	46.0	4.0	2.0

$p > .05$   $V = .07$   $N = 997$

**Rating of Industry Advancement Opportunities by Gender**

Gender	Rating	Excellent				Very Poor
Female		8.4	31.0	50.3	9.7	.6
Male		7.5	38.1	41.6	11.0	1.7

$p > .05$   $V = .07$   $N = 965$

**Rating of Industry Advancement Opportunities by Job Categories**

Category	Rating	Excellent				Very Poor
General Manager		8.1	43.4	37.4	11.1	-
Other Administration		7.8	38.2	43.1	8.8	2.0
Planning		6.6	30.7	46.0	14.6	2.2
Personnel		7.2	27.7	48.2	14.5	2.4
Director Operations		11.9	44.0	38.1	6.0	-
Maintenance Support		9.8	37.3	44.1	8.8	-
Other Operations		11.4	40.2	37.0	7.6	3.8
Marketing		-	24.4	61.0	14.6	-
Finance		6.2	30.9	49.5	12.4	1.0
Other Management		1.4	36.5	47.3	13.5	1.4

$p > .05$   $V = .11$   $N = 1003$

Male managers are found to be significantly more positive about the career prospects offered by transit than are women. Over half (57.4%) of the men indicate that they are either very satisfied or satisfied with these opportunities while only slightly more than forty-two percent (42.6%) of the female respondents were similarly positive.

The by now familiar distinction between respondents over the age of fifty and those who are not is again characteristic of the relationship between age and respondent assessment of career opportunities in transit. Younger managers express significantly less satisfaction with the career prospects offered by the industry.

The differences among the respondents education and their evaluation of career opportunities are particularly distinct. Those who have at least a college education are significantly less positive about the opportunities in transit. Those with graduate degrees are even less so. Since the level of education is associated with the functions performed by the respondents, we expected these differences to also be found among the managerial job categories.

The distinctions among managers performing different functions follows the earlier distinction between "core transit" and "new professionals." The most positive evaluations are from those who are general managers and in operations or maintenance. The most negative are those in marketing and finance. With respect to evaluations of career development opportunities offered by the industry, managerial specialization marks an important distinction among the industry's managerial cadre. However, it must also be kept in mind that the "new professionals" also include a higher proportion of women and more highly educated personnel within their ranks.

A different pattern is found in our analysis of the association of manager characteristics with the assessment of advancement opportunities within transit. There is not a significant distinction between the evaluations of male and female managers, younger and older personnel, nor, somewhat surprisingly, are the distinctions among managers in different roles significant. However, education is again significantly related to the pattern of these responses. Those with at least a college degree and, particularly those with graduate training, are significantly less positive about the opportunities to advance within the industry.

### Summary

The responses to the questions about job satisfaction and career and advancement opportunities indicate that as the profile of managerial personnel has changed there has been the concomitant development of problems related to personnel perceptions about the attractiveness of transit as an industry within which to pursue one's career and attain career goals. In particular, the finding that better educated managers are generally less sanguine about future prospects is troubling. The industry has made substantial efforts to improve the training background and professionalism of its managers. The comparison with the 1973 profile indicates that these efforts have been largely successful and have altered the characteristics of the managerial cadre. However, the evidence suggests that the industry has been less successful on either an agency or industry basis in developing clearly perceived career ladders which would allow these individuals to advance their careers

within the specialties for which they have trained. Thus, the increased specialization of agency needs and the managers recruited to fill those positions has also created a possible problem of commitment to that agency or to the industry. We turn our attention to an analysis of this problem in the next section.

### COMMITMENT TO TRANSIT

Our measure of career commitment is based on the responses to the question: "Where do you see yourself in five years?" A set of closed ended responses was provided and the distribution is summarized below. The original responses were, for analytic purposes, collapsed into four categories, the distribution for which is also presented in Table III-9. Responses in the "Other" category were not included in the collapsed table.

TABLE III - 9  
What Position in Five Years?

Position	Frequency	Valid Percent
Same Agency - Pos	240	24.1
Same Agency - Dif Pos	315	31.6
Dif Agency - Same Pos	37	3.7
Dif Agency - Dif Pos	91	9.1
Out of Transit	192	19.3
Retired	84	8.4
Other	38	3.8
Total	997	100.0

### Where will you be in Five Years?

Where	Frequency	Valid Percent
Same Agency	555	57.9
Dif Agency	128	13.3
Out of Trans.	192	20.0
Retired	84	8.8
Total	959	100.0

A majority of the respondents (57.9%) indicate that they expect to be with the same agency for at least the next five years. Only some thirteen percent (13.3%) indicate that they plan to be with a different transit agency while twenty percent (20.0%) plan to be in a managerial position outside of the industry. The finding that fewer expect to move within the industry than plan to advance their careers by leaving gives some support to the problems identified by our analysis of the satisfaction measures. In particular, it suggests

the absence of perceived career advancement steps which one can follow within the industry. Finally, the proportion expecting to leave the industry coupled with the nearly nine percent (8.8%) who expect to retire indicates that there will be nearly a thirty percent turnover in transit managers during that five year period (See White and Edner, 1987). We suspect that the proportion of an agency's management team committed to a career within that agency or within the industry will be related to agency performance.

Career Commitment and Agency Characteristics

Managers who presently function within city or county agencies and “other” agencies were more likely to indicate that they planned to seek opportunities outside their present organization. Of those who indicated that they planned to leave their present agency, those in city-county organizations were more likely to plan to shift to other opportunities in transit than to leave the industry. For managers in the other agency types, more expected to leave the industry than to shift to a different agency. We suspect that this difference for city-county managers is a product of the relative lack of management opportunities in the transit organization given that many of those functions are performed by other departments within the local government.

