

Report **5**

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**Assessment of Quality-of-  
Work-Life Programs For The  
Transit Industry**

**Research Report**

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*sh* ✓ **Assessment of  
Quality-of-Work-Life Programs  
For The Transit Industry  
Research Report**

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## NATIONAL COOPERATIVE TRANSIT RESEARCH & DEVELOPMENT PROGRAM

Administrators, engineers, and many others in the transit industry are faced with a multitude of complex problems that range between local, regional, and national in their prevalence. How they might be solved is open to a variety of approaches; however, it is an established fact that a highly effective approach to problems of widespread commonality is one in which operating agencies join cooperatively to support, both in financial and other participatory respects, systematic research that is well designed, practically oriented, and carried out by highly competent researchers. As problems grow rapidly in number and escalate in complexity, the value of an orderly, high-quality cooperative endeavor likewise escalates.

Recognizing this in light of the many needs of the transit industry at large, the Urban Mass Transportation Administration, U.S. Department of Transportation, got under way in 1980 the National Cooperative Transit Research & Development Program (NCTRP). This is an objective national program that provides a mechanism by which UMTA's principal client groups across the nation can join cooperatively in an attempt to solve near-term public transportation problems through applied research, development, test, and evaluation. The client groups thereby have a channel through which they can directly influence a portion of UMTA's annual activities in transit technology development and deployment. Although present funding of the NCTRP is entirely from UMTA's Section 6 funds, the planning leading to inception of the Program envisioned that UMTA's client groups would join ultimately in providing additional support, thereby enabling the Program to address a large number of problems each year.

The NCTRP operates by means of agreements between UMTA as the sponsor and (1) the National Academy of Sciences, a private, nonprofit institution, as the Primary Technical Contractor (PTC) responsible for administrative and technical services, (2) the American Public Transit Association, responsible for operation of a Technical Steering Group (TSG) comprised of representatives of transit operators, local government officials, State DOT officials, and officials from UMTA's Office of Technology Development and Deployment, and (3) the Urban Consortium for Technology Initiatives/Public Technology, Inc., responsible for providing the local government officials for the Technical Steering Group.

Research Programs for the NCTRP are developed annually by the Technical Steering Group, which identifies key problems, ranks them in order of priority, and establishes programs of projects for UMTA approval. Once approved, they are referred to the National Academy of Sciences for acceptance and administration through the Transportation Research Board.

Research projects addressing the problems referred from UMTA are defined by panels of experts established by the Board to provide technical guidance and counsel in the problem areas. The projects are advertised widely for proposals, and qualified agencies are selected on the basis of research plans offering the greatest probabilities of success. The research is carried out by these agencies under contract to the Academy, and administration and surveillance of the contract work are the responsibilities of the Academy and Board.

The needs for transit research are many, and the National Cooperative Transit Research & Development Program is a mechanism for deriving timely solutions for transportation

problems of mutual concern to many responsible groups. In doing so, the Program operates complementary to, rather than as a substitute for or duplicate of, other transit research programs.

### NCTRP REPORT 5

Project 33-2 FY'81

ISSN 0732-4839

ISBN 0-309-03715-8

Library of Congress Catalog Card No. 83-51773

**Price: \$8.80**

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Transportation Research Board  
National Academy of Sciences  
2101 Constitution Avenue, N.W.  
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# FOREWORD

*By Staff  
Transportation  
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General managers of transit agencies, union officials representing various transit employee groups, and others having responsibilities or interests in the development of human resources for transit agencies will find this report informative and instructional. It documents a review of quality of work life, programs and concept; an evaluation of the transit environment; and an assessment for potential applications within transit agencies. A companion document (*NCTRP Report 6*) contains model programs to guide the initiation and maintenance of quality-of-work-life programs for a transit agency.

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The political and fiscal environment of transit agencies is in a period of significant change. Scarcity of funds will mean an emphasis on productivity and efforts to retain and motivate quality employees. New federal policies stressing local initiative will encourage management to be more sensitive to innovative ideas, and a changing work force will make different demands. Although the transit industry is highly labor-intensive, a great deal of emphasis has been placed in the past on capital development, financial controls, and transportation planning. Potentially, one of the most important areas for improving transit agency effectiveness is the development and management of human resources. Quality-of-work-life programs can provide such an opportunity by stressing the importance of the individual as well as the productive gains to the agency.

The feasibility of these programs for application by transit agencies was assessed by Public Administration Service of McLean, Virginia. Although quality-of-work-life programs may focus on particular employees and groups of employees, the initiation and success of a program many times depend on the attitude and environment created by upper management and, if unionized, the interaction between management and the affected unions. Therefore, recommendations on the potential application of quality-of-work-life programs required consideration of both transit agencies as a whole and individual employees.

The results of this study have been published in two reports. This report is the main research document and includes an overview of the summary of findings; a main text that thoroughly documents the study effort and recommendations; and several appendixes that provide a master list of references, a selected annotated bibliography, case studies and summary results of a survey of transit agencies. A single table conveniently documents current activity in various industries. The companion document, *NCTRP Report 6*, "An Assessment of Quality-of-Work-Life Programs for the Transit Industry—Model Programs," provides specific guidance for initiating and maintaining programs within a transit agency.

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Annual research programs for the NCTRP are recommended to UMTA by the NCTRP Technical Steering Group (TSG). Under contract to UMTA, the American Public Transit Association, supported by the Urban Consortium for Technology Initiatives/Public Technology, Inc., is responsible for operation of the TSG, the membership of which is as follows.

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**ACKNOWLEDGMENTS**

The research was performed under NCTRP Project 33-2 by Public Administration Service (PAS). Dr. Susan Clark served as Principal Investigator for the project and spearheaded all major phases of the research beginning with research design and concluding with the preparation of final work products. Kathleen Warren, Research Associate, worked closely with Dr. Clark and participated in major phases of the research work. George Greisinger, Assistant Director of PAS, served as overall Project Manager. Assistance was also provided

by Margaret Beckham, Special Consultant to PAS, William Hughes and Barbara Koll of Personnel Development Systems, and Virginia Fait, Staff Associate, PAS.

The authors also wish to acknowledge the invaluable assistance of Project Advisors, Gerald Haugh, General Manager, San Mateo County Transit District (California) and Joseph Jaquay, Director of Research Amalgamated Transit Union. Both advisors met with the project staff; reviewed all material in developmental and final stages; and provided constructive comments and criticism.

# ASSESSMENT OF QUALITY-OF- WORK-LIFE PROGRAMS FOR THE TRANSIT INDUSTRY RESEARCH REPORT

## SUMMARY

The transit industry has undergone sweeping changes over the past 20 years. These changes include shifting from private to public ownership, increased and often conflicting demands for service with a tight fiscal environment, and changing demographic and attitudinal characteristics in the work force. Transit managers have looked to both short-term and long-term solutions to meet the pressures on the industry.

Some have viewed "quality of work life" (QWL) as a response to the changing environment, and the purpose of this research was to examine systematically the applicability of QWL to the transit industry and, if found to be a useful approach, to develop model programs to guide decision-makers.

This summary is divided into three sections: a brief look at the transit industry, a discussion of the origins and meaning of quality of work life, and a sketch of QWL techniques with recommendations for transit applications.

### *Overview of Transit*

The political and economic environment of transit agencies is in a period of significant change. This change is often characterized by a shift from expansion to maintenance of services. The service expansion that dominated the industry in the 1970s was a response to broad social goals—energy conservation, environmental protection, and equal access to transit for disadvantaged groups in the population. These goals were to be accomplished by attracting ridership with low fares and expansion of service.

However, the new services were expensive, characterized by service to low density areas, high peak load requirements and related labor costs, and capital investments for vehicle modification to ensure access for handicapped patrons. Laudable as these goals were, the cost of providing transit rose at about twice the rate of inflation during the latter part of the 1970s. The portion of costs covered by fare-box revenues declined significantly, and the gap between cost and revenue was met by increasing amounts of government funds, especially from the federal sector.

While financial support continues, and in fact increased during 1983, pressure to moderate costs has grown and constitutes one element of the changed environment that transit managers face today.

Transit managers also face a changed work force. Dramatic growth in the industry provided employment opportunities in both hourly and management positions to the "baby boom" generation. What had been a homogeneous—mostly white male—labor force, was suddenly diverse, containing a larger proportion of women, blacks, and college-educated entry-level employees. Furthermore, this group is believed to have brought with them many of the attitudes of the 1960s: questioning authority and expecting self-fulfillment from their jobs. Transit managers, long accustomed to a "top-down" style of management, are coming to realize that the old ways are no longer effective and that productivity suffers as a result.

Coping with this issue is crucial to transit which has few of the traditional motivators—promotion and pay for increased output—available. Promotion is limited in

transit because of the high proportion of hourly to management employees. Also, proportionally there are few jobs in management. Further, those positions are becoming more specialized, and hiring of "outsiders" appears to be on the increase.

Not only are the traditional motivators generally unavailable, but the work environment and the quality of supervision may produce disincentives. Studies have indicated that bus operators, for example, express ranging levels of satisfaction with different aspects of their work. Surveys indicate that they like the job itself, but they express dissatisfaction about elements of the work environment (i.e., policy, communication, supervision). Supervision of operators poses problems partly because the traditional supervisory functions of assigning and controlling work are commonly separated. Assignments are generally made by the dispatcher, and one work assignment (a run) may be controlled by several different supervisors. In both transportation and maintenance departments, supervisors tend to be promoted from within, but receive little training for their new responsibilities.

Maintenance work is more similar to work performed outside the transit industry, so skills are transferable, and skilled mechanics have potential job mobility. Maintenance employees, like operators, express more satisfaction with their work than with the organization in which they work.

Transit organizations are characterized by high levels of departmental interdependence, but low levels of interdepartment communication. Most communication is intradepartmental and vertical.

Labor relations in transit were established under the National Labor Relations Act, but now come under state law or local ordinance within the parameters set by the Urban Mass Transit Act, Section 13(c). Labor-management relationships, compared to other public sector labor relations, are considered to be mature, although some see a recent deterioration. However, recent reports on the transit industry indicate that joint labor-management efforts may be an effective approach to solving some of the industry's pressing problems.

The characteristics of transit outlined above—a labor-intensive industry with decreasing opportunities for promotion, dissatisfaction with supervision, low levels of interdepartmental communications, and mature labor relations—seem particularly conducive to application of quality of work life as an approach to organizational change.

### *Origin and Meaning of QWL*

In the original use, "quality of work life" stood for a new approach to the relationships at the workplace. Human values were stressed, and gone was the authoritarianism of the workplace. Employees were given an opportunity to make greater use of their skills, and skills were expanded through training and education provided by the employer. Quality of work life was seen as being "good."

In the mid-1970s, however, the U.S. economy, influenced by the worldwide oil embargo, took a sharp downturn. Interest in productivity improvements became dominant, and quality of work life took on a new focus: employee participation in decision-making. Quality of work life was not seen as an intrinsic value, but as a means to an end. Human resource development and participative decision-making were to lead to a more productive organization.

Quality of work life today often involves a combination of both of these themes. A recent report published by the New York Stock Exchange (1983, p. 22) reflects the contemporary usage:

At its core, QWL is the effort to encourage employees to participate in the key decisions that affect and determine day-to-day work patterns. It recognizes that the person who does

the job is the person who knows the job best. . . . The hoped for result is to maximize workers' contributions to the productivity of their companies.

In this research, the definition of "quality of work life" follows the contemporary usage. "Quality of work life" means an approach to organizational change that stresses human values and human resource development, aims to offer employees the opportunity to participate in decision-making, and promotes productivity improvement.

Because of the emphasis on employee participation, and because of the historical influence of unions in developing the QWL concept, in unionized environments, there can be no QWL programs without joint union-management cooperation. Managers cannot approach bargaining unit employees except through the union. To approach the employees directly would undermine the key function of the union, which is to provide representation. For its part, the union cannot use the QWL process to expand the scope of bargaining in a way that usurps the basic management function. Union and management must respect the rights and responsibilities of each other and recognize their mutual interest in a viable organization.

#### *Sketch of Techniques*

There are many techniques and programs associated with quality-of-work-life efforts. In small organizations, QWL may simply be a philosophy or general approach to management. In most organizations, however, some structure is necessary to implement QWL. Several techniques may be combined and, indeed, the available evidence suggests that organizational performance is more likely to be positively affected when a number of coordinated programs are instituted organizationwide.

Brief sketches of several popular QWL techniques follow. For each technique, the extent of use, issues relating to successful implementation, and evidence of results, where available, are discussed.

*Work design* is a term encompassing a number of ways to change the job. Jobs need redesign if they lack the characteristics of autonomy, diversity, identity, feedback, or significance (Hackman and Oldham, 1980). Work redesign may be accomplished for individuals in the form of job rotation, job enlargement (the addition of tasks at the same level of responsibility), or job enrichment (the addition of tasks and responsibility). Work redesign for individuals has been used more widely in the private sector than in the public sector and, within the private sector, by larger companies. Because the actual job content changes, specialized technical assessments are required, and this may be expensive. Managers seeking change may also run into barriers from personnel departments and labor contracts. Evaluation of results is rare and, considering that one of the primary goals of job redesign is to increase job satisfaction, the results are disappointing. Job enrichment, in particular, appears to have a greater chance for success if the increased responsibility is rewarded financially.

Job enrichment and other types of work redesign have been little used in transit agencies. For the largest groups of employees, operators and mechanics, it does not seem necessary to change the job because there is considerable autonomy, variety, significance, and other "good" characteristics associated with these jobs. Attitude surveys document that these employees are basically satisfied with their work although perhaps not with the company policy, pay structure, or quality of supervision.

Job enrichment does, however, seem appropriate for one group of transit employees—street supervisors. Their jobs are fragmented; the duties of assigning and controlling work which, in other industries, are handled by one person, usually are divided between dispatchers and road supervisors. Supervisors do not have a particular group of employees to supervise, and they usually only have a disciplinary function

with little authority to reward. Further, supervisors do not control entire routes, but only segments of geography. Supervisors do not have a measurable "output" and get little feedback on their performance.

Job enrichment for supervisors has been attempted at a number of transit agencies with apparent success. Use of this technique requires careful analysis prior to implementing change, since change in the supervisors' jobs will have ramifications throughout the agency. With careful planning, redesign of the supervisors' jobs can have substantial benefits both to the supervisors and to the employees they supervise.

Work redesign may also be applied to groups of workers. Work teams have not been used extensively in transit, but they may be useful in maintenance departments. Assigning work to teams and having those teams responsible for specific vehicles may increase job satisfaction by adding to mechanics' sense of the significance of their work, the identity of work, and feedback since maintenance records would reflect superior performance of the team's vehicles. Controlled applications of this technique would be useful to test the concept in transit.