With respect to agency size and organizational complexity, the results show a pattern similar to that found for the ratings of advancement opportunities. Managers who presently function in smaller, less complex organizations are more likely to see themselves taking positions with other agencies within the industry. Those from large organizations who expect to leave their present organization more often indicated that they expect to leave the industry altogether. Managers from larger agencies do not appear to see transfer within the industry as either an available or desirable career option. Again, this distinction is at least partially related to the presence of more “new professionals” within larger organizations whose specialized skills are not sought by smaller transit agencies.

TABLE III - 10  
Where in Five Years by Institutional Type

Where Institutional Type	Same Agency	Different Agency	Out of Transit	Retired
City - County	52.6	20.9	18.7	7.8
Multi - Purpose	55.2	8.0	25.3	11.5
Special District	60.6	10.4	19.6	9.4
Non - Profit	65.6	9.1	16.9	8.4
Other	49.3	16.4	28.4	6.0

p < .05 V = .10 N = 959

**Where in Five Years by Organizational Complexity?**

Where Complexity	Same Agency	Different Agency	Out of Transit	Retired
1 - 10	60.9	26.1	8.7	4.3
11 - 20	57.7	23.3	14.1	4.9
21 - 30	55.0	13.2	21.3	10.5
31+	60.6	8.8	21.8	8.8

$p < .05$   $V = .10$   $N = 895$

**Where in Five Years by Institutional Size?**

Where Vehicles	Same Agency	Different Agency	Out of Transit	Retired
LT 50	53.3	18.7	18.7	3.7
50 - 99	53.6	21.8	19.1	5.5
100 - 249	50.0	18.5	19.9	11.6
250 - 499	68.0	10.3	14.4	7.1
500 - 999	61.4	11.7	17.9	9.0
1000 - 1999	57.6	5.5	22.4	14.5
2000+	62.9	7.4	22.3	7.4

$p < .05$   $V = .14$   $N = 945$

Commitment and Manager Characteristics

Women, the better educated, and younger managers are not only more likely to plan to leave their present agencies, but also are more likely to indicate that they plan to leave the industry. Again, this pattern follows the overall trend found with the satisfaction measures. But, importantly, this dissatisfaction is translated into plans to leave the industry, rather than to seek alternatives within other agencies.

The patterns for the different functional classifications show some distinct differences. General managers are the least likely to plan to be with the same agency, but are the most likely to plan to be with a different transit organization. This indicates that at least for executive management personnel there may be a perceived career track within the industry. Personnel in operations and maintenance are more likely to see themselves being with the same agency and much less likely to plan to seek opportunities outside the industry. The groups most likely to indicate that they plan to leave the industry are those in marketing and finance, coincidentally the two groups which were, in general, the least optimistic about career advancement within the industry.

TABLE III - 11  
Where in Five Years by Education

Where Education	Same Agency	Different Agency	Out of Transit	Retired
High School	68.6	6.3	6.8	18.4
Junior College	72.5	11.1	7.2	9.2
College Degree	56.3	12.9	25.5	5.3
Graduate Degree	43.3	20.8	31.7	4.2

$p < .05$   $V = .21$   $N = 941$

Where in Five Years by Age

Where Age	Same Agency	Different Agency	Out of Transit	Retired
20 - 30	45.3	22.7	30.7	1.3
31 - 40	55.3	17.9	26.3	.5
41 - 50	69.8	11.6	17.4	1.2
51 - 60	61.2	5.1	7.9	25.8
61 - 70	20.0	-	8.9	71.1

$p < .05$   $V = .37$   $N = 954$

Where in Five Years by Gender

Where Gender	Same Agency	Different Agency	Out of Transit	Retired
Female	49.7	15.4	32.9	2.0
Male	59.3	13.0	17.8	9.8

$p < .05$   $V = .17$   $N = 923$

Where in Five Years by Job Category

Where Category	Same Agency	Different Agency	Out of Transit	Retired
General Manager	38.6	29.5	21.6	10.2
Other Administration	51.5	11.1	27.3	10.1
Planning	50.0	20.3	24.2	5.5
Personnel	61.7	3.7	25.9	8.6
Director Operations	60.8	21.5	6.3	11.4
Maintenance Support	74.0	10.0	5.0	11.0
Other Operations	69.3	8.9	11.7	10.1
Marketing	40.0	12.5	40.0	7.5
Finance	52.1	9.6	37.2	1.1
Other Management	64.7	4.4	17.6	13.2

$p < .05$   $V = .21$   $N = 956$

## SUMMARY

The profile of current transit managers lends credence to the view that today's managers are younger, better educated, and functionally more diverse than were their counterparts in the early 1970's. Analysis of personnel satisfaction with their present positions and evaluations of future career prospects revealed that these changes in the characteristics of the managerial cadre also include some relatively high levels of dissatisfaction with the opportunities offered by current agencies and the industry. We also found that a substantial proportion plan to leave the industry within the next five years.

However, the analysis also showed that not all categories of managers in all types of agencies shared these evaluations. Younger, better educated managers filling "new professional" roles were more likely to express dissatisfaction. Those in smaller agencies were more likely to look within the industry for career advancement, and those in larger agencies showed a stronger tendency to look outside of transit for those opportunities.

In light of these attitudinal and demographic characteristics, the question remains as to whether or not the changes and differences observed are related to differences in agency performance. That is, do those agencies with greater proportions of their personnel being better educated, more positive, and more committed exhibit better level of performance than those agencies with a less well educated, negative cadre, many of whom plan to leave the industry. This issue provides the focus for the next chapter.





## CHAPTER IV

### MANAGERS AND AGENCY PERFORMANCE

The previous chapters have presented an overview of the demographic and attitudinal characteristics of this sample of transit management personnel. In this chapter, we explore the extent to which those characteristics are related to six measures of agency performance. In particular, the goal is to determine the importance of manager attributes for explaining variation in performance relative to the effects of agency characteristics. To accomplish this, we use multiple regression analysis to determine whether manager characteristics have an effect on performance independent from agency size, organizational complexity, and institutional setting. Following a discussion of the variables used, we examine the results of the analysis.

#### PERFORMANCE MEASURES

The performance measures used in the analysis were developed by Gordon J. (Pete) Fielding and his colleagues at the University of California, Irvine, Institute of Transportation Studies. We again express our appreciation to Fielding for his gracious assistance in providing us with this information. The data are for the 1984 Section 15 reporting year. This year was selected as it was about mid-way through the two phases of data collection for this project. (For a detailed discussion of the development of these measures see Fielding, Jaffe, and Yamarone, 1987).

For our analysis we selected measures for five areas of agency performance. These are:

1. Cost Efficiency: Defined as revenue vehicle hours divided by total operating expenses (inflation corrected to 1980 dollars).
2. Service Effectiveness: Defined as annual unlinked passenger trips divided by revenue vehicle hours.
3. Labor Efficiency: Defined as total vehicle hours divided by the total number of employees.
4. Vehicle Efficiency: Defined as total vehicle miles divided by the maximum number of vehicles in operation on a weekday.
5. Maintenance Efficiency: Two measures are used to define this aspect of performance: a) total vehicle miles divided by maintenance operating expenditures and b) total vehicle miles divided by the number of maintenance employees.

For each of these measures as scores increase, performance is assumed to improve accordingly. Therefore, with the exception of the measures of manager satisfaction, a positive association would indicate that the factor contributes to better agency performance. The coding of the satisfaction measures is such (1 = very satisfied or excellent and 5 = very unsatisfied or very poor) that a negative association would indicate that positive perceptions of job and career would be associated with better agency performance.

Throughout the analysis, it is our preference that the results be interpreted as indications of possible trends rather than defining precise, causal outcomes. Our data are limited by the fact that it is a self-selected sample and by the way we combined agency level information with individual level manager characteristics.

### MANAGER CHARACTERISTICS

The profile of manager demographic and attitudinal attributes established that there are substantial differences among the respondents and that the profiles for different types of agencies are not uniform. Therefore, a cross-sectional analysis involving all agency types should enable us to determine which, if any, of these attributes might be related to variations in performance. This will allow us to draw some initial observations about the impact of the changes in educational, age, and experiential characteristics of managers. Further, we expect to be able to explore the effects of attitudes and career plans on agency performance levels.

The measures of manager demographics included are:

1. Years in Transit: The reported total number of years employed in the industry in any capacity.
2. Years at Agency: Total number of years employed by current agency.
3. Years in Position: Total number of years holding current position.
4. Education: Highest reported level of education.
5. Age: Self-reported, chronological age.

These measures of manager demographics provide an approximation of the level of training, experience, and expertise of the respondents. We expect that increases in education and experience within the management team of an agency would enhance

managerial capacity and therefore be positively related to performance. We do not have any basis to project the effects of age.

Manager attitudes and career plans are measured by:

1. Satisfaction with Position: Measured on a five point scale with “1” meaning “very satisfied” and “5” meaning “very unsatisfied.”
2. Satisfaction with Career Opportunities in the Industry: Also measured by a five point scale with “1” meaning “very satisfied” and “5” meaning “very unsatisfied.”
3. Advancement Opportunities in Present Agency: A five point scale with a “1” meaning that in-house advancement opportunities are “excellent” and a “5” meaning that such opportunities are “very poor.”
4. Advancement Opportunities in the Industry: A five point -scale coded as above rating perceptions of industry-wide advancement opportunities.
5. Career Plans: This is taken from the responses to the question: “Where do you see yourself in five years?” and is used as a proxy for commitment. The categorical responses were transformed into “dummy” variables using present agency as the base category to which the others (different agency, out of transit, retired) are compared.

Our expectation is that agencies with managers expressing more positive attitudes toward their present positions and career/advancement opportunities will contribute more positively to agency performance and have better scores on the performance measures. Also, we expect a negative effect on performance as the proportion of managers planning to leave the industry increases.

## AGENCY CHARACTERISTICS

We expect agency characteristics to be related to performance in the following manner. As agency size and organizational complexity increase, we assume that their capacity to respond to more demanding service delivery contexts also improves. We also expect the institutional setting of agencies to impact performance. More autonomous agencies should be able to focus on the requirements of service delivery more directly than less autonomous organizations. In this respect, we assume that agencies which are part of city or county governments are less autonomous while single purpose special districts would be the most autonomous. The measures are:

1. Number of Vehicles: A commonly used measure of organizational size, we use the total number of vehicles reported by the responding agencies.
2. Complexity of Organization: A measure of structural differentiation representing the sum of the number of vertical levels, the number of major departments, and the number of specific administrative specialties within a given organization. This information was gathered from the organization charts supplied by responding agencies.
3. Institutional Setting: A measure derived from information supplied by responding agencies. Agencies were categorized as being within a city or county government, part of a multi-purpose agency, a special district, a non-profit organization, a private organization, or other. These were transformed into "dummy" variables using a "1" and "0" coding scheme with the category "city-county" being the base to which the others are compared. Because of the small number of responses from private agencies, these were combined with the "other" category.
4. Average Fleet Age: This measure is included for the purpose of assessing maintenance performance and is taken from the Section 15 data as provided by Fielding.