*Alternative work schedules* are another group of techniques often used to implement quality of work life. At least six techniques fall in this category: flex time, compressed work week, permanent part-time, job sharing, transition retirement, and voluntary time-income trade-off. In the private sector and among local governments, these techniques have been applied to professional or office staff rather than to operations. There is considerable documentation on how to plan and implement these programs, and, where carefully applied, evaluations, both in terms of increased job satisfaction and productivity improvements, appear positive.

Alternative work schedules, however, seem to have limited applicability in transit. Nonunion clerical employees and information clerks would be the most likely groups to benefit. However, providing benefits for certain groups of employees that are not available to others must be approached with care to avoid complaints of favoritism.

*Incentive programs* link rewards to certain defined behaviors or organizational outcomes. For an incentive program to be successful, certain conditions must apply: the reward must be of value to the employee; the behavior or organizational performance desired must be objectively defined; the award should be made in close proximity to the behavior; the employee must believe that the program is administered fairly; and excellent record-keeping is required. Incentives may be established for individuals, for groups, or for all employees.

Incentives are widely used in the private sector, but are less common in the public sector where monetary incentives may face legal barriers or civil service practices limiting their use. Political objections are not uncommon in the public sector where questions may be raised about rewarding people for "doing what they are supposed to be doing." Nevertheless, incentives, particularly monetary incentives, where carefully administered, have shown positive results in increasing job satisfaction and improving productivity.

Seventy-five percent of the transit agencies responding to the 1982 Public Administration Service survey indicated use of some type of incentive or recognition program. Incentives are the most widely used of any of the QWL techniques surveyed. Most of the awards are nonmonetary and are used to recognize individuals. Few use monetary rewards or design programs for groups of employees, although these also seem appropriate for transit. Involving employees and the union leadership in the planning and administration of incentive programs appears a particularly effective QWL approach for transit agencies.

*Task forces* are groups set up, usually at management's initiative, to solve a particular problem. Task forces, historically composed of management personnel across different departments, are now increasingly made up of all levels of employees within or across

departments. Task forces are generally used to investigate and recommend solutions to defined problems. They rarely have the power to implement their recommendations.

The extent of the use of task forces is not well documented, nor has the impact of their work been evaluated. Nevertheless, task forces appear, from available evidence, to be a useful technique in expanding participation in decision-making and in improving morale. Task forces are low risk ventures in that initial costs are low, and projects are limited in scope and time. Normal lines of authority are maintained. Because of the general lack of experience with other types of participative decision-making in transit, use of task forces is seen as a useful first step toward implementation of the QWL concept in transit agencies. Task forces have been used to good advantage within a number of transit agencies, and some have tried involving hourly employees in task forces to expand participation in the problem-solving process.

*Quality circles* (QCs) are a technique used to improve the productivity of an organization by tapping the intelligence and knowledge of employees. Employees performing similar work volunteer for participation, receive training, and work in groups of six to ten with their foreman or first-line supervisor for one hour each week on problems which they choose from their work area. The circle members research and seek solutions to the problems they identify, then make recommendations to management concerning the most appropriate solutions. Management makes a formal response, and, where appropriate, the Circle implements and evaluates those recommendations that are accepted.

Use of QCs is growing rapidly in the private sector, lending the technique a "faddish" quality according to some observers. Nevertheless, a body of literature is developing about the conditions necessary for success and the benefits of these programs. Quality circles, however, have been used to circumvent unions in some private sector companies and, consequently, many union leaders view QCs with great suspicion. Consequently, early and full involvement of union leadership in the planning process is important in an organized environment.

Quality circles have a short history in transit with most use being in maintenance departments. Scheduling problems for operators appear to prohibit extensive use of this technique with that group. Quality circles may have value in support functions, particularly purchasing, scheduling, marketing, or payroll in large agencies. Managers should recognize, however, that the "up-front" costs are high. Training materials tend to be expensive, and "time off the job" to complete training is one hour per week for approximately 8 weeks. Someone is required to monitor the program and act as facilitator.

*Labor management committees* (LMCs) are another approach to implementing quality of work life. While there are many types of committees, those with broad goals and structures parallel to the existing organization are most commonly associated with QWL. What this means in practice is that there are a number of LMCs at different levels of the organization, usually with equal numbers of union and management members.

Most LMCs in transit have narrowly defined purposes such as administering employee assistance programs or reviewing accident reports. Committees of this type have particular utility in dealing with specific problems and in establishing a climate of trust. A few transit agencies, notably MTA of Flint, Michigan, and San Francisco Municipal Railroad, have established broadly based LMCs to further employee participation. The results appear promising. Since the parties involved define the structure, organization, and ground rules of their committee, LMCs are quite adaptable. Further, LMCs are of particular value in expanding communication across departmental lines. Most communications in transit agencies are vertical, yet departments are highly interdependent. Expansion of horizontal communication, then, should be a benefit.



In summary, although quality-of-work-life programs have not been widely used in transit, the transit environment seems suited to this approach to organizational change. QWL stresses human resource development; aims to offer employees the opportunity to participate in decision-making; and promotes productivity improvement. Success has been demonstrated in other unionized industries, and the variety of techniques available suggest that transit managers can identify techniques suited to their organization's size and structure. QWL is worthy of consideration by those managers and union officials seeking to improve productivity and job satisfaction.

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## CHAPTER ONE

# INTRODUCTION AND RESEARCH APPROACH

## THE PROBLEM

The political, financial, and managerial environment of transit agencies is in a period of significant change. In the early 1970s, following a period when almost 200 privately owned transit companies went out of business, many transit agencies were established as public services. Increases in local, state, and especially federal assistance were dramatic and service expanded rapidly. Then, in the late 1970s, assistance leveled off. Now cost containment is an issue, and the current period is characterized more by efforts to maintain quality service than by expansion.

The service expansion that came about during times of outside financial support was to respond to broad social goals—energy conservation, environmental protection, and equal access to transit for disadvantaged groups in the population (Fielding, 1983). These goals were to be accomplished by expansion of service into suburban areas to win people away from their polluting cars into buses, and by expansion of service to groups such as the elderly who previously purchased transportation services or did without. Fares were kept low to attract new ridership.

But these services were expensive, characterized as they were by service to low density areas, high peak load requirements and related labor costs, and capital investments for vehicle modification to ensure access for handicapped patrons. Laudable as these goals were, the cost of providing transit rose at about twice the rate of inflation during the latter part of the 1970s, and the portion of costs covered by fare-box revenues declined rapidly.

In addition to fiscal problems, transit faces another crisis—management of its changing work force. Dramatic growth during the 1970s provided employment opportunities in both hourly and management positions to the “baby boom” generation. What had been a homogenous—mostly white male—labor force, was suddenly diverse, containing a larger proportion of women, blacks, and college-educated, entry-level employees.

Furthermore, this group is believed to have brought with them many of the attitudes of the 1960s: questioning authority and expecting self-fulfillment from their jobs.

Transit managers are being forced to look for new approaches to management in a changing environment.

## THE OBJECTIVE

This research is designed to investigate systematically innovative approaches to organizational change applicable to transit organizations that will result in improved productivity, quality of work life, and employee morale.

More specifically, the goals of this research are to:

1. Examine “quality of work life” (QWL). An organization committed to quality of work life provides an environment that encourages development of self-esteem, promotes a positive attitude about one's job, and supports productivity improvement.
2. Review the variety of techniques associated with QWL in terms of their general use, conditions for success, and documented outcomes. Such techniques include job enrichment, work teams, labor-management committees, and quality circles.
3. Investigate the characteristics of transit organizations in terms of structural characteristics and characteristics of the work force.
4. Determine the applicability to transit organizations of QWL and associated techniques.
5. Develop practical model programs including diagnostic questions, common barriers to implementation, expected benefits, and methods for evaluating change.

Transit managers and union leaders have heard of programs being used in certain agencies—for example, Flint, Michigan's incentives program; Des Moines, Iowa's style of leadership involving openness, information sharing, and a concern for all

employees; St. Paul, Minnesota's driver recognition program; and Cincinnati, Ohio's quality circles, among others. Yet rarely is the full story known of what makes these programs successful. Flint's incentive program, for example, is just one part of an integrated program involving union leadership, operators, and maintenance personnel in a variety of committees to enhance productivity and employee morale. St. Paul's program grew out of an extensive needs diagnosis. Thus, another goal of this study is to provide access to a systematic review of some of these programs through detailed case histories that allow others interested in QWL to see more fully what is required to enter into successful programs.

## THE APPROACH

Three steps were used to gather information necessary to fulfill the goals of the research. The first step was an extensive literature review. This task involved reviewing existing bibliographies and contacting the following types of organizations: departments of the federal government; special interest groups, such as the American Public Transit Association and the American Public Works Association; public interest groups, including The National League of Cities, U.S. Conference of Mayors, the National Association of Counties, and Public Technology, Inc.; international unions; the AFL-CIO Research Department; professional and research organizations, such as the International City Management Association and the Urban Institute; and The Merriam Center Reference Library for Public Administration.

From these sources a master list of materials relating to QWL and the transit environment was developed. These materials were screened and a more targeted annotated bibliography was developed, the latter dealing with issues of usage, characteristics of the organization, characteristics of the position related to success, barriers to implementation, and evaluation of QWL or of the techniques associated with QWL. Appendix A contains the master list of references and the annotated bibliography.

The second step was a survey of transit agencies to inventory the current status of QWL techniques. A mail survey, telephone follow-up, and review of other survey results were used to identify the general approaches and techniques actually used, the positions covered, the size of agencies, and to determine whether the program was evaluated.

All transportation systems identified in the Urban Mass Transportation Administration's *Directory of Regularly Scheduled, Fixed-Route, Local Public Transportation Service in Urbanized Areas Over 50,000 Population* and in the American Public Transit Association's *Annual Membership Director* were included in the mail survey.

Appendix B contains the Public Administration Service (PAS) questionnaire and summary findings. Because of the researchers' primary concern for a high response rate, the questionnaire was designed for quick answers (response required less than 5 min). The instrument was reviewed by project advisors and pretested.

Managers were asked which of the following programs were being used: suggestion programs, incentive systems, labor-management committees, task forces, work teams, work redesign programs, quality circles, or other programs. They were also asked what positions (clerical, operator, mechanic, supervisor, or other) were covered by these programs, how long they had

been used, whether employees were involved in planning or implementing programs, whether there was any written analysis or evaluation of results of program usage, and the main purpose or goal of the program.

Responses were received from 152 agencies (98 small agencies—100 or fewer buses, 34 medium agencies—101 to 500 buses, and 20 large agencies—more than 500 buses). Over 350 programs, some described under "other programs," were identified by the respondents.

Another source of information was a 1982 American Public Transit Association (APTA) survey of Human Resource Directors. A third source of information was telephone contacts and on-site visits to agencies identified as being particularly innovative in either the PAS or APTA surveys. These contacts served to clarify written survey responses and to gain information on process issues and evaluation data.

One problem, in interpreting the survey results, is an inconsistent use of terms created by the general unfamiliarity with QWL in transit. "Job enrichment" for example, is often used synonymously with "quality of work life." "Quality circles" is used to mean "task forces." This difficulty, uncovered during telephone follow-up to the survey results, suggests caution in accepting the data on use of QWL techniques. Nevertheless, through cross referencing with APTA and other data sources, the researchers are confident that the Public Administration Service survey results (see Table 1) comprise the best available information on the use of QWL programs.

The third step in the data collection process was site visits. Three sites were selected for a more detailed analysis of which QWL techniques work and why they work (i.e., an attempt to evaluate outcomes and to determine process issues leading to success or failure of the techniques). Sites were chosen to represent large, medium, and small agencies.

Five other criteria were established:

1. The programs used are aimed at both productivity and job satisfaction, and the site is explicit about these goals.
2. The site has information about the process and outcomes of the programs.
3. More than one position is involved.
4. More than one program is being used.
5. The programs have been established long enough to have achieved results (minimum one year).

The criteria were applied using the survey results; and the agencies were selected for site visits. The three transit sites (the Mass Transportation Authority (MTA) at Flint, Michigan; VIA at San Antonio, Texas; and Metropolitan Transportation Commission (MTC) at St. Paul, Minnesota) represent small (less than 100 buses), medium (100 to 500 buses), and large (more than 500 buses) agencies. All sites are unionized: employees at MTA are represented by Teamsters State, County, and Municipal Workers (Local 214); employees at VIA, by Amalgamated Transit Union (ATU), Local 694; and employees at MTC, by ATU, Local 1005. All agencies are governed by publicly appointed boards of directors. MTC is managed under contract with the ATE Management and Service Company, Inc. Descriptions of the sites and their programs are given in Appendix C.

Managers and union leaders at each site were contacted prior to site visits to explain the purpose of the visit and the kinds of information that would be requested. Two types of data were considered important: data on outcomes and on process.

Table 1. Survey results of percent of agencies with programs, by size.<sup>a</sup>

	Incentives	Suggestion Box	LMC	Task Force	Job Redesign	Work Teams	Quality Circles	Number of Properties Responding
SMALL	69 (N=68)	41 (N=40)	45 (N=33)	25 (N=25)	11 (N=11)	10 (N=10)	6 (N=6)	98
MEDIUM	88 (N=30)	56 (N=19)	53 (N=18)	44 (N=15)	17.6 (N=6)	17.6 (N=6)	11.7 (N=4)	34
LARGE	85 (N=17)	55 (N=11)	45 (N=9)	60 (N=12)	20 (N=4)	15 (N=3)	15 (N=3)	20
TOTAL PROGRAMS	75 (N=115)	46 (N=70)	39 (N=60)	34 (N=52)	14 (N=21)	12 (N=19)	8 (N=13)	152

<sup>a</sup>/ Totals over 100 percent, properties have multiple programs.

To learn "what works" in regard to currently popular QWL techniques, preprogram and postprogram data on productivity and job satisfaction, as collected and evaluated by the sites, were sought. This information was needed to answer the question on whether QWL programs positively influence productivity and job satisfaction.

To discover "how to" determine need, implement, and monitor a program, planners and participants were interviewed and programs were observed in operation. These pieces of information were essential to answer questions on the feasibility of application to different size transit operations and to different job classifications.

Process issues tend to be based on case studies, but patterns are clearly distinguishable and form a solid basis for recommendations to practitioners.

Two serious deficiencies were noted. First, no studies were identified that focused on application of techniques to certain organizational structures. Do specific organizational functions (production, service, etc.) paired with a particular technique suggest a greater likelihood of success? The literature does not answer these questions. Some writings emphasize the need to assess the "readiness" of an organization for change (Godsey,

1982; Gryna, 1981), but do not specify how to do this or what the signs of "readiness" are. No studies, except those relating to alternative work schedules, were specific to positions. Where specific jobs were described (e.g., Herzberg's study of job redesign applied to mechanics), the job is used only as an example to illustrate the technique. While some information was found to show how to assess suitability of a technique to a job (e.g., Hackman and Oldham's "Job Diagnostic Survey," 1980, pp. 275-295), the project research team found no research on the advantages and disadvantages of application of any technique to positions or job classifications.