## ANALYSIS

The overall purpose of the study is to explore possible linkages between manager characteristics and agency performance. In order to accomplish this, we used multiple regression to explore the effects of each of the independent variables on each of the performance measures. The tables below report both the regression coefficient (b) and the standardized regression coefficient (Beta). The regression coefficients estimate the amount of change in the performance measure for each unit of change in each of the independent variables. For a multiple regression model, these coefficients estimate the effect of each independent variable taking into account or holding constant the effects of every other variable in the model. Given this property of the multiple regression model, we interpret the finding that a particular variable is statistically significant to mean that that factor impacts the particular performance measure, even when the consequences of all other factors are taken into account. In the tables that follow, a single asterisk is used to identify a coefficient which is significant at the .05 level, a double asterisk indicates a significance level of .001. The standardized regression coefficient indicates the relative importance of each independent variable for explaining the variation in the performance measures. The larger the Beta, the greater is the amount of variance accounted for by that variable.

Cost Efficiency

The results show that several of the agency characteristics and manager demographics are significantly related to the measure of cost efficiency. However, none of the attitudinal variables are found to be independently related to this aspect of agency performance.

TABLE IV - 1  
**Revenue Vehicle Hours/Operating Expenditures**  
 (Cost Efficiency)

Agency Characteristics	b	Beta
Number of Vehicles	-.0000014**	-.55
Complexity of Organization	-.00037**	-.50
<b>Institutional Setting</b>		
Multi-purpose	.0013	.05
Special District	-.0042**	-.26
Non-profit	.0121**	.55
Other	-.0057**	-.19
<b>Manager Demographics</b>		
Education	-.000079	-.01
Age	-.00028**	-.07
Years in Transit	-.000032	-.01
Years at Agency	-.00053*	-.04
Years in Position	.00046	.06
<b>Manager Satisfaction</b>		
Satisfaction with Position	-.00049	-.06
Satisfaction Career Opportunity	-.00001	-.001
Advancement Agency	.00002	.003
Advancement Industry	-.0001	-.01
<b>Career Plans</b>		
Different Agency	-.00076	.03
Out of Transit	-.0006	-.03
Retired	.00046	.02

R <sup>2</sup> = .51
p<.001
N= 798
*p< .05
**p<.001

The direction of several of the relationships run counter to what we had expected. Agency size and organizational complexity are negatively associated suggesting that increases in size and structural differentiation do not lead to greater cost efficiency.

Similarly, manager age and number of years at the present agency are found to have negative relationships. Conversely, the number of years in position shows a significant and positive relationship suggesting that experience in a managerial function may be important for improvements in cost efficiency. The measures of institutional setting show that there are some distinct differences among types of agencies. Again, the “dummy variable” technique is such that these coefficients represent difference from city or county agencies and the results must be interpreted in that manner. Special Districts and Other agencies perform less well on this measure than do city or county agencies while non-profits tend to perform somewhat better. The most important information from this finding is that even when all the other factors are taken into account, the type of institution and manager demographics are significantly related to this aspect of performance.

### Service Effectiveness

The results show that the model explains over half of the observed variation and that a mix of agency and managerial characteristics including one attitudinal measure are significantly related to this aspect of performance.

Agency size emerges as relatively more important than all the other variables and is positively related to service effectiveness. The implication is that larger agencies are better able to maximize passenger loads, perhaps because larger agencies function in more densely populated areas rather than because of their size. Organizational complexity is not significantly related to the measure indicating that structural differentiation does not impact service effectiveness. The results show a clear distinction among the institutional categories with all but non-profits indicating a positive difference between themselves and city or county agencies. Again, the importance of this set of results is that institutional setting does matter even when other characteristics are taken into account.

Increases in the educational level of managers and experience in the agency are found to be relatively important, positive factors in explaining variations in service effectiveness. Finally, perceptions of advancement opportunities in the industry emerge as the only significant attitudinal measure, but its impact is unclear. The positive coefficient indicates that as manager evaluations of industry opportunities worsen, this aspect of performance improves. One possible explanation is that negative assessments are more frequently found among managers in those agencies who perform better on this service measure. This is supported by the positive association between agency size and service efficiency and the previously presented finding that managers in large organizations as a group are more pessimistic about the advancement opportunities offered by the industry.

Table IV - 2  
**Total Passengers/Revenue Vehicle Hours**  
 (Service Effectiveness)

Agency Characteristics	b	Beta
Number of Vehicles	.0041**	.84
Complexity of Organization	.046	.05
<b>Institutional Setting</b>		
Multi-purpose	3.893*	.07
Special District	7.349**	.23
Non-profit	-7.558*	-.18
Other	11.091**	.19
<b>Manager Demographics</b>		
Education	1.821**	.13
Age	.333	.04
Years in Transit	-.026	-.003
Years at Agency	1.61**	.15
Years in Position	-.683	-.05
<b>Manager Satisfaction</b>		
Satisfaction with Position	.909	.06
Satisfaction Career Opportunity	-.469	-.03
Advancement in Agency	-.480	-.03
Advancement in Industry	1.187*	.07
<b>Career Plans</b>		
Different Agency	-1.527	-.03
Out of Transit	-1.279	-.03
Retired	1.984	.04

$R^2 = .56$
$p < .001$
$N = 798$
* $p < .05$
** $p < .001$

Labor Efficiency

The amount of variance in labor efficiency explained by the model is somewhat less than was the case for the previous two performance measures, yet these variables still account for approximately one-third of the observed differences among these agencies. As was the case with Service Effectiveness, agency size and organizational complexity are significantly and negatively related to this aspect of performance. This suggests that the manpower and specialized organizational needs of an organization increase rapidly as service requirements increase. Multi-Purpose agencies are found to be somewhat less labor efficient than other institutional types. None of the managerial demographic and attitudinal

characteristics are significantly related to this performance measure. However, agencies with higher proportions of their management team planning to leave the industry are less labor efficient.

TABLE IV - 3  
**Total Vehicle Hours/Total Employees**  
(Labor Efficiency)

Agency Characteristics	b	Beta
Number of Vehicles	-.0000019**	-.35
Complexity of Organization	-.00063**	-.39
<b>Institutional Setting</b>		
Multi-purpose	-.0054*	-.09
Special District	-.0015	-.05
Non-profit	-.0044	.09
Other	-.0016	-.02
<b>Manager Demographics</b>		
Education	-.00001	.0001
Age	.0001	.01
Years in Transit	.00043	.04
Years at Agency	-.00045	-.04
Years in Position	-.00088	-.06
<b>Manager Satisfaction</b>		
Satisfaction with Position	-.00076	.04
Satisfaction Career Opportunity	.000006	.001
Advancement in Agency	.00041	.03
Advancement in Industry	.00012	.01
<b>Career Plans</b>		
Different Agency	-.0022	-.04
Out of Transit	-.0035*	-.08
Retired	-.00039	.01

R <sup>2</sup> = .34
p<.001
N= 798
*p< .05
**p<.001

Vehicle Efficiency

For this performance measure the model explains little of the observed variation among agencies (11%). A point which distinguishes this model from the others is that neither agency size nor organizational complexity is significantly related to efficient use of existing fleet. There are a few distinctions among different types of agencies. Multi-



purpose agencies appear to be somewhat more efficient and non-profit agencies substantially less efficient in their vehicle usage. Finally, manager age is the only demographic or attitudinal variable found to exert an independent influence on this area of performance.

TABLE IV - 4  
**Total Vehicle Miles/Number of Peak Vehicles**  
 (Vehicle Efficiency)

Agency Characteristics	b	Beta
Number of Vehicles	.000022	.09
Complexity of Organization	-.0049	-.07
<b>Institutional Setting</b>		
Multi-purpose	.2235*	.04
Special District	.1099	.07
Non-profit	-.6393**	-.31
Other	.0271	.01
<b>Manager Demographics</b>		
Education	-.008	-.01
Age	.0345*	.09
Years in Transit	-.017	-.03
Years at Agency	-.036	-.06
Years in Position	-.019	-.03
<b>Manager Satisfaction</b>		
Satisfaction with Position	-.0087	-.01
Satisfaction Career Opportunity	.0304	.05
Advancement in Agency	-.0076	.01
Advancement in Industry	.0042	.004
<b>Career Plans</b>		
Different Agency	.1136	.05
Out of Transit	-.008	-.004
Retired	-.0916	-.03

R <sup>2</sup> = .11
p<.001
N= 798
*p< .05
**p<.001

### Maintenance Efficiency

As previously noted, two measures were used to analyze this component of agency performance. The first is the ratio of total vehicle miles to the number of maintenance employees. The second uses the ratio of vehicle miles to maintenance operating

expenditures. For each of the models we included average fleet age as an independent variable for the purpose of having at least a rough proxy of maintenance needs incorporated into this analysis. Somewhat different patterns are found in the results of the two models.

The agency and manager factors included in the model explain nearly sixty percent of the variation in the ratio of vehicle miles to the number of maintenance employees. In this case, none of the manager characteristics are found to be significantly related to this measure of performance. The effect of fleet age is, as anticipated, negative indicating that as the fleet ages maintenance needs increase and efficiency decreases. Both organizational complexity and size are also negatively related to this measure of maintenance efficiency. The model also show that institutional setting is related to agency performance with Multi-Purpose, Special District, and Non-Profit agencies showing a significant and positive effect. This suggests that agencies in these categories are more efficient than are city or county agencies. However, given the importance of fleet age, we hesitate to read too much into this finding.

TABLE IV - 5  
**Total Vehicle Miles/Per Maintenance Employee**  
(Maintenance Efficiency)

Agency Characteristics	b	Beta
Number of Vehicles	-.00045**	-.69
Complexity of Organization	-.00063**	-.21
Average Fleet Age	-.1368**	-.16
<b>Institutional Setting</b>		
Multi-purpose	.9521**	.13
Special District	.4837**	.11
Non-profit	.8665*	.15
Other	.1494	.02
<b>Manager Demographics</b>		
Education	-.0897	-.05
Age	.0465	.04
Years in Transit	-.0368	-.03
Years at Agency	-.0265	-.02
Years in Position	-.0469	-.02
<b>Manager Satisfaction</b>		
Satisfaction with Position	-.0867	-.04
Satisfaction Career Opportunity	.0073	.004
Advancement in Agency	.0866	.05
Advancement in Industry	-.0626	-.03
<b>Career Plans</b>		
Different Agency	.1526	.03
Out of Transit	-.1454	-.03
Retired	-.2377	-.03

R <sup>2</sup> = .59
p < .001
N = 798
*p < .05
**p < .001

When vehicle miles are considered in relation to the amount of operating expenditures devoted to maintenance, a somewhat different set of findings result. Some of the managerial demographic and attitudinal characteristics are significant factors. However, the model explains somewhat less of the observed variation in this measure.