In summary, the project team reviewed the information derived from the literature review, survey, and site visits. Throughout this phase of the research, variables, such as size of the organization, job requirements, cost, objectives of the QWL techniques, were considered for their contribution to success. The degree to which success under certain conditions could be transferred to other conditions was evaluated in light of the characteristics of the transit organizations.

The research results, a synthesis of the literature review, and the survey and site visits are discussed in the following chapters. The model programs are presented in a companion document, *NCHRP Report 6*.

## CHAPTER TWO

# FINDINGS

## OVERVIEW OF QUALITY OF WORK LIFE TODAY

"Quality of work life" is a phrase that is now widely heard and discussed, but it is not likely that five people talking about the subject would agree on what it means. What is quality of

work life? What techniques have been used to implement quality of work life, and what have been the results of these efforts? Although conclusive answers cannot be given for these questions, this report provides some direction, and the reader may want to explore further the annotated bibliography in Appendix A.

A spate of articles in news magazines in the summer of 1981 popularized the term, "quality of work life." These included a series in *Fortune* by Burck and a "Special Report" in *Business Week*, titled "The New Industrial Relations." The phrase, however, has a much longer history, having been coined at a conference at Columbia University's Arden House in 1972.

The Arden House conference and publications in the early 1970s, including *Work in America*, a report to the Secretary of Health, Education, and Welfare, and *Where Have All the Robots Gone?* developed the QWL concept, which was essentially that principles of human development should have an important role in work organizations. Keidel (1980, p. 8) says those who stress this theme see QWL as an intrinsic value. QWL is a goal in itself. "To the extent they address productivity at all, intrinsic approaches either (1) assume that productivity will not decline as a result of QWL activities or (2) expect that it may increase indirectly . . . a kind of salutary side effect."

This view is clearly seen in *Work in America* (1973, p. 15):

The most oppressive features of work are felt to be avoidable: constant supervision and coercion, lack of variety, monotony, meaningless tasks, and isolation. An increasing number of workers want more autonomy in tackling their tasks, greater opportunity for increasing their skills, rewards that are directly connected to the intrinsic aspects of work, and greater participation in the design of work and the formulation of their tasks.

That this theme developed in the early 1970s as the "baby boom" was hitting the job market is not surprising. The nature of the work force was changing dramatically; it was younger, better educated, little concerned over economic security, and expressing growing dissatisfaction about all institutions and authority in society. The "organization man" of the 1950s was replaced by student protestors and young factory workers on wildcat strikes. As it was first developed, quality of work life was seen as a way to adjust to these changes, an expression of a belief that principles of human development must be considered in the workplace.

In the mid-1970s, however, the U.S. economy took a sharp downturn. The oil embargo hit the automobile and related industries with particular severity. Interest in productivity improvements became dominant. Having a job, rather than improving the quality of the job, became a goal for many persons. During this time period, interest in quality of work life was not abandoned, but was modified. A number of authors viewed QWL as instrumental, a means used to improve productivity. In this context, QWL as a process focused on participative decision-making as a means to improve productivity.

The values underlying the instrumental approach to QWL were not inconsistent with the values of the first theme; in fact, there was a strong emphasis on human resource development. The participative processes were seen as being more effective where employees were trained in problem solving, as an example. There was a difference, however, in the degree to which human development was recognized as "good," whether or not it produced changes in the efficiency or effectiveness of the organization. Rubinstein's 1977 article, "Participative Problem Solving: How to Increase Organizational Effectiveness," is illustrative:

The major benefit of participative problem solving is the solution of problems and establishment within the organization of a systematic means of dealing with the changing demands that produce problems. The ability of an organization to respond to the need for change is crucial to its success and sometimes to its

survival. . . . Personal satisfaction and motivation are favorable by-products, but they should be regarded as the gravy rather than the substance of the paycheck. (Cited by Keidel, 1980, p. 10)

Thus, by the end of the 1970s, the phrase "quality of work life" was being used in two ways: (1) to describe a set of beliefs or values concerning the importance of human development in the workplace, and (2) to convey commitment to a set of means, involving some form of employee participation, to reach goals of increased organizational effectiveness or improved productivity.

Quality of work life today often involves a combination of both themes. The combined emphasis in the New York Stock Exchange (NYSE) report, *People and Productivity: A Challenge to Corporate America* (1982, p. 22), is noted as follows:

At its core, QEL is the effort to encourage employees to participate in the key decisions that affect and determine day-to-day work patterns. It recognizes that the person who does the job is the person who knows the job best. And it seeks to draw upon the expertise and creativity of a better educated workforce to help redesign and reorganize work in ways that meet employees' as well as employers' needs. The hoped for result is to maximize workers' contributions to the productivity of their companies.

It is this combination of valuing human development and structured participative processes to improve productivity that distinguishes QWL from other kinds of organizational intervention that were also developed during the 1970s: management by objectives (MBO), organizational development (OD), and human resource development (HRD). All of these approaches share an emphasis on human values with QWL. Management by objectives and organizational development also emphasize expanded participation, but are distinguished from QWL by generally limiting participation to management levels. The topics open to participative decision-making are somewhat more limited in MBO and OD than in QWL, which emphasizes goal setting, conflict resolution, and problem solving. Human resource development, encompassing training, education, and development, is most similar to QWL in its instrumental orientation, but is generally not participatory. Management decides what to develop in line with the goals of the organization. Nadler's (1970, p. 89) early exposition of HRD illustrates the point: "Employee development activities are designed to produce a viable and flexible work force for the organization as it moves toward the future."

In practice, all of these approaches have significant areas of overlap, and the distinctions are a matter of degree. The NYSE study (1982, p. 22), for example, refers to "an array of human resource programs" which encompass "the newer participative decision making . . . Quality-of-Work-Life programs, as well as more traditional approaches to human resource management." A staff paper circulated at the San Francisco Bay Area Rapid Transit District refers to QWL as "a process of organizational development." Further, these approaches to organizational change are often used in combination; in fact, the QWL philosophy implies team building which is often associated with OD, feedback which is integral to MBO, and skills development which is basic to HRD.

Throughout this report, the definition of "quality of work life" will follow the contemporary usage, combining the value orientation and instrumental approach to organizational improvements. "Quality of work life" will mean an approach to organizational change that stresses human values and human

resource development, aims to offer employees the opportunity to participate in decision-making, and promotes productivity improvement.

### **QWL as a Labor-Management Effort**

In the early 1970s, an historic agreement was reached between the United Auto Workers and General Motors. The contractual agreement to seek improved labor-management relations at the plant level, to improve the relationship between workers and their supervisors, and to increase shop floor participation in decision-making was important because it contributed significantly to the development of a structure (labor-management committees) for the implementation of quality-of-work-life improvements. Further, it established union-management cooperation as a cornerstone to quality-of-work-life efforts.

This agreement would not have been possible without the growing maturity of collective bargaining relationships. Robert Ahern, Executive Director of the Buffalo-Erie County Labor Management Council, identified the following signs of maturity that were evident by the late 1960's: longer term agreements, establishment of mandatory subjects for bargaining, acceptance of the doctrine of management's reserved rights, and a willingness to study complex issues jointly, e.g., pension plan provisions (speech to the Industrial Participation Association, London, England, April 12, 1983).

Even with the growing maturity of labor relations, implementing QWL was not easy for managers or labor leaders. Dr. Robert Cole, an authority on quality circles, has written frequently on the problems faced when companies adopt new values and participative systems. He states that management is often unprepared for the consequences—the need to share information, share power, and decentralize decision-making (Cole, 1983). Brower (1982) notes that unions, too, face difficulties in accepting QWL projects. Union leaders may be unprepared to give up the adversarial role, arguing that participation already is accomplished in collective bargaining. In that process, employees, through their elected union representatives, participate in determining wages, hours, and working conditions.

The history of QWL makes it clear, however, that in unionized organizations there can be no QWL programs (as defined above) without joint union-management cooperation. Managers cannot approach bargaining unit employees except through the union. To approach the employees directly would undermine the key function of the union, which is to provide representation. For its part, the union cannot use the QWL process to expand the scope of bargaining in a way that usurps the basic management function. Union and management must respect the rights and responsibilities of each other and recognize their mutual interest in a viable organization.

Indeed, there are three sets of interests—the employer, the union as an organization, and the employees—and all must gain benefits if the effort is to be successful and on-going, according to Kochan and Dyer (1976). Benefits may be different for each set of interests: for example, management benefits from improved productivity; employees benefit from improved job security and satisfaction; and the union as an organization benefits if employees (union members) see their gains stemming from joint union-management efforts. If the program fails to benefit all three interests, even if major benefit results for one, according to the Kochan and Dyer model, one would expect indifference,

lack of support, or even undermining of the program by the party that does not see benefits related to its own interests.

This view has support in a study of nine manufacturing plants in the northeast. A time series analysis of productivity and employment levels was conducted to determine whether a variety of participatory programs had any effect. All plants were studied 2 years prior to any program and for 2 years after program initiation. Six of the plants used Scanlon or Rucker plans that encourage structured involvement from the unions and input from employees, and distribute productivity gains to employees in the form of cash bonuses. In the other three plants, labor-management committees were established, but there was no provision for direct benefits to employees as a result of increased productivity. All six of the first group showed increased productivity and stable employment with the programs still in existence at the end of the 2-year period. None of the latter three plants experienced similar gains, and none continued meeting in the labor-management committee by the end of the time period (Schuster, 1982), thus underscoring the Kochan and Dyer thesis that benefits must accrue to all three major parties.

Managers and union leaders are aware that subgroups exist within each of these three main groupings. "Management," for example, is every employee of the organization from top executive officers to first-line supervisors. All subgroups must sense benefits from the QWL approach if their support for QWL is expected.

### **Impact of Quality of Work Life on Supervisors**

If quality of work life aims to change relationships at the workplace, increasing the autonomy, self-direction, responsibility, and challenge of rank and file jobs, and if participation in decision-making is encouraged, there will necessarily be a change in the relationship between the supervisor and the worker.

The supervisor's job changes in both formal and informal ways (Kline, unpublished dissertation proposal, MIT, 1982). Where autonomy of workers and/or work groups is increased, supervisor's formal responsibilities—assigning work, setting schedules, etc.—are decreased. Supervisors' job security may even be threatened; no supervisors are needed with autonomous work groups, for example. As communications open within the organization, perhaps through labor-management meetings or quality circles, supervisors lose their monopoly on information coming from the top down. As supervisors and other employees become more equal in their knowledge of policy and operations, supervisors may lose prestige. Finally, as employees have more self-directed work, rules and operating procedures become less controlling, and supervisors may lose the informal power they had to dispense with the rules.

Studies by Kanter (1977) suggest that negative consequences can result if these changes in supervisors' jobs are not taken into account when planning for changes in rank and file jobs. If responsibilities assigned to the supervisor are reassigned to the workers, the resulting free time may be used in controlling behavior by the supervisors (Kanter, 1982), and employees may feel overregulated and develop perceptions of unfair treatment.

What is the proper role of the supervisor in QWL programs? Clearly, some change in the role is required. It is interesting to note that within this body of literature, organizational problems relating to the rank and file employee often produce recom-

recommendations for changing the job—work redesign. Concerning problems relating to the supervisor, recommendations often call for changing the person through better selection procedures and/or training, and for changing the consequences of work through changes in the reward system (Strauss, 1975; Walton and Schlesinger, 1979).

There are, however, few explicit directives in the literature. As Strauss (1975, p. 72) notes, "One thing emerges from all the research: there is no one best way to supervise." Walton and Schlesinger report on the factors that contribute to difficulties for supervisors as work redesign is implemented. These include: (1) failure to distinguish between appropriate behaviors and responsibilities during start-up (more controlling) and program maintenance (less controlling); (2) unrealistic assumptions by top management concerning work-group development trends and, consequently, overly high expectations concerning supervisors' performance; (3) underestimation of importance of selection and training of supervisors; (4) failure to tie supervisors' rewards to work-team development and, a related issue, failure to develop a realistic timetable for work-team development; (5) failure to utilize excess time of supervisors; and (6) absence of supervisory support systems. The latter is particularly important to the authors who emphasize that supervisors may well pick up on the prevailing ideology of the preeminence of the rank and file and develop a sense of their own lack of importance to the organization.

The implications of the research clearly point to the importance of specific attention of the role of the supervisor in any plan for organizational change. Further, the supervisor's position cannot be treated as a separate entity, but must be integrated with changes in the work of those he or she supervises and with issues of delegation of authority from top management.

### Results of QWL Programs

Has the QWL approach been successful in achieving the goals of improving productivity and job satisfaction? The results are mixed. Greiner *et al.* (1981) identified 244 state and local governments that had used 309 job enrichment programs, including team efforts, increased participation, job rotation, or job redesign. Few of these programs have received careful evaluation. The authors say that the information available is "impressionistic." "On the key question of whether state and local government job enrichment efforts improve productivity or employee satisfaction, there is little documentary evidence" (Greiner *et al.*, 1981, p. 342). Where evidence for improved productivity does occur, it is usually associated with redesign of day-to-day jobs or increased participation by workers in decisions affecting them.

Brett and Hammer, in a review of 10 years of literature on employee participation programs and their impact on organizational effectiveness, found, as did Greiner *et al.*, that few programs had been carefully evaluated. The dominant form of evaluation, they say, is the case study. Although positive changes in organizational effectiveness are routinely reported, there is no way to determine from the evaluation if increased effectiveness was the result of the program or of some other change in the organization (e.g., capital investment in new technology).

Brett and Hammer are more confident about the results of participative programs on employee satisfaction. Empirical tests

with before-and-after measures are available, and the research demonstrates that "direct participation, properly implemented, with adjustments made for individual differences in values and expectations, appears to contribute positively to job satisfaction, involvement and commitment" (Brett and Hammer, 1982, p. 235).

Considerable effort has been made to research the link between improved productivity and job satisfaction, but the relationship remains uncertain. Some found a causal link; that is, increased satisfaction leads to improved productivity, but others found that high performance produced satisfaction (Dyer and Schwab, 1982). There is also an implication of the latter in the AFL-CIO Appalachian Regional Council's findings (Bocock, 1981).

Although an overview of quality of work life from a scientific perspective may appear pessimistic because of the inability to document outcomes, one must also consider the difficulties in conducting research of this sort, organizational theory which predicts beneficial results, and positive reports from practitioners. These considerations suggest that the chance of success for QWL is greater than found in scientific evaluations.

A great deal has been written about difficulties implementing and evaluating quality of work life, and some of these issues will be dealt with below, but after more than a decade of experience, the weight of accumulated evidence is judged positively and it is possible to write, as Tausky (1982, p. 15), "the techniques are available for building more humane and productive systems."