TABLE IV - 6  
**Total Vehicle Miles/Operating Expenditures**  
 (Alternative Maintenance Efficiency)

Agency Characteristics	b	Beta
Number of Vehicles	-.00015**	-.78
Complexity of Organization	-.0133**	-.23
Average Fleet Age	-.0311**	
<b>Institutional Setting</b>		
Multi-purpose	.2878**	.14
Special District	-.0136	-.01
Non-profit	.833**	.5
Other	-.3419**	-.15
<b>Manager Demographics</b>		
Education	-.0667**	-.03
Age	-.0089	-.12
Years in Transit	-.0208	-.05
Years at Agency	-.0263	-.06
Years in Position	.0147	.04
<b>Manager Satisfaction</b>		
Satisfaction with Position	-.0515*	-.08
Satisfaction Career Opportunity	.0126	.02
Advancement in Agency	.0196	.03
Advancement in Industry	-.0426	-.06
<b>Career Plans</b>		
Different Agency	.1084*	.06
Out of Transit	-.0578	-.04
Retired	-.0470	-.02

R<sup>2</sup>= .43

p<.001

N= 798

\*p< .05

\*\*p<.001

As with the previous measure of maintenance efficiency, agency characteristics are found to be significant and negatively related to this aspect of performance. Institutional setting shows a somewhat different pattern in that both Multi-Purpose and Non-Profit agencies perform better than those within city or county governments. Conversely, those classified as Other agencies are found to be less efficient.

The level of education has a significant and negative impact, a relationship for which we have no good explanation, while job satisfaction affects maintenance performance in the predicted direction. That is, the more satisfied managers in an agency

are, the better is agency performance on this measure. Finally, agencies with more managers expecting to shift employers but stay within the industry score better on this measure.

## SUMMARY

The purpose of this research was to determine whether the demographic and attitudinal characteristics of management personnel were related to agency performance even when the size and structural characteristics of these agencies were taken into account. With the sole exception of the ratio between vehicle miles and number of maintenance employees, each of the performance measures was related to at least one attribute of the responding managers. While the nature and importance of those relationships on performance is beyond the scope of these data, we can say that characteristics of an agency's management team are important factors affecting several areas of performance.

An additional finding is that institutional setting is importantly related to performance even when other factors are considered. Again, the reasons for these effects is beyond the scope of these data, but the results show with some clarity that the organizational context within which transit services are delivered is important and that there appear to be significant differences among different types of agencies.



## CHAPTER V

### MANAGER PROFILES AND AGENCY PERFORMANCE

We began this research seeking to determine the characteristics of the current cadre of transit managers and the possible effects of the changes in industry personnel on agency performance. We assumed that the changes in agency organizational structure and institutional setting experienced by the industry since the early 1970's would also include recruitment of personnel with new, specialized training to fill the increasingly diverse management needs of the industry. We suspected that these changes would be related to performance, but that was only intuition with no research base to support that hypothesis. What we found was a mixture of continuity and change in manager characteristics, patterns related to job function, and some support for our suspicion that manager training, experience and attitudes matter. An ancillary finding was the relative importance of the type of institutional structure created as the shift from private to public ownership occurred.

More specifically, the profiles establish that current managers are substantially better educated overall, but that this has not fully carried over into the areas of operations and maintenance. What has emerged are some clear distinctions between personnel in the tradition line areas of transit delivery and the "new professionals" who have been recruited into personnel, marketing, and finance positions which have been created as agencies have become organizationally more complex.

Further, these differences are more than demographic but carry over into satisfaction with career and advancement opportunities and career plans. In general, it is personnel which are better educated, younger, and performing non-core transit functions who are the least satisfied and positive about the industry and who indicate that they are more likely to take their specialized skills to other career settings. The proportions indicating they plan to leave are sufficiently high that the industry may well experience substantial turnover in its management core. Especially important in this regard is the finding that these individuals do not appear to see clear career tracks within the industry where they can move from one agency to another to advance their positions. Rather, these individuals see prospects outside the industry as more attractive arenas for advancement than following a career track of shifting agencies.

From an industry perspective there are several significant ironies in this profile. Substantial effort was exerted during the 1970's toward upgrading the management cadre of transit. These efforts focused both on improving the abilities of the traditional operations core of the industry and in diversifying the management pool through the introduction of new manager specialties. Concomitantly, the nature of transit organizations

underwent significant change. The result has been an increasingly diverse industry, institutionally and managerially. Rather than being perceived as a growth industry with plenty of opportunity, our findings suggest a significant skepticism amongst the newest transit managers concerning their future in the industry. Similarly, the results of our regression analysis suggest a differential impact of manager characteristics on transit performance. Across the measures used here, manager demographics and attitudes do not appear to be consistently associated with performance outcomes. That is, while the analysis established that these are important factors, these relationships point in differing directions. Thus, efforts to increase manager capability may also add to the forces differentiating organizational capacity without contributing to overall industry performance. In sum, the turbulence experienced by the transit industry may not have lead it toward greater refinement of performance abilities but rather introduced even greater tensions and centrifugal forces. The result may be an even further reduced ability to specify the keys successful transit service delivery.

For our purposes we did not pursue the relationships amongst the performance measures and the extent to which they portray an interrelated picture of agency service delivery. Our results show more powerful explanatory relationships appear to exist between Cost Efficiency and Service Effectiveness measures and our manager and institutional variables than in other service measures. This would suggest that some dimensions of transit service delivery may be differentially susceptible to change through the manipulation of the management pool or institutional form. As a consequence, policymakers and executives should not expect consistent tendencies in agency output as a result of organizational development initiatives.