### TECHNIQUES FOR IMPLEMENTING QUALITY OF WORK LIFE

There are a wide variety of techniques and programs associated with quality-of-work-life efforts. In small organizations, QWL may simply be a philosophy or a general approach to management without emphasizing a structured program. Melohn's (1983) recent *Harvard Business Review* article is a case description of this kind of approach to QWL. Melohn and his partner bought out a weak company and began managing on the premise that the company's well-being depended completely on employees caring about the quality of their work. Their management style involved open communications, recognition of employees' work through monetary and nonmonetary rewards, and assistance for employees with both personal problems and professional development.

In large organizations, a number of programs may be combined to implement quality of work life. The Westinghouse Corporation combines a participative management philosophy with structured programs including more than 600 quality circles and management work teams (Main, 1981). The more inclusive the program structure, the more likely that organizational improvements will result.

Hackman and Oldham (1980, pp. 22–23) suggest there are five target areas within organizations for application of QWL techniques:

1. Changing the people who do the work. Techniques such as improved selection, placement, and training fit in this category.
2. Changing "other" people (i.e., managers) in the work environment. Supervisor training is designed for this purpose, as

is training in human relations and public relations efforts in the community.

3. Changing the context in which work is performed. Here are found techniques such as flex time, better availability of tools, adequate heat or cooling in the workplace.

4. Changing the consequences of work. Monetary incentives and productivity gain sharing are techniques of this sort.

5. Changing the nature of the job. A variety of techniques including job enrichment, job enlargement, and autonomous work groups fall into this category. Changes in the way work gets done, for example, changes in work processes or sociotechnical systems also belong in this category.

Hackman and Oldham advocate techniques associated with changing the job as the preferred approach.

A number of techniques associated with quality of work life are presented on Figure 1. The chart shows the target areas in relation to techniques, grouped into two general categories. The categories follow two themes associated with quality of work life: (1) programs that value human development with the primary goals of increased morale, satisfaction, and improved communication; and (2) programs that foster employee participation in decision-making with goals of increased productivity. These are not, however, mutually exclusive categories; rather they should be considered as categories with large areas of overlap, distinguished by the degree of orientation toward productivity or human development as end goals.

#### Techniques for Human Development

Keidel reviewed the literature to determine which organizational change activities were generally referred to as QWL programs. He found these to be grouped in five clusters—work

redesign, pay restructuring, time rescheduling, performance development, and administrative review. These are examples of the techniques in the first category (referred to above) stressing “opportunities for individuals to satisfy their needs, interest, aspirations, etc., in relation to their work” (Keidel, 1980, p. 5).

He then reviewed the values discussed in the QWL literature, which he found to be security, equity, community, opportunity, and purpose. Each is briefly described as follows:

1. Security requires income and employment stability, absence of concern over job security, and safe and healthful working conditions.

2. Equity requires fairness in the work environment. Rewards reflect contributions and responsibilities. Employees’ sense of fairness is enhanced by clear and timely information on their job performance. Mechanisms for resolving disputes are recognized.

3. Community requires an egalitarian atmosphere. Status prerogatives (e.g., separate eating areas for top managers) are kept to a minimum. Tasks performed are not fragmented, but seen as part of a whole; and an understandable relationship exists between tasks performed and the organization’s purpose. The technology of the workplace is planned to take account of the social system.

4. Opportunity requires freedom for persons to develop, participate, and advance as they choose to do so. Job design should consider this principle and provide for autonomy and use of a variety of skills. Opportunity also implies that career options are available.

5. Purpose requires a recognition that the organization exists within society. Employees should perceive their organization as ethical and socially useful, and employers should recognize the nonwork demands upon employees.

Organizational Target	Human Development Oriented	Productivity Oriented
Changing people who do the work	Employee assistance programs	Improved selection Skills training
Changing others	Supervisory training Participative management	Technical training for supervisors
Changing context in which work is performed	Alternative work schedules Organizational development Task forces Labor-management committees	Quality circles Physical redesign of work area
Changing consequences of work	Suggestion awards Recognition	Piecework Merit pay Group incentives for increased efficiency Gain sharing Employee ownership
Changing nature of the job	Job rotation Job enlargement Job enrichment Work teams Autonomous work groups	

Figure 1. Quality-of-work-life techniques.

Human Development Principles Organizational Performance Techniques		Security		Equity		Community					Opportunity			Purpose			
		Safe & Healthful Working Conditions	Income & Employment Stability	Rewards Reflect Contributions	Due Process	Egalitarian Atmosphere	Whole Job	Logical Job Context	Social Support	Coherent Workplace	Human Scale of Operations	Variety	Autonomy	Risk-Taking Climate	Career Options	Identification with Organizational Mission	Quality of Life Perspective
Work Redesign	Job Enlargement																
	Job Enrichment																
	Job Rotation																
	Modular Work Group																
Autonomous Work Team																	
Pay Restruc.	Salaried Workforce																
	Pay for Knowledge																
	Unit Productivity Sharing																
Time Rescheduling	Flexible Working Hours																
	Staggered Work Hours																
	Earned Time Off																
	Compressed Workweek																
	Part-time Employment																
Job Sharing																	
Performance Development	Positive Reinforcement																
	Problem Solving																
	Middle-range Planning																
	Physical Redesign																
Admin. Review	Information Sharing																
	Procedural Change																
	Training																

Figure 2. Technique/value correspondence. (From Keidel, 1980, p. 8)

Finally, he looked for associations between the change activities and the identified values. Figure 2 demonstrates the congruence between the techniques and the values.

The theoretical underpinnings for this approach to QWL is considered to be the writings of Frederick Herzberg, Abraham Maslow, and Douglas MacGregor. Godsey's (1982) handbook, *Employee Involvement: A Local Government Approach to Quality Circles*, discusses the link between these theories and organizational change.

Few would argue that these theories have been empirically established. There is, in fact, some evidence that tends to refute the theories. For example, a recent study found that commitment of lower level employees to the organization is not influential in overall organizational effectiveness (Angle and Perry, 1981). Further, it is well established that job satisfaction is only weakly, though positively, related to productivity improvement (Katzell, Yankelovich, and Fein, 1975).

It should be kept in mind, however, that the main thrust of the techniques being discussed is a set of beliefs concerning human development in the workplace. Many practitioners argue that evaluations of the outcome should not focus on the productivity of the organization, but on the changes in relationships at the workplace, improved working conditions and employee attitudes. The results of the evaluation process are to be used to improve the program, not to decide whether to continue it. This view is reflected in the "Memorandum of Mutual Trust" between the City of Columbus, Ohio, and Local #1632 of the American Federation of State, County and Municipal Employees, and the Ohio State University third party facilitator.

The Union and the Administration both recognize the need to periodically examine the Quality of Working Life process and its impact on the level of services offered to the citizens of Columbus and on the quality of the working environments of city employees. From these examinations, a process of periodic adjustment and "fine tuning" of the program will emerge. Both groups recognize that the narrow use of cost-effectiveness criteria will not reveal the true scope of a program which deals so heavily with attitudes, participation, and problem solving.

### Work Redesign

Work redesign is a generic term encompassing a variety of changes in the job content of work to be performed by individuals or groups. The redesign of work has a strong orientation toward human development, but also expects productivity improvements to result. It is a technical process, involving careful diagnosis of the content of jobs. The diagnosis follows several critical dimensions, and the absence of any dimension in existing jobs suggests that job redesign may be appropriate.

Greiner *et al.* (1981, p. 19) cite Hackman and Lawler (1971) in identifying the dimensions as follows:

1. Autonomy, meaning the worker's degree of freedom in deciding upon and carrying out tasks;
2. Diversity, or the performance of separate tasks that involve a number of skills;
3. Wholeness, meaning carrying out a task from beginning to end rather than merely performing fragmented parts of tasks; and
4. Feedback, meaning providing employees with clear and timely information about their job performance.



Oldham (1982) adds "task significance," the degree to which the job has a substantial influence on the lives of other people. If a high degree of impact is perceived by the employee, the job will be considered meaningful.

Trist (1981) notes that there is an "exceptional" degree of agreement on these core dimensions among a number of authors (e.g., Herzberg and Zautra, 1976; Whitsett, 1975; Hackman and Oldham, 1980). Although scholars may be unified in the theoretical approach to job enrichment, it is not clear that all change efforts using the term "job redesign" have been patterned along these dimensions.

### *Work Redesign for Individuals*

Three techniques are used for the redesign of individual jobs: job enlargement, the addition of tasks at the same level of responsibility; job enrichment, the addition of tasks, responsibility, and usually autonomy; and job rotation, the addition of tasks by moving from the performance of one job to another, usually at set intervals of time. Hackman and Oldham (1980) suggest that rigorous attempts to implement any of these three approaches to work redesign are rare, and the survey of the literature in Project 33-2 revealed no evaluation of the quality of the implementation nor conformity to the accepted dimensions described above.

*Usage.* Reported use of job enrichment in the private sector, according to the NYSE report, is 46 percent of corporations with 500 or more employees. Large companies (5,000 employees) are far more likely than smaller companies to use job enrichment (NYSE, 1982, p. 26). Job enlargement was reported by 22 percent of corporations with 500 or more employees, and job rotation by 18 percent of these corporations. Differences between medium and large corporations were less pronounced with these techniques.

Greiner *et al.* (1981, p. 241) surveying public sector use, found, as of March 1978, that 124 state and local government jurisdictions (of more than 3,000 such jurisdictions in the United States) reported use of job rotation, job enlargement, or job enrichment. Most of the programs were found within police departments and between police and fire departments. Among the remaining programs, many were limited to top management staff. The authors view their figures with caution, noting that they were using secondary sources and that telephone follow-up failed to confirm certain instances of the reported activity.

Greater usage in the private sector than in the public sector, and greater usage among larger rather than smaller companies, is probably related to the technical requirements, and thus the cost of implementing any of these techniques. The NYSE report (1982, p. 26) also suggests the following reasons for greater usage among large companies:

- Smaller companies are more likely to have (or think they have) better informal lines of communication.
- Larger companies with better developed programs are in a better position to experiment with more novel activities.
- Larger companies are more likely to have concerns about poor employee attitudes and morale.

*Process.* Hackman and Oldham's (1980) recent book, *Work Redesign*, is the best single source on issues of implementation. Rigorous application would include taking the core dimensions into account, diagnosing the situation (Are employees receptive?

Is boring work the problem?), implementing, then following-up with an evaluation. For additional information or implementation, see Fein, 1975; Whitsett, 1975; Norton *et al.*, 1979; and Oldham, 1982.

Greiner *et al.* also stress that work redesign is extremely technical, and application in the public sector faces serious obstacles in the form of civil service regulations, opposition from personnel departments, and labor contract restrictions. These barriers are more pronounced when job redesign efforts involve combining functions from different departments (e.g., police and fire).

*Evaluation.* Current evaluation research focuses primarily on the results of job enrichment, and the results lead one to question whether the effort and costs of this technique are worth undertaking. One of the most favorable reports of job enrichment stems from Katzell, Yankelovich, and Fein's (1975) exhaustive literature review, primarily of academic journals with research focused on private industry applications. They determined that, of the studies that met their methodological standards, job enrichment was very strongly associated with job satisfaction and somewhat associated with improved performance. Further, job enrichment was not among the 10 activities with the highest percentages of "very successful" rating for productivity improvements in the recent NYSE survey of private industry programs (1982, p. 28).

Locke, Sirota, and Wolfson (1976) examined the application of job enrichment to clerical workers. There was an attempt to incorporate the core dimensions to make the work more diverse, devise whole tasks, provide feedback, task significance, and autonomy. Level of responsibility was increased, but there was no change in pay or job security. Security was already high, and many employees, in preexperimental interviews, indicated they had taken their present job for reasons of security.

The experiment was not considered a success—neither job satisfaction nor production increased significantly. The authors note that clerical workers were not indifferent to their work; indeed, they preferred interesting work, but in their hierarchy of values, financial rewards came first.

Orpen's later study of enriching clerical workers' jobs followed the Locke and Sirota design, but produced different results: increases in job satisfaction and reductions in absenteeism, although no changes in performance. Orpen (1979) suggests that psychological states of the employees may influence the outcomes.

Tausky (1982, p. 15) offers an interpretation of the relationship between productivity, incentives, and quality of work life that helps to explain these differing results. He argues that "productivity and quality of work life follow on the heels of an appropriate incentive structure." An appropriate incentive structure involves the nature of the work (work itself is an incentive when it is stimulating rather than mind-numbing), pay, and security. Satisfaction results from a match between what the worker desires and what he receives; increased productivity results from incentives. Higher base pay for new skills, for example, furnishes a direct incentive for skill development, and bonuses are an incentive for increases in output.

Herzberg describes an ambitious attempt to enrich the jobs of air force mechanics. "The focus of the effort was to think of mechanics as clients of the system," he says, emphasizing the dimension of "feedback." Short, meaningless tasks were combined to form more complete work modules with checks by

supervisors eliminated on certain operations. Mechanics were given responsibility for a kit of parts rather than one part at a time. Further, mechanics were given the authority to communicate directly with engineers when engineered modifications of parts were found not to be fitting properly.

The changes in the mechanics' job had an impact, as expected, on the work of engineers, schedulers, and material controllers. Schedulers, for example, now post only jobs for which complete parts kits are available. The material controller is accountable to the mechanic for prepositioning material that mechanics list as necessary for the job.

The results, according to Herzberg, are time saving, reduction in "cannibalizing" parts from other aircraft, and increased job satisfaction. A mechanic is quoted: "Just give me the tools, the parts, and the workload, and I have a good job" (Herzberg, 1979, p. 64).

Concerning the public sector, Greiner (1981, p. 339) reports that "little information is available on the total cost of job redesign efforts or on their net savings." Job enlargement programs, particularly those that sought to combine police and fire functions, produced employee dissatisfaction, although job enrichment was generally found to be associated with increased satisfaction. Clerical employees in three jurisdictions reported increases in satisfaction or morale following job enrichment. The impact of job rotation is "hard to discover and hard to predict," although Greiner (1981, p. 338) speculates that the benefits of exchanging ideas and new perspectives on operating methods may promote innovation, creativity, and improved skills. The authors summarize that no consistent effects on productivity, job satisfaction, or on labor-management relations were shown to have resulted from any of the three techniques of work redesign as applied to the public sector.

### *Work Redesign for Groups*

The process of work redesign is also used to change the content of jobs and the work organization so that groups rather than individuals are responsible for performing tasks. The five core dimensions remain the basis for judging job characteristics. There are two techniques of this sort. The first is the work team, sometimes referred to as a "co-acting" group; the team has responsibility for an entire task or set of tasks, the skills needed to complete the work are found within the team, but the subtasks are performed by individuals, and the group members all report to the same supervisor.

Autonomous work group is the second type. This type, sometimes called "self-managed work group," generally requires cross-training so any group member can perform another's work. It has the authority to handle internal processes, e.g., the ability to plan and schedule work, to "hire and fire" group members, and consequently, it has no first-line supervision.

*Usage.* The use of work teams is more extensive than autonomous work groups, but unfortunately, the two techniques are rarely distinguished except in academic journals. Thus, the project survey of the literature to determine the extent of work teams or autonomous work groups cannot report on them separately. "Production teams" were included in the NYSE report and 16 percent of corporations with over 500 employees use a

team of this sort. The largest corporations (over 25,000 employees) are the heaviest users (NYSE report, 1982, p. 44). Greiner *et al.* (1981, pp. 242, 255) included work teams in their public sector survey, and they found 100 jurisdictions reporting use of teams. Of these, seventy-seven involved team policing and eighteen were management level teams. Only eleven reported work teams involving a variety of other functions including health care, inspections of various sorts, and teams of clerical workers in personnel and in an unemployment insurance office.

*Process.* Scholarly attention in this area tends to focus on process issues and evaluation of the results of using autonomous work groups. Hackman and Oldham (1980) specifically exclude consideration of work teams in *Work Redesign*. Their thorough examination of self-managed work groups, however, includes sections on designing work for groups and groups for work, and creating a supportive organizational context. Designing work for groups is more complex than redesigning individual jobs because group dynamics must be considered. Design features are shown on Figure 3 (Hackman and Oldham, 1980 p. 187).

Susman's *Autonomy at Work: A Sociotechnical Systems Analysis of Participative Management* (1976) is a theory-based description of the processes involved in decision-making in work groups, and the impact work groups have on organizational environments. Descriptions of his application (with Trist and Brown) of autonomous work groups in the Rushton Mine, an underground coal mine in central Pennsylvania, provide concrete examples of the process (e.g., a six-session orientation spread over 3 weeks, an 8-week moratorium on pressure for production while group members learned new skills and group process, planning sessions with the work groups at 6-week intervals, etc).

*Evaluation.* There are few systematic evaluations of the results of work teams or autonomous work groups. Around the one major evaluation effort that has taken place, namely Goodman's evaluation of the Rushton Mine experiment (cited in Brett and Hammer, 1982), considerable controversy exists. Goodman's results suggest caution in crediting the work-group approach with improved performance. (Susman (1976, pp. 175, 179), however, notes:

The performance data collected reflect the objectives that the management and union hoped would be achieved as a result of the introduction of autonomous working groups in the underground section. The major, but not exclusive, goal expressed by the union was increased underground safety. Management was also concerned with safety, but gave equal emphasis to reduction of mine absenteeism, productivity and costs. . . . Production has not decreased as a consequence of the program's introduction nor as a cost of improving the safety level. It is a currently accepted belief in the coal industry that one of these goals—production or safety—must be sacrificed for the other.

Autonomous work groups are described and some assessment data are provided in Hackman and Oldham's description of the Butler Manufacturing Company in Story City, Iowa. The authors cite low absenteeism and turnover rates as expressions of employee satisfaction. The plant management cites lower than expected expenses, especially as related to tooling, supplies, and indirect labor costs (Hackman and Oldham, 1980, p. 167).

Another empirical evaluation of work teams was conducted by Gomez and Mussio. Although the sample group was small (eight workers), the authors concluded that this type of project is probably replicable on any scale. A group of clerical workers

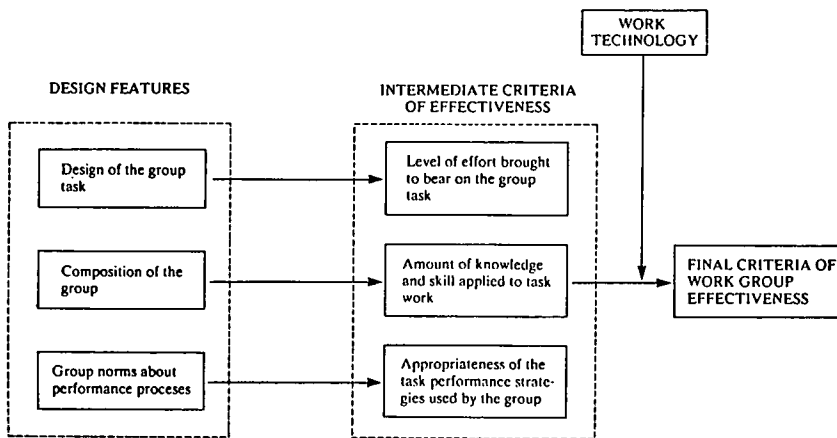


Figure 3. Model of work group effectiveness.  
(From Hackman and Oldham, 1980, p. 187)

were reorganized into a work team and operated as a self-contained unit. Each member became involved in numerous steps of the work process, specific responsibilities were identified, continuous feedback was provided by the work itself, continuous communication between team members was required by the nature of the new organization, and the tasks were organized so that employees felt they were accomplishing something individually. The "motivators" were responsibility, achievement, recognition, growth, and advancement. Pre- and post-measurement and interviews with team members indicated that job enrichment and organization into work teams did increase the level of job satisfaction, reduced absenteeism, and improved job performance. However, the authors admit limitations of group size and a short (6-month) period of time.

Overall, information on work teams and autonomous work groups is sketchy. Descriptions of process issues are available and thorough, but they suggest complexity, high costs of start-up, and applicability primarily to production functions. Work teams and autonomous work groups among clericals have been attempted (Gomez and Mussio, 1975; Zemke, 1981), but neither these nor other experimental applications have provided conclusive evaluative results.

#### Alternative Work Schedules

Alternative work schedules, sometimes called "time rescheduling," are another group of techniques included as quality-of-work-life efforts. These programs, like job redesign, tend to place human values as primary program goals, and expect productivity improvements as a secondary benefit. At least six techniques belong in this category: flex time, compressed work week, permanent part-time, job sharing, transition retirement, and voluntary time-income trade-off (see Figure 4).

Alternative work schedules were virtually unknown prior to the 1973 oil embargo. Usage has expanded considerably since, in response not only to energy conservation but also to the needs of women in the work force, recruitment advantages, and expectations of improved productivity. Twenty-eight percent of corporations with 500 or more employees report use of some form of personalized work hours (NYSE report, 1982, p. 25).

**Usage.** The use of alternative work schedules in state government agencies was the subject of a survey conducted by the National Council for Alternative Work Patterns and the Na-

tional Governors' Association in 1981. The results show flex time to be the most prevalent technique, utilized by 42 states. Flex time is most often available for workers in traditional office settings where the programs generally cover professional, supervisory, and clerical workers.

Thirty-two state governments use compressed work weeks, and a number of federal agencies have experimented with this approach. Compressed schedules in state governments are most often used in nonoffice settings (i.e., where use of machines or technology is more efficient with fewer start-up periods).

Permanent part-time schedules are used in 35 states. In some cases it is a formal program; in others, it operates informally in response to employees' requests. Permanent part-time schedules are most often used in office settings among clerical employees.

Nineteen states utilize job sharing, and six of these have enacted legislation regulating or encouraging the program. Job sharing is rarely used outside of office settings, but there both clerical and professional employees may be involved.

Transition retirement and voluntary time-income trade-offs are much less frequently used, the former found in only two state governments and the latter in three.

**Process.** Because of the varied nature of these techniques, process issues will not be identified for each. The National Council for Alternative Work Patterns in Washington, D.C., makes available at moderate-to-low costs extensive materials on each of the techniques outlined. The major theme concerning process issues is that care must be taken to assess the suitability of the technique in the work setting. Most alternative work schedule techniques, except compressed workweek, have been applied in white collar jobs, in nonunion office settings. The techniques have a better chance of success in settings where work is generally not sequentially ordered, and tasks tend not to be highly interdependent.

**Evaluation.** Where those work conditions apply, alternative work schedules are worth consideration, according to evaluation reports. "Personalized work hours" was the top activity among those listed as "very successful" in producing productivity improvements as reported in the NYSE survey (1982, p. 28).

In a paper by Saggese (1981, p. v), New York City Office of Labor Relations, advantages of alternative work schedules are cited: increased service hours for the public, improved use of facilities, reduced absenteeism and lateness, and improved morale. Disadvantages are also considered. These include more

	Key Elements	Unit of Application			Barriers
		Indi- vidual	Depart- mental	Organi- zational	
Flextime	Full-time employees have some choice in start/stop time. Most programs require "core" when all employees must be at work.	X	X	X	Generally not applicable to production, shift work, 24 hour continuous operations.
Compressed Work Week	Full-time employees work longer hours, but fewer workdays. Most common are four, 10-hour days or two week cycle: five 8-hour, then four 10-hour.	X	X	X	Generally not applied to unionized workforce unless bargained. Increased scheduling problems for supervisors.
Permanent Part-time	Part-time employees work fewer hours per day or days per week on regular basis. Some fringe benefits paid proportionally to hours worked (e.g., vacation); others may be paid in full (e.g., health).	X			Generally not applicable to unionized workforce. Increased cost of benefits may result.
Job Sharing	Two or more employees divide responsibilities and duties of one position. Benefits as if each part-time.	X			Civil Service regulations may prohibit. Initial adjustment required of coworkers.
Transition Retirement	Older workers reduce hours worked per week. Eligibility requirements set by organization.	X			Pension payments based on pay immediately prior to retirement. Lack of clarity concerning benefits.
Voluntary Time-Income Trade-Off	Full-time employees can "trade" wages or salaries for additional time off. Organization sets parameters.	X			Scheduling work more difficult.

Figure 4. Alternative work schedules.

complex scheduling, requirements for increased supervision, increased energy use (as an office is open longer hours), and decreased morale if employees are scheduled into new hours without their consent.

Alternative work schedules, especially flex time, compressed workweek, job sharing, and permanent part-time schedules are widely used in the public and to a somewhat lesser extent in the private sector. There is considerable documentation on process issues, and principles of implementation have been developed and tested. Where techniques have been carefully applied, evaluations, both in terms of satisfaction and productivity improvements, appear positive.

#### Incentives.

The category of organizational change techniques generally called "incentives" includes programs that are considered to be

QWL programs (e.g., profit sharing or shared savings) and others that are usually excluded (e.g., piecework). But because neither "QWL" nor "incentives" are precisely defined, incentives will be treated as a group, and the discussion that follows necessarily will be somewhat arbitrary.

This category of techniques may be considered a transitional category between those techniques that primarily stress human development with productivity improvements as an expected by-product, and those techniques emphasizing productivity improvements combined with a commitment to participative processes as the means. It is a transitional category partly because of its diversity, but also because of its heavy emphasis on the importance of equitable rewards for work performed (Keidel, 1980; Oldham, 1982; Tausky, 1982), and because incentives are seen as motivators; indeed, many consider them the best motivators and thus the best means of achieving improved performance (NYSE, 1982; Greiner *et al.*, 1981).

Incentives are part of a system that links rewards to certain

defined behaviors in an effort to induce (or reduce) those behaviors. For an incentive system to be successful in bringing about the desired change, the reward must be of value to the employee, the desired behavior must be clearly defined, the employee must believe that the reward will follow the behavior and that the system is administered fairly.

There are a number of efforts to recognize exemplary behavior among employees that are useful and valid programs, but should not be confused with incentive programs. This group of programs is designed to recognize and reward employees, rather than to induce certain behavior. "Employee of the Month" is a commonly applied program of this sort.

The difference between the two groups of programs is that in recognition programs, criteria tend to be less specific than in incentive programs, not all employees meeting the criteria receive the reward, and the objectives of the programs are different. Recognition primarily looks at past behavior and the objective is to say, "thanks, you've done a good job." Incentives primarily look to the future and use recognition (and other types of rewards) to encourage a change in behavior.

In practice, there is a fine line between the two since, where recognition programs exist, employees may modify their behavior to be eligible for awards or recognition.

Many types of rewards may be used as incentives. Nonmonetary rewards include recognition, for example, in the form of uniform patches or a reserved parking space for a month. Some awards have monetary value, but do not require an outlay by the organization, for example, extra day off or free parking where the employee normally pays. Monetary rewards range from savings bonds to bonus cents per hour; the latter could possibly accumulate to hundreds of dollars annually.

Both nonmonetary and monetary incentives are consistent with the accepted principles of motivational theory; furthermore, the value of the employee's contribution is explicitly recognized, making this approach consistent with the quality-of-work-life philosophy. The following discussion, however, is limited to monetary incentives. The wide variety of nonmonetary incentives combined with the lack of systematic review of their impact suggested that some narrowing of scope would be required. The conditions related to the success of monetary incentives, described below, appear to apply to nonmonetary incentives, but an extensive review of the literature provided no direct confirmation of this. An evaluation of nonmonetary incentives may be an appropriate topic for future research in this area.

*Usage.* Figure 5 shows a range of activities beginning with incentives based on individual performance, through those awarded for improved group performance, and finally those where rewards depend on improving the performance of the organization. The variety of techniques in this category makes total usage somewhat difficult to determine. The NYSE survey reports on corporations with over 500 employees: use of piecework, 10 percent; group incentives, 7 percent; profit sharing, 25 percent; and stock purchase plans, 21 percent. Indeed, the larger the corporation, the more likely that it had one or more of these programs in operation.

Usage in the public sector is apparently much lower; only merit pay systems and suggestion awards are used widely. Forty-two percent of local governments and 51 percent of state governments report using performance-based wage increases (i.e., merit pay), while 25 percent of local and 63 percent of state governments reported usage of suggestion awards. The next most widely used technique was performance bonuses, being used by only 6 percent of local governments and 10 percent of state governments. Concerning shared savings, the public sector equivalent to profit sharing, only six successful cases have been identified (Greiner *et al.*, 1981, pp. 30–31, 109).

*Process.* Incentives, like work redesign, are complex and require attention both to program components and organizational environment if success is to be gained. Several factors are well established:

1. The effectiveness of any monetary incentive plan depends on the degree to which pay is explicitly dependent on performance, the plan is viewed as being fair by both participants and those not covered, and the measures of performance are accepted as valid and objective (Greiner *et al.*, 1981, pp. 20, 100).
2. To be effective, the type of incentive plan chosen must fit the type of work performed; for example, if tasks performed are highly interdependent, group rather than individual incentives are more appropriate (Katzell *et al.*, 1975, p. 317; "A Vote for Individual Incentive Plans," 1982).
3. Program planners must consider projected payout in relation to savings. Not only must the responsiveness of the participants be considered, but also the national economic environment; for example, programs instituted during inflationary periods must consider this factor when estimating costs. Initiating and then discontinuing financial incentives have negative impacts on morale and productivity.