It is also clear that the changing nature of the industry in terms of its role and function in urban settings may be reflected in our findings. Increasingly, efforts toward the development of new, specialized services have been paralleled by the development of new organizational providers. In some instances this has brought new management opportunities, demands and attitudes into the industry. The elderly and handicapped have brought an increasing involvement of health service providers in transportation. The expectations of service performance have concurrently undergone re-examination. As transit agencies have focused on more than fixed route, scheduled service the keys to improved performance have changed with the service mix.

The results of our analysis of performance measures indicates that the characteristics portrayed in the manager profile are important factors related to several aspects of agency performance. While these findings must be considered preliminary in nature, they do establish that education, age, experience, and attitudes matter and suggest



the need for additional inquiry to explore the inter-relationships among factors that are related to these characteristics and performance. Ironically, however, while some trends are suggested their implications and consequences need further examination not only to exposing them more clearly but also to know how they are changing in relation to the dynamic qualities of the industry..



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APPENDIX A  
MANAGER QUESTIONNAIRE





10. In general, how satisfied are you with your present position? (circle one)

VERY SATISFIED					VERY UNSATISFIED
	1	2	3	4	5

11. Overall, how satisfied are you with the career opportunities in the transit industry?

VERY SATISFIED					VERY UNSATISFIED
	1	2	3	4	5

12. Listed below are several activities generally associated with management positions in any industry. Please indicate the percentage of time you spend annually performing each of these or other activities.

% Program/Project Planning	% Organizational Policymaking
% Program/Project Implementation	% Public Contact
% Budget Preparation	% Other (describe) _____
% Personnel Supervision	100% Total

MANAGEMENT IN THE TRANSIT INDUSTRY

13. Listed below are several factors which may affect the career opportunities for management personnel in the transit industry. With "1" indicating that a factor may have a Strong Positive Impact, "3" indicating that it may have No Impact, and "5" that it may have a Strong Negative Impact, please assess the effect of each of these factors on management careers in the transit industry. (circle one number for each)

	<u>STRONG POSITIVE</u>	<u>NO IMPACT</u>	<u>STRONG NEGATIVE</u>		
Increased professionalism	1	2	3	4	5
Changes in ridership demand	1	2	3	4	5
Addition of new services	1	2	3	4	5
New technologies for service delivery	1	2	3	4	5
New management systems	1	2	3	4	5
Age distribution of present management personnel	1	2	3	4	5
Stability of transit finances	1	2	3	4	5
Federal government policies	1	2	3	4	5
State government policies	1	2	3	4	5
Other _____	1	2	3	4	5

14. Are there any additional factors which you believe will have an important effect on management careers in the transit industry?

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15. How would you rate the advancement opportunities for management personnel within your agency?

EXCELLENT					VERY POOR
	1	2	3	4	5

16. Similarly, how would you rate the advancement opportunities for management personnel within the transit industry?

	1	2	3	4	5
--	---	---	---	---	---



- |  |              |   |   |   |   |   |                   |
|--|--------------|---|---|---|---|---|-------------------|
|  | VERY<br>EASY | 1 | 2 | 3 | 4 | 5 | VERY<br>DIFFICULT |
|--|--------------|---|---|---|---|---|-------------------|
17. It has been argued that management skills are easily transferred from one industry to another. How easy or difficult would it be for you to transfer to a management position outside the transit industry?
18. Similarly, how easy or difficult is it for someone to transfer into the transit industry from a management position in another industry?
19. Which of the following statements best describes the practices of your agency in recruiting to fill a middle or executive level management position?
- Most of these positions are filled by promotion from within the agency.
- Positions are generally opened to outside applicants but preference is given to applicants from within the agency.
- Positions are opened to outside applicants with no preference given to those from within the agency.
- Preference is given to applicants from outside the agency.

EDUCATION AND TRAINING

20. Please indicate with a check mark the highest degree(s) you have earned and your field(s) of specialization, if any.

DEGREE	MAJOR FIELD OF STUDY
<input type="checkbox"/> High School (G.E.D.)	_____
<input type="checkbox"/> Community College (A.A.)	_____
<input type="checkbox"/> B.A./B.S.	_____
<input type="checkbox"/> M.A./M.S.	_____
<input type="checkbox"/> L.L.B./J.D.	_____
<input type="checkbox"/> P.H.D.	_____
<input type="checkbox"/> M.P.A.	_____
<input type="checkbox"/> Other	_____

21. Do you plan to continue or seek additional formal education?  No.  
 Yes. Please indicate the field of study \_\_\_\_\_

22. How important has your formal education been in advancing your career?
- |  |                   |   |   |   |   |   |                         |
|--|-------------------|---|---|---|---|---|-------------------------|
|  | VERY<br>IMPORTANT | 1 | 2 | 3 | 4 | 5 | NOT IMPORTANT<br>AT ALL |
|--|-------------------|---|---|---|---|---|-------------------------|

23. Before beginning your career in this industry, did you plan to have a career in the transit industry?  Yes.  No. If not, please indicate what your career plans were \_\_\_\_\_

Why did you change those plans? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

24. In general, how many specialized training opportunities are offered in-house by your agency during the year?

<input type="checkbox"/> None	<input type="checkbox"/> 3
<input type="checkbox"/> 1	<input type="checkbox"/> 4
<input type="checkbox"/> 2	<input type="checkbox"/> 5 or more

25. On average, how many specialized training opportunities, offered by any source, have you attended during each of the past five years?