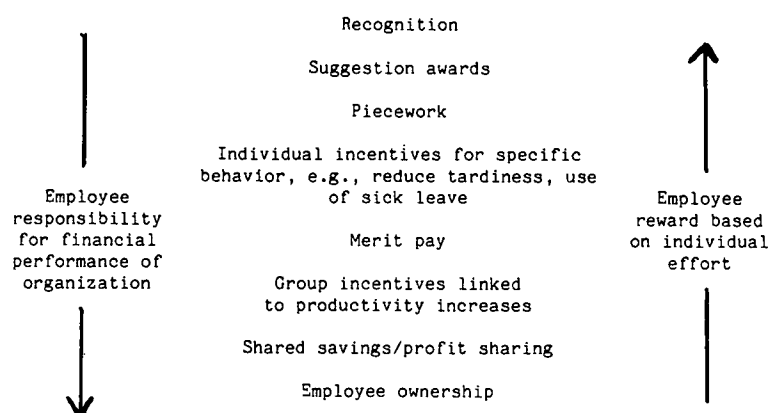


Figure 5. Range of incentive programs. (Adapted from NYSE Report, 1982, p. 33)

4. Incentives are most effective when firmly backed by top management. This backing should include protection against job loss if productivity increases (Tausky, 1982, p. 15).

5. Incentives cannot be effective within an organizational climate of mistrust, insecurity, or highly adversarial labor-management relationships (Katzell *et al.*, 1975, p. 317; Tausky, 1982, p. 15).

6. Conversely, incentives appear to work best in open, participative atmospheres and may foster decision-making among nonmanagement employees (NYSE, 1982, p. 35). Participation in the design of the incentive program may contribute to lessening distrust and to building a more open system.

Utilization of any type of financial incentive faces particular barriers to implementation in the public sector. Greiner *et al.* provide considerable detail; what follows is an outline of three major barriers.

1. *Legal barriers.* Six states—Alaska, Georgia, Louisiana, New Mexico, North Carolina, and Washington—prohibit giving employees any rewards other than wages and salaries; but others—California, Colorado, Connecticut, Hawaii, Kansas, New Jersey, and Vermont—explicitly permit monetary rewards. In the other states, usage is open to interpretation, and implementation may be subject to delay as legal opinions are sought. Shared savings plans may have particular legal difficulties where federal funds support operations. In shared savings plans, employees gain (as bonuses) a certain percent of the savings. But unspent federal funds must be returned to the federal government. Whether employee bonuses may be paid out of the “unspent funds” is not yet clear.

2. *Civil service practices.* These are also barriers to monetary incentives. These practices include restrictions on temporary increases, limits on the frequency of increases, and restrictions on total pay. More serious barriers among civil service regulations are requirements of certain types of uniformity across classes of jobs.

3. *Political barriers* are not insignificant. Political decision-makers may be reluctant to relinquish power to allocate rewards or may be concerned that costs will rise faster than savings. Further, decision-makers and the public may not believe that public employees should be rewarded for normally expected behavior (e.g., be on time).

Greiner *et al.* (1981, pp. 95–105) summarize: monetary incentives face more implementation barriers than most of the other types of programs designed to encourage employee motivation. Managers in the public sector face serious barriers to implementation but monetary incentive programs, when properly planned and implemented, have been shown to be among the most effective organizational change techniques.

*Evaluation.* In reviewing studies of a variety of gain-sharing techniques (mostly group incentives and employee ownership), the NYSE report (1982, p. 35) states: “To our knowledge, *all* of the studies have shown positive results.” Whyte’s (1983) recent *Worker Participation and Ownership* is a more balanced report on successes and failures, but is nevertheless optimistic about the results of employee ownership. According to a report by the U.S. General Accounting Office, incentives are the key to bringing about cooperation between labor and management, and cooperation is necessary to increase productivity (GAO Report No. FYCD-81-7, “Productivity Impact of Federal Joint Labor-Management Committees,” Washington, D.C., January

1981, cited by Sagasse, 1981, p. 14). Schuster’s (1982) comparative study of plants using labor management committees and gain-sharing supports the thesis that these programs increase productivity.

Evidence in the public sector is neither as extensive nor as supportive. Barriers to effective implementation and lack of objective measurement criteria are noted by Greiner *et al.* (1981, p. 112) in reviewing monetary incentives (see Figure 6). He notes, however, shared savings plans are “especially promising” and concludes:

The results of monetary incentives generally coincide with findings in the private sector: when the relationship between pay and performance has been made clear through the use of objective, results-oriented performance criteria that include quality controls, monetary incentives for government employees have contributed to significant cost savings and improvements in efficiency without sacrificing service quality.

Thus, there are three general ways to approach incentives: awards to individuals, awards to groups, and awards to all employees based on organizational performance. The type used should be determined in relation to the work performed. Incentives combine a regard for human development and productivity. They are closely linked to both motivational and learning theory. Usage in the private sector has been positively evaluated and appears to be expanding. A distinguishing feature of corporations using incentives is a highly participative management style and structured opportunities for employee decision-making. Usage in the public sector, although considered promising in terms of its positive influence on productivity, faces legal and political barriers unique to the public sector. More careful evaluation of the impact on employees of each of the three types of incentives and consideration of how incentives can be adapted to the public sector would be of particular value.

### Techniques Using Participative Processes

The second approach to quality of work life sees productivity improvement in its broadest sense as a major goal and considers human development and participative processes as the means to that goal. Techniques in this category include labor-management committees, quality circles, task forces, and productivity gain-sharing. Although less frequently included in discussions of QWL, suggestion systems and employee attitude surveys are also in this category.

The theory underlying this approach to QWL lies more in the discipline of sociology than psychology. Max Weber’s classic expositions of bureaucracy emphasize the rationality of bureaucratic organizations, but later writers—Alvin Gouldner, Peter Blau, and George Homans, among others, have shown how bureaucracies can become dysfunctional, rigid, and nonproductive. It is the dysfunctional aspects of organizations that this group of quality-of-work-life techniques addresses.

Robert Ahern, speaking about labor-management committees, explained how LMCs change bureaucracies. His comments cannot be assumed to apply *in toto* to all the techniques listed above because the LMCs that he describes are one of the most participative of the techniques, and LMCs would therefore be expected to have the greatest impact on bureaucracies. Nevertheless, the general principles apply and are worth quoting at length.

Technique	Number of Applications	Number of Evaluations	Results
Performance Bonus	23 jurisdictions, mostly management	5	4 showed productivity improvement, 3 showed increased satisfaction.
Piecework/Daywork	11 jurisdictions, exclusively non-management	2	2 had significant productivity improvement, no damage to satisfaction.
Suggestion Awards	154 jurisdictions	None Reported	--
Performance-Based Wage Increases	Widely used	None Reported	--
Shared Savings Plans	9 jurisdictions	9	5 credited with substantial productivity improvements, mixed results with regard to employee satisfaction.

Figure 6. Summary of findings on public sector incentive programs. (From Greiner et al., 1981, pp. 107-118)

Ahern outlines five ways in which the labor-management process "surrounds" and changes the organization. First, the organizational hierarchy is collapsed. Instead of having the plant manager receive information about what is going on at the bottom of the organization through several hierarchical levels, he receives it directly. This has a series of important effects, according to Ahern:

- Information flowing upward is more accurate.
- Communication is legitimized since it can be tested at its source.
- Top management's perception of operational realities is improved.
- Middle management, viewing the behavior of top management in the LMC, is encouraged to use a more humanistic management style: in fact the LMC process in itself sanctions such a style.
- Decentralized decision making is encouraged and legitimized.
- Information sharing is increased.

Second, management response time is decreased dramatically. Minutes of the LMC meetings are widely distributed, and they become a control on the process. Their action format demands that decisions be made in a timely manner. . . . Decisions must be made in less than 30 days or the manager is subjected to questions from the Committee.

Third, staff functions are energized. Because of over-specialization and over-systemization, the typical organization has too many staff people. And many staff departments are characterized by "paralysis by analysis". . . . The typical LMC will assign the appropriate staff person to *ad hoc* action teams [LMC subcommittee]. It is generally their responsibility to gather data and to make a preliminary analysis of the problem. This brings various members of the staff departments into the spotlight where both the *ad hoc* teams and the departmental LMC are quick to recognize and award competence or to define and reject incompetence. Woe be unto the staff person whose action team reports to the LMC that it has not resolved the problem because of a staff person's inability to collect and analyze the data. This approach involves the staff with the LMC process, and the LMC and action teams come to view staff as a valuable resource.

Fourth, the process improves horizontal communications and leads to the speedy resolution of departmental interface problems. Not only are communications between departments very slow and garbled, but there often are turf problems between departments which create an on-going guerrilla war. A most common interface problem is found between operations and maintenance. The LMC usually works on this problem directly by creating an

interdepartmental *ad hoc* action team consisting of two union and two management people from the department affected and the same number of people from the maintenance department. These action teams work on problems such as scheduling, shortage in particular skills at particular levels, training, and communications. This *ad hoc* action team reports back to both the operations department LMC and the maintenance LMC.

Fifth, all management systems are under a constant challenge and critique. As the LMC develops agenda items, the various systems that management has designed to control the particular aspect of production comes under challenge. (Speech to the Industrial Participation Association, London, England, April 12, 1983.)

Labor-management committees and other participative techniques involve more people in decision-making, and this approach is expected to break down the dysfunctional aspects of bureaucracies and yield increased productivity.

The following sections discuss task forces, quality circles, and labor-management committees. It is important to note, however, as in the previously discussed category, that boundary lines are not clear. Labor-management committees in particular include a wide range of approaches to QWL, including committees that are heavily oriented toward human development.

### Task Forces

Task forces are groups set up, usually at management's initiative, to solve a particular problem. Task forces commonly involve people from different work units and thus serve to provide new facts and perspectives on the issue at hand. The appointment to a task force is an addition to the job, rather than a regular part of the job and, although the assignment to a task force may be full-time for a specified period, most task forces work as committees, meeting a few hours a week. Until recently, task force participants have been management personnel, usually from the same level of the organization. As the concept of employee participation has become more widely accepted, task forces have come to be seen as one vehicle for structuring that participation, and task forces have now been used to include personnel from different work units and different levels of the organization.

Task forces are generally structured as one group working

on a specific issue with recommendations expected within a specific period of time. A task force may set up subgroups or *ad hoc* units to deal with parts of the issue, but this kind of subdivision is not common.

Rarely do task forces have the authority to implement change; rather, their function is to assess an assigned problem, generate and evaluate solutions, and make recommendations. Further limiting their authority, task forces tend to disband after making recommendations, and other parts of the organization take responsibility for monitoring and evaluating the changes that were implemented.

**Usage.** Task forces are probably more widely used than is reported. Data from the NYSE report indicated that only 35 percent of corporations with over 500 employees use task forces. Greiner's survey of state and local governments identifies only 209 jurisdictions with task forces. One reason for reports of use being less than expected is that because task forces are temporary, organizations may not report use if a task force is not currently operating at the time of the request for information even if use of task forces is a pattern in the organization.

**Process.** The key process issues in effective use of task forces are careful problem definition, appropriate selection of participants, specific guidelines on the nature of recommendations, and provision of a specific period of time for a task force report. The selection issue requires particular attention in unionized organizations where management plans to include nonmanagement employees. Although little hard evidence exists, at least one case has been documented in which union leaders questioned a management task force that included bargaining unit employees, and union pressure contributed to management's decision to terminate the program (Greiner *et al.*, 1981, p. 264). It is suggested that in the selection of bargaining unit employees, managers seek recommendations from union leadership.

A case description of a task force on training established by the New York Transit Authority illustrates both the structure (different organizational units, different levels of the organization) and the problem-solving process (subgroups established on technical issues, perspectives of line and staff, union and management considered) utilized by that task force.

Representatives came from top and middle management, line management, organized labor, training and development, engineering, technical support and, perhaps most important of all, mechanics. These people made important contributions to the overall strategic success of the program. The committee set up technical review teams to review the myriad of details dealing with proper maintenance and repair of the equipment. Task groups from the committee provide critical input as material development on major bus systems reached the first draft stage. These systems included: engine and drive train; air and undercarriage; and electrical systems and climate control. (Clark, 1982, p. 58)

The task force was credited with increasing the flexibility of skills training, dramatically increasing trainees' ability to perform on the job, and increasing the credibility of the training program.

**Evaluation.** Evaluations of the impact of task forces on productivity or satisfaction are difficult to locate. Greiner *et al.* report that no systematic, formal evaluations of the impact of task forces were found. Nor did any formal evaluations surface in review of the literature in this project. All that can be said is that the use of task forces is congruent with organizational theory that postulates increased communication across bureau-

cratic divisions, and flattening the hierarchy by face-to-face communication between different levels of the bureaucracy should increase the productivity of an organization.

In summary, although the impact of task forces has not been well documented, they appear to be a useful technique in expanding participation in decision-making, improving morale, and productivity. Task forces are low risk in that they are limited in scope, time, and authority; yet, they can provide new, legitimate channels of communication across work units and vertically in the organization.

### Quality Circles

Quality circles (QCs) are a technique used to improve the productivity of an organization by tapping the intelligence and knowledge of employees. Employees performing similar work volunteer for participation, receive training, and work in groups of six to ten with their foreman or first-line supervisor for one hour each week on problems that they define in their work area. Circle members are actively involved in defining problems related to service and morale issues, seeking solutions, and making formal recommendations to top management. Management makes a formal response, and the circle implements and evaluates those recommendations that are accepted.

The quality circle concept was originated by American consultants seeking answers to problems faced by Japanese industry following World War II. At that time, "Made in Japan" was almost synonymous with inferior quality goods. The recommendation to train employees in quality control techniques, with heavy emphasis on statistical procedures of quality control analysis rather than isolating the quality control function in a separate unit staffed by engineers, has been widely adopted in Japan where most circles are found in the manufacturing sector and are involved with production issues.

The success of the Japanese experiment was noted by West Coast manufacturers in the early 1970s and instituted in high technology companies. Initially concentrated in manufacturing companies (e.g., Lockheed, Westinghouse), the concept has now been shown to have application in service organizations. Hospitals, local governments, and transit agencies have documented success (Johnson, 1981; Godsey, 1982; Caria and Diers, 1982).

**Usage.** Quality circles are well established in the United States, particularly among large manufacturing companies. Forty-four percent of all corporations with over 500 employees reported having QC programs, but that percentage increases to 66 percent for companies with 5,000 to 24,999 employees, and 65 percent of companies with 25,000 or more employees. No surveys of usage in the public sector are known to exist.

Quality circles are a new phenomenon when compared to other human resource development activities. While 5 percent of all HRD activities were reported "started in the last six months," 15 percent of quality circles were in that category. Forty-five percent of QC activity was initiated within the last 12 months prior to the NYSE survey (i.e., during 1981).

**Process.** There is a considerable amount of literature relating to the QC process. The bulk of this material relates to issues of implementation and nurturing quality circles. The recommendations offered are fairly consistent among a number of authors:



- Allow considerable time for assessing the “readiness” of the organization for a program that requires sharing information with nonmanagement employees, the top listening to the bottom of the organization, and shared decision-making (Metz, 1981; Godsey, 1982).

- Establish a steering committee including full participation from the union to study and set policy for the program. Absence of union participation or failure to put policy in writing can end a program (Britain's Unions Brake Ford's 'Quality' Drive, 1981; Burton, 1983; Cole, 1980; Gryna, 1981).