Did not attend any (please skip to question 28)	<input type="checkbox"/> 1	<input type="checkbox"/> 3
	<input type="checkbox"/> 2	<input type="checkbox"/> 4
		<input type="checkbox"/> 5 or more

26. Please list the topics or titles of those workshops or seminars that you found to be particularly valuable.

\_\_\_\_\_

\_\_\_\_\_

27. Overall, how useful have these training opportunities been in the performance of your job?

	VERY USEFUL				NOT USEFUL AT ALL
	1	2	3	4	5

28. In what specific ways does your agency actively encourage its management personnel to attend training opportunities? (check any that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> Agency pays most or all costs                           | <input type="checkbox"/> Agency offers training in-house                                    |
| <input type="checkbox"/> Agency provides paid leave                              | <input type="checkbox"/> Agency rewards continued training with merit pay increases         |
| <input type="checkbox"/> Agency requires staff to demonstrate continued training | <input type="checkbox"/> Promotion criteria include need to demonstrate continued training. |
| <input type="checkbox"/> Senior management encourages training                   | <input type="checkbox"/> Other(_____)   |

29. Listed below are several training opportunities which have been or will be offered around the country during 1984. Please indicate your interest in each of these topics (circle one number for each).

	VERY INTERESTED			NOT AT ALL INTERESTED	
	1	2	3	4	5
Small Urban and Rural Transportation Needs	1	2	3	4	5
Diagnosis of Management Performance	1	2	3	4	5
Microcomputer Training for Transit Management	1	2	3	4	5
Financial Forecasting for Operators	1	2	3	4	5
Operations Management for Transit	1	2	3	4	5
Diagnosis of Management Performance	1	2	3	4	5
Transit Management Workshop	1	2	3	4	5
The Teaching Manager	1	2	3	4	5
Labor Relations for Transit	1	2	3	4	5

30. Are there any topics not listed above which you would like to see made available?

\_\_\_\_\_

\_\_\_\_\_

31. Is there any particular training you wish you had taken before you assumed your present position?  Yes  No.

If yes, please identify that training:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

PROFESSIONAL ORGANIZATIONS AND INTERAGENCY COMMUNICATION

32. Please list below any professional organizations to which you currently belong.

\_\_\_\_\_  
\_\_\_\_\_

33. How extensively do you participate in the activities of these organizations? (check one)

- Very active (currently serving or have served as an officer and regularly attend meetings).  
 Active (attend most meetings regularly).  
 Somewhat active (attend some meetings but have not been active in the organization).  
 Only marginally active (rarely attend activities sponsored by professional organizations).  
 Not active at all.

34. To what extent is membership and participation in professional organizations encouraged and supported by your agency? (check one)

- Strongly supported (membership is very important to career advancement in the agency and is financially supported).  
 Somewhat supported (membership is important but not financially supported).  
 Marginally supported (membership is acknowledged but not considered to be important).  
 Not supported at all.

35. How important is your membership in professional organizations to you personally? (circle one)

VERY					NOT
IMPORTANT					IMPORTANT
1	2	3	4	5	

36. Have you ever been a member of a trade union while employed in the transit industry?  Yes.  No.

If yes, do you presently maintain your union membership?  Yes.  No.

37. How frequently do you communicate with personnel in other transit agencies?

Very frequently (once a week or more)  Seldom (4 or 5 times a year)  
 Frequently (at least once a month)  Almost never

38. How useful has it been for you to examine the experiences of other transit agencies in problem areas for which you are responsible?

Very useful  Not very useful  Have not communicated  
 Useful  Not at all useful  with other agencies

39. Have you ever been involved in a personnel exchange program between your agency and another transit agency or department?  Yes.  No.

CAREER EXPECTATIONS

40. Have you been satisfied with the development of your career in the transit industry?  Yes.  No.

What can or will you do to advance your career more rapidly?

\_\_\_\_\_  
\_\_\_\_\_

41. Where do you see yourself in five years? (check one)

- |  |   |
|--|---|
| <input type="checkbox"/> Same agency, same position              | <input type="checkbox"/> Different transit agency, different position |
| <input type="checkbox"/> Same agency, different position         | <input type="checkbox"/> Management position outside transit industry |
| <input type="checkbox"/> Different transit agency, same position |   |
| <input type="checkbox"/> Other (specify) _____                   |   |

\_\_\_\_\_

42. What are the major changes you expect to see in the industry during the next five years?

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DEMOGRAPHICS

43. What is your age?

<input type="checkbox"/> 20-25	<input type="checkbox"/> 36-40	<input type="checkbox"/> 51-55	<input type="checkbox"/> 66-70
<input type="checkbox"/> 26-30	<input type="checkbox"/> 41-45	<input type="checkbox"/> 56-60	
<input type="checkbox"/> 31-35	<input type="checkbox"/> 46-50	<input type="checkbox"/> 61-65	

44. What is your gender?  Female  Male

45. Are you -

<input type="checkbox"/> American Indian	<input type="checkbox"/> Asian	<input type="checkbox"/> White
<input type="checkbox"/> Hispanic	<input type="checkbox"/> Black	<input type="checkbox"/> Other

46. What is your present annual salary?

<input type="checkbox"/> \$15,000-20,000	<input type="checkbox"/> \$41,000-45,000
<input type="checkbox"/> 21,000-25,000	<input type="checkbox"/> 46,000-50,000
<input type="checkbox"/> 26,000-30,000	<input type="checkbox"/> 51,000-55,000
<input type="checkbox"/> 31,000-35,000	<input type="checkbox"/> 56,000-60,000
<input type="checkbox"/> 36,000-40,000	<input type="checkbox"/> More than \$60,000

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.