- Do not short-cut training (Dumas, 1983).

- Involve middle-level managers. Make their success in organization dependent on success of circles in their work area. Recognize middle-level managers of work units with successful circles (Cole, 1981; Greenland, 1983). Quality circles increase communication vertically in organizations, but if middle-level managers are bypassed, they may sabotage the program.

- Horizontal communication is the responsibility of the program facilitator and not of QC members. Some horizontal communication may occur within circle leader meetings or steering committee meetings, but only as problems in one work area are influenced by other work areas is horizontal communication increased.

- Leadership and commitment must stem from top management. Leadership must be visible, and top managers may visit QC meetings, demonstrating their support. Managers must respond to circle recommendations in a set timeframe (Caria and Diers, 1982; Cole, 1983; Greenland, 1983).

- Encourage evaluation. Evaluation should not be too narrow; for example, improved morale is a positive result. Evaluation should be used to improve circle performance, not used as a judgment or way to assess blame (Baird, 1981; County to Expand Use of Quality Circles, 1983; Greenland, 1983).

*Evaluation.* Two evaluation designs are applicable to quality circle programs.

1. *Evaluation of outcomes.* In this approach the circle's goal statements are crucial because evaluation is conducted in relation to goal achievement. If quality of service, cost savings, improved communication, or a combination of these are the goals, different types of evaluation procedures would be appropriate. Most QCs conduct this type of evaluation, and each circle is responsible for its own evaluation. The combined evaluations of all circle activities make up the program evaluation.

2. *Comprehensive evaluation of impact on organizational performance.* In this approach, data on organizational performance must be collected prior to initiation of QCs. Careful documentation of costs during implementation (both direct expenditures and time off the job) and collection of organizational performance data at specified intervals after program initiation are necessary. This type of evaluation requires significant time lapse to demonstrate success and is rarely used by practitioners.

Quality circles were among the top 10 activities considered “very successful” in improving productivity as reported in the NYSE survey (1983, p. 28). Other reports of success come from Westinghouse (Greenland, 1983), Norfolk Naval Shipyard (Bryant and Kearns, 1982), and Montgomery County, Maryland (“County to Expand Use of Quality Circles,” 1983).

One cannot judge from these accounts what other organizational changes (e.g., capital outlays for tools) may have occurred simultaneously to improve productivity. Indeed, many reports do not include productivity measures. Further, the authors of this report have not located empirical research identifying procedural elements in the success or failure of QC programs, or systematic and controlled evaluations of impact. Even with these limitations, related in some degree to the newness of the program's application in the United States, the pattern of positive reports is striking and suggests that QCs may well have a positive impact on organizational performance.

In summary, quality circles are structured programs to involve employees in identifying and solving problems related to their work area. Although QC members define the issues they wish to undertake, these may be limited by program guidelines to issues of “production.” Most advice suggests, however, that morale issues are also appropriate topics.

### *Labor-Management Committees*

A labor-management committee (LMC) is most typically defined as a structured group of union and management representatives that meets regularly to solve mutual problems. Beyond that simple definition, however, lies a wide variety of types of committees with widely differing goals. There are three generic categories: industry committees, area committees, and worksite committees. Labor-management committees in all three of the generic categories are not new. Committees have existed as far back as 1920 and were extensively used in private sector organizations during World War II to improve productivity. Committees were established at the industry level in the late 1950s and early 1960s to deal with poor labor relations (e.g., the LMC in the steel industry was to consider ways to recover from the bitterness of the prolonged strike of 1959). Committees at the industry level were also created to allow union and management to work out jointly the impact of technological change (e.g., the food industry committee).

The most common type of committee, and the one focused on here, is the worksite (sometimes called “plant level”) committee. Worksite committees, which may be one committee or a central committee/subcommittee structure, are found both in the public and private sectors, usually involve an equal number of union and management members, and deal with specific issues (e.g., health and safety) or broad issues targeted toward human goals, using employees' talents to make the organization a better place to work and providing opportunities for individual growth, and organizational goals, improving the service provided and the productivity of the organization.

The history, the size of the corporations with LMCs, and the local autonomy of unions in the United States would lead one to expect variety in the structure, membership, and scope of decision-making associated with LMCs, and this is the case.

The more traditional LMCs tend toward a top-level structure, with membership on both the union and management sides limited to the top-level officers in their respective organizations. This type of committee is open to suggestions or recommendations from any level of the organization, but decision-making is retained by top-level authorities. Top-level committees tend not to be problem solving groups, but instead emphasize information exchange and problem identification. The dual purposes

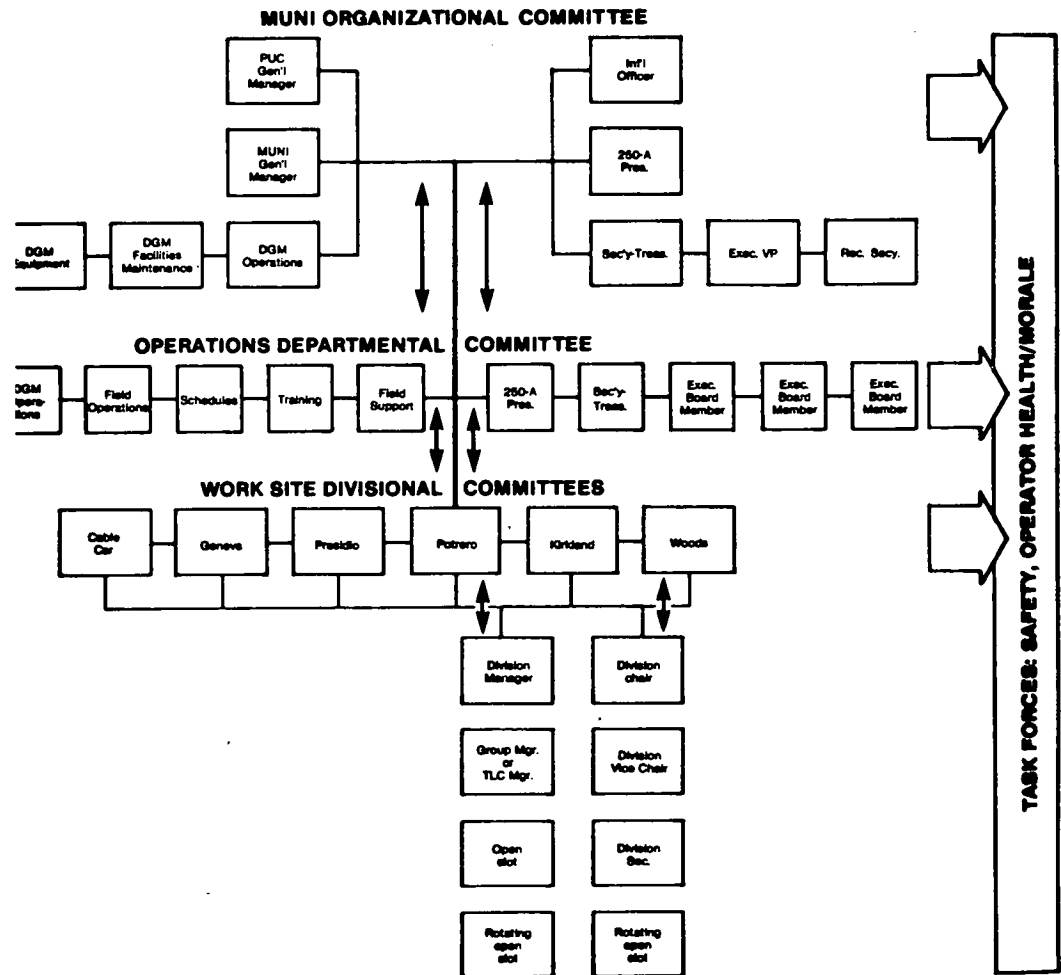


Figure 7. San Francisco Municipal Railway Joint Labor Management Board Organization. (Courtesy of the Joint Labor Management Board of the San Francisco Municipal Railway)

of keeping lines of communication open and improving labor-management relations are primary for this kind of LMC. In organizations with a history of antagonistic relations, the parties or a neutral third party may suggest this type of interaction as a step toward developing more positive relations. Some LMCs start with membership limited to top-level participants from their respective organizations and then expand into more participative, multilevel structures. But not all top-level committees expand. The legitimizing of information exchange is all some organizations want or need.

Another traditional type of LMC involves wider participation, but its goals are narrower. These are LMCs set up to deal on an on-going basis with a specific topic. Stewards and supervisors, for example, may be appointed to meet regularly on health and safety issues. Or, union members from different departments may work with management staff to plan, set up, and publicize an employee assistance program.

The more innovative LMCs, and the more effective in terms of organizational change, however, are those multilevel structures, parallel to the existing organization, which are established as problem-solving forums. These structures may appear complex. See, for example, the organization of the Joint Labor-Management Board of the San Francisco Municipal Railway with the Transport Workers Union, Local 250-A (Figure 7). The fact that it parallels the existing organization while pro-

viding opportunity to participate in decision-making is the source of its strength in positively influencing the existing organization.

Mary Powell, Coordinator of the New York City Labor-Management Program, defines labor-management committees in New York, but the description is not unique to New York. It captures the essential elements of the newer approach to labor-management cooperation.

A labor-management committee is defined as an alternative [parallel] structure which is set in place within an agency to deal with the human issues of the workplace. These committees must remain distinct from all collective bargaining and grievance procedures. These cooperative committees work to build trust and communication between labor and management, rather than promote the adversarial relationships which are natural to the collective bargaining process. However, these separate structures can co-exist without a diminution of their impact. In some instances grievances can be reduced by the existence of a structure which can address problems in their infancy. In other cases, issues inappropriate for collective bargaining now have a forum. Generally, it has been felt that an agency can only be enriched by a well-defined labor-management committee.

The purpose of a labor-management committee is to establish a structure in which labor and management, as equal partners, identify and help solve problems which may impede job performance and service delivery. Such issues may include health and safety matters, work site improvements, operational pro-

cedures, equipment, training needs, supervisory practices; in short, just about anything other than issues required to be settled through collective bargaining and formal grievances. These committees generally focus on improving the quality of working life at an agency and in fostering the cooperation which creates a climate for improved productivity. In addition to improving communication between workers and management, these committees provide, in some cases for the first time, an opportunity for top management to receive unfiltered information from the workforce. (Powell, unpublished report on New York City Labor-Management Program, July 26, 1982)

Figure 8 shows a comparison of this type of LMC with other participative techniques.

**Usage.** As with the several other QWL techniques discussed earlier, usage is difficult to determine because different things are called by the same name. One source of information, however, is the *Resource Guide to Labor-Management Cooperation*. This guide provides a thumbnail sketch of 180 worksite committees. It includes the traditional top-level committees and general participative problem-solving committees, but not those dealing with narrowly defined issues such as health and safety. The *Guide* shows increasing activity at the unit level in bargaining for QWL and labor-management committees. John Stepp, Director of the U.S. Department of Labor-Management Cooperative Programs, notes in the introduction (*Guide*, 1982, p. iv) that more than 700 LMCs were identified as the *Guide* was being prepared, although Stepp says 200 had become inactive within a few years of their formation.

Twenty-five percent of corporations with over 500 employees report having labor-management committees, but the type of committee is not indicated. However, 23 percent of those committees are reported as having been in existence 10 years or more, suggesting that they are the more traditional top-level committees (NYSE, 1982, p. 45).

A few agreements to establish cooperative QWL committees cover a large number of employees. Agreements to establish LMCs at the worksite exist between the United Auto Workers and General Motors, and more than 100 such committees exist at GM plants. UAW and Ford Motor Company in 1979 established a wide-reaching employee participation program, and it has been instituted at Ford plants across the country. The National Steel Agreement between the United Steelworkers and several steel companies contains a provision for LMCs and QWL efforts at the plant level. The Communications Workers of America and AT&T established a national LMC on working conditions and service quality improvements in 1981.

New York City and the AFSCME Council 37 instituted a labor-management committee program with a full-time coordinator in 1981; now more than 10 departments have active committees dealing with both productivity and employee morale. The largest public sector group is a coalition of three committees in the State of New York—the Professional Development and Quality of Working Life Committee, representing the Governor's Office and the Public Employee Federation; the Committee on Work Environment and Productivity, representing the Governor's Office and the Civil Service Employee's Association; and the Quality of Working Life Committee, representing the Governor's Office and AFSCME Council 82. Collectively these three committees represent 171,000 state employees, have a budget of over a million dollars, and work on a wide variety of worksite improvement and policy issues.

These eight agreements alone have fostered LMCs at hundreds of worksites, covering hundreds of thousands of workers. This approach to organizational change can no longer be considered experimental.

**Process.** "The basic principle of the LMC is very simple. That principle is that it makes sense for leaders and workers to sit together to discover, define and resolve work place programs," says Robert Ahern (Speech to IPA, London, England, April 1983). Ahern's point is seconded throughout the literature. While there are variations in structure, membership procedures, goals, and evaluation processes, the underlying principles are simple. The best possible advice that can be given is for the parties to sit down and decide what works best for them.

The simplicity of the underlying principles should not disguise the purpose of the LMCs. Labor-management committees are the vehicle for changes in work organizations, changes in work relationships, and the development of new attitudes. Siegel and Weinberg (1982, p. 142) suggest that, "despite the best laid plans, piecemeal improvement is far more probable than a holistic reconstruction of the work system within a relatively short period." Yet, it is clear from written agreements between union and management that holistic change in work organization and relationships is a primary goal. Witness the following from the CWA/AT&T Statement of Principles:

The success of QWL efforts requires a spirit of mutual respect and trust among employees, Management and the Union. Each party must give serious attention and consideration to the needs and values of the other parties. Management, the Union and employees must respect one another's legitimate needs and constraints. The success and maintenance of Quality of Work Life requires flexibility and continuing support and leadership from Management, Unions and employees at all levels.

From the Agreement between Mass Transportation Authority, Flint, Michigan, and Mass Transit Employees Union, Teamsters Local 214:

The successful attainment of organizational and individual goals is largely dependent upon a cooperative spirit among *all* employees of the Mass Transportation Authority. Management agrees that this cooperative spirit is only possible where supervisors recognize the employees as individuals and promote an environment where employee rights are respected in the daily work relationship. The Union agrees that these rights carry with them certain responsibilities for cooperation in the effective use of company resources. We jointly agree that an effort to integrate the business needs of the firm and the human needs of the employee will be pursued in a joint effort to improve the quality of work life of the MTA employee.

From the Agreement between the Newspaper Guild of the Twin Cities AFL-CIO and the Minneapolis Star and Tribune:

The Publisher and the Guild agree that committees will be formed in each news department by both parties and will meet upon the request of either party, with a minimum of one meeting a month.

In an effort to encourage discussions of subjects not covered by the normal bargaining and grievance machinery, the Guild and the Publisher stipulate that top level personnel will participate in the meetings.

It is stipulated that committees, meeting under the terms as outlined in this letter, shall discuss matters affecting relations between employees and the employer, but will not take up grievances which would normally come upon the regular contract grievance machinery.

The Publisher will continue to consult with the Guild before the appointment of newsroom supervisors, consistent with past practices.

	Task Force	Quality Circle	Labor-Management Committee
Structure	One group, rarely having subcommittees, from different work areas or departments.	Several organizational levels involved, but circle members and supervisor all from same work area.	Several organizational levels involved, members of work-site committee, generally from same work area.
Impact on Communication	Increased horizontal communication.	Increased vertical communication.	Increased horizontal and vertical communication.
Participation	Management appointment; participates as an individual, in addition to job.	Circle membership voluntary, managers by appointment to respond to recommendations. Participation as an individual, an integral part of the job.	Management by appointment, union combination appointment, volunteers. Participation as representative in addition to job.
Problem Selection	Problem assigned to group.	Problem identified by circle members. Limit: must be a problem affecting their work area, no collective bargaining issues.	Problems identified within the group. Limit: no collective bargaining issues.
Authority	Limited in data gathering to topic, and power to recommend. No follow-up.	Parameters placed on data gathering, but generally supported. Recommendations to top management. Follow-up and evaluate results.	Decision makers generally on committee, few limits on data gathering, certain powers to implement decisions, evaluate.

Figure 8. Comparison of three participative techniques.

The Guild agrees that all matters which are discussed will be on a consultative basis, and that, in any case, the Publisher retains the right to make all final decisions.

It is not surprising that if changes in work organization and relationships are a goal, top-level leadership is a primary requirement for success. Brower (1982, pp. 5, 6) says, "For survival and success of a QWL program, the top manager in the organization . . . must be committed to the program, including its philosophy, its intended multiple outcomes, and its structure and process requirements. Even more, he or she must be personally involved in the program and in its steering committee. This is the most important single factor in determining success, in our experience." Brower adds that involvement of the top union official is equally important, but that in practice, when union leadership is committed, "[W]e have had little experience with programs suffering because of lack of top union leadership involvement." Susman (1980), Ahern (1978), and Trist (1980), among others, concur with the emphasis on involvement of all top leaders.

Since social psychologists report that attitude change follows behavioral change, how do these programs come into existence? Four avenues have been identified: (1) a period of prolonged and severe conflict where labor and management have experienced losses can precipitate a willingness to explore new relationships (Greiner *et al.*, 1981, p. 265; Susman, 1980); (2) positive reports from other companies can motivate those not currently involved in participative programs (40 percent of cor-

porate leadership gave this reason for starting a program) (NYSE, 1982, p. 24); (3) informal meetings, or structured but narrowly focused committees, may evolve to broader participative programs; and (4) intervention by third parties has led to cooperative programs.

In fact, multilevel problem solving LMCs have commonly been initiated by neutral third parties—federal mediators, consultants, professors, professional staff from area LMCs. All of the large, structured programs reviewed here have had prolonged outside assistance (or assistance from neutral staff), and many of the smaller committees have been initiated with the assistance of outside parties. The availability of neutral consultants versed in labor relations and group process must be considered as a major contributor to success.

The underlying principles are simple, as Ahern notes, the goals lofty, the structure and procedures may vary, but generally include top-level management and union combined with participation from all levels.

**Evaluation.** There are several approaches to evaluation of LMCs. These include assessments of process and outcome. These evaluations have sometimes been conducted by the parties and sometimes by outside researchers. Further, participants may have opposed evaluations of outcomes for a variety of reasons including time pressures, lack of data, or an orientation that results will not reflect the goals of primary importance to the parties. An example of a participant's view of research is seen

in the following comments of Congressman Stanley Lundine, who, as Mayor of Jamestown, N.Y., initiated a successful Area Labor Management Committee. "We were in trouble; we were ready to turn out the lights. The researchers came in and told us to collect data before we started the committee, but we couldn't wait." (Speech to AAA-LMRS Conference, Jan. 25, 1983.)

Susman and Evered (1978) propose action research, based on Lewin's (1947), approach, as an alternative to the purely scientific approach to evaluation of organizational intervention. They argue that the involvement of the people in the organization during the intervention, the corrective actions taken, the learning developed, and the dynamics of social interaction preclude a purely scientific approach. In fact, they do not see it as desirable.

Disputes over research methodology for organizational impact analysis of quality-of-work-life programs are common and serve to underscore the difficulty of knowing "what works" with regard to QWL techniques. Nevertheless, examples of success and guidelines on process can be derived from the literature.

Siegel and Weinberg (1982, p. 146) cite an early example of success at GM's plant in Tarrytown, N.Y. The program was heavily backed by top management and participation in work level committees was extensive. Management invested heavily in training and capital outlays. Organizational benefits include increased efficiency, cost savings, lower absenteeism, and fewer grievances. Those authors also describe successful programs involving labor-management cooperation at Harmon International and at the Rushton Mine. They cite two other summaries which considered more than 61 cases of labor-management cooperation. The results are not dramatic, but "average effectiveness" of plants with participative programs are higher than those of similar plants without cooperative efforts (Siegel and Weinberg, 1982, p. 150.).

Contino documents the results of an LMC in New York City. The Bureau of Motor Equipment, Department of Sanitation, established a Labor Committee composed of three mechanics, a welder, a mechanics foreman, a sanitation driver (to represent the people who actually drove the trucks), and a sanitation foreman. This committee reports directly to the Deputy Commissioner of the Sanitation Department. Recommended operations and policy changes have been quickly addressed by top management, and problems solved through the process have been well publicized. The success of this committee led to the establishment of labor-management committees throughout the organization, in both field repair and central shop operations. They meet on a monthly basis, and topics for discussion cover anything related to the daily repair and maintenance operation, including working conditions, improvements in vehicle specification, obtaining spare parts for repairs, and purchases of tools and equipment to improve productivity. According to the author, there have been impressive gains in departmental productivity. "Profits" have increased from \$1.15 million to \$2.4 million per year, and vehicle downtime has been reduced from 50 to 15 percent (Contino, July 1982).

Not all assessments of labor-management committees have been favorable, although the more negative studies relate more to process issues than to outcomes. One major problem identified in the literature is called "encapsulation" (Trist, 1980). This refers to a situation where the LMC members become isolated from nonparticipants, who are the majority in the organization. An LMC operating in isolation has difficulty soliciting new ideas, solving problems, and publicizing results. Frequently,

committee members do not realize the degree to which they have become isolated and may even be self-congratulatory on their ability to discuss issues with the other side. Susman's (1980) chapter, "Maintaining the Committee," in *A Guide to Labor-Management Committees in State and Local Government* is a useful discussion of ways to avoid encapsulation.

A second process issue cited as a cause of failure is the lack of formal training for participants. Training has only recently been recognized as a component of labor-management committee programs. Those programs that evolve from the traditional top-level LMCs into more participative types have rarely included training. The result is generally that participants identify rather than solve problems, and/or there is a long learning curve in the group process (Brower, 1982).

The extensive coverage, increased usage, and enthusiastic reports of participants in LMCs whose purpose is to expand the opportunity for decision-making throughout the organization strongly suggest that this technique deserves serious attention.

## CONSIDERATION OF THE TRANSIT ENVIRONMENT

The transit industry has undergone sweeping changes over the past 20 years. These changes include a shift from private to public ownership, increased and often conflicting demands for service within a tight fiscal environment, dwindling public support, and changing demographic and attitudinal characteristics in the work force. Transit managers have looked to both short-term and longer term solutions to meet the pressures on the industry, and they have naturally been interested in improving productivity and the quality of work life.

To determine the suitability of quality-of-work-life techniques to transit agencies generally, the political environment, workforce demographics, and the patterns of bureaucracy, the nature of work, and labor relations in transit are reviewed.

A major factor influencing the transit environment has been the shift from private to public ownership. Over 90 percent of transit systems are now publicly owned. Public ownership has created conflicting goals (demands for high levels of service and low fares) for transit managers to cope with. Demands for transit services have increased in two ways: (1) The population shift to the suburbs, especially marked during the 1950s and 1960s, created demands for transit services in areas previously considered of insufficient density for mass transit. This shift, in fact, contributed to the demise of private companies. (2) The recognition that transit is a social service provider has increased demands for service to special groups (e.g., the elderly and handicapped).

These demands for increased service by special interest groups conflict with the general public's desire to reduce transit subsidies. It is not surprising to find the public unwilling to support transit services since a small proportion of urban travel miles is accounted for by public transit, 3 percent in 1975 (Kemp, 1982, p. 2); and nationwide, only 6.2 million workers out of a work force of 96.2 million, a declining proportion, regularly use public transportation (*Washington Post*, April 12, 1983, p. B1). Only a small percentage of the taxpayers use transit services, and few recognize the indirect benefits.

Public ownership also means that Transit Boards may represent several jurisdictions served by the agency. The sometimes

conflicting interests and service needs of these jurisdictions can cause budgetary competition. For example, within the Washington, D.C. metropolitan area, Board members from the District tend to support policies favoring high levels of service in response to lower income transit-dependent residents, and they recognize the need for subsidies to provide this service. The *Washington Post* states that this approach “contrasts sharply with the attitude in Northern Virginia where people are more affluent and less transit-dependent” (December 22, 1982, p. A21). Service that is heavy during peak periods, but lighter during the day, and subsidies are opposed by Northern Virginia Board Members.

Public transportation is unlike most other public functions in that it does not have a monopoly over service provision. Some critics of local government have argued that productivity is negatively affected by the monopolistic nature of public service. If you wish a building inspection, fishing license, water or street lights, you cannot shop around and purchase these items competitively. Yet productivity in transit is negatively affected precisely because travelers can shop around for alternate modes of transportation, and factors outside the control of the transit manager (e.g., gasoline prices or carpool requirements on express lanes) can influence the “shopper’s” choice.

This difficult environment for the transit industry has been exacerbated by political changes at the national level resulting in reductions (planned and actual) of federal operating assistance and channeling Section 3 capital assistance into rehabilitation and upgrading of existing systems rather than encouraging expansion (Kemp, 1982).

Rapid change creates fear and uncertainty among middle-level managers and hourly employees. This reaction has been documented even when the change is positive, not generally the case in transit agencies today. These attitudes contribute to reduced effectiveness of service delivery and less willingness to be innovative.

The need for communication is increased in a changing environment. In reality, less communication is the norm, stemming from time pressures on management staff, lack of funds for the “luxury” of management training in communicating, and increased hostility between union and management as the union tries to effect cost reductions in areas other than job loss.

### Work-Force Characteristics

The composition of the work force has changed in the past 20 years. The transit work force was once almost entirely made up of white males. The work force today contains a larger percentage of women, blacks, and Hispanics. Many note that the work force is younger and better educated, as would be expected because of the entrance into the job market of the “baby boom” generation.

The demographic changes in the transit work force apply not only to hourly, but to management employees. Although data sources were not identified, observations in this study suggest that in newer management functions (e.g., marketing, human resource management) there has been more hiring from the outside than has been typical in transit, and newer functions have a tendency to be filled by younger persons and by women. The newness of the staff function and the characteristics of managers in those positions suggest possible line/staff conflict.

Further, the status of the “outsiders” may be low, also suggesting they may lack the power base to institute change. These conditions are expected more in larger than in smaller organizations where line/staff differences are less pronounced and more in those organizations that have grown rapidly during the past 10 to 15 years.

Not only have demographics changed, but attitudes found among employees have changed. Frank Snowden (1982, p. ii), American Public Transit Association (APTA) Vice President for Human Resources and Commissioner, Metropolitan Transit Commission, St. Paul, comments:

Today’s workforce is very different from the ‘traditional’ worker of the 40’s, 50’s, 60’s, or 70’s. The new and younger workforce is better educated. If the transit system that I represent is typical, then there are many more college graduates among our drivers and mechanics than among their supervisors. There are many causes to the changes in the younger generation of worker. The civil rights movement of the 60’s, an unpopular war in Vietnam, and the women’s movement have all demonstrated the difference between the action of responsible authority and authoritarian behavior, thus opening an era of greater and different expectations for all people. This different view of authority, coupled with the increasing pace of technological change, has brought about a different view of the world and a different level of expectation from whatever an individual seeks to do.

Additional changes in the demographic characteristics of the transit work force may be projected. A sharp decline in the rate of childbirths in the 1960s points to fewer new entrants into the job market in the latter part of this decade. Experts predict a shortage of skilled labor and suggest that attention should be paid to retaining qualified employees. Training and retraining will become more important staff functions. The aging work force may be a particular problem for transit as transit organizations are typically flat structures with relatively few opportunities for upward mobility compared to other more pyramidal organizations.

### Characteristics of Transit Organizations

Transit organizations are usually “flat,” meaning that the proportion of hourly employees to managers and support staff is high. Roughly 80 percent of transit employees are operators or maintenance personnel; the remaining 20 percent are in the executive, professional, supervisory, and support categories (see Table 2). The flatness of transit organizations limits the use of one of the most common motivators: the opportunity for promotion.

As would be expected with this distribution of employment, operating expenses related to salaries, wages, and fringe benefits comprise the bulk of operating expenditures (see Table 3). Further, the flatness of transit organizations suggests that the highest proportion of labor costs would be associated with vehicle operations and maintenance (see Table 4).

Distributions of employees and expenses among organizations utilizing motor bus and rapid rail show more differences than within a mode by size, but the differences are not great. Bickford (1983, p. 129) notes that operators represent:

... a smaller relative proportion of the total number of employees (17-26%) and maintenance/vehicle servicing personnel represent a greater share (26-36%). Rail systems are also characterized by a larger layer of “executive/professional/supervisory/support” personnel than bus systems regardless of functional area.

**Table 2. Distribution of transit employee equivalents across job classifications, FY 1980-1981 (all bus (rail) systems percentage distribution). (From Bickford, 1983, p. 128)**

Functional Area	Employee Classification						Total
	Executive/ Professional Supervisory	Support	Revenue Vehicle Operators	Revenue Vehicle Maint. Mechanics	Other Maint. Mechanics	Vehicle Support Personnel	
Transportation	4.4 (4.6)	3.5 (12.7)	61.2 (22.2)	x	x	x (39.5)	69.1
Maintenance	2.5 (8.5)	1.9 (2.8)	x	12.5 (3.5)	2.1 (17.8)	4.5 (5.0)	23.5 (47.6)
General Administration	3.1 (9.0)	4.3 (3.9)	x	x	x	x	7.4 (12.9)
TOTAL	10.0 (22.1)	9.7 (19.4)	61.2 (22.2)	12.5 (13.5)	2.1 (17.8)	4.5 (5.0)	100.0
	19.7 (21.5)		61.2 (22.2)	19.1 (36.3)			

- Rail figures are in parentheses.
- 301 bus systems; total employee equivalents = 122,321.
- 9 rail systems; total employee equivalents = 47,019.
- 1 employee equivalent = 2,000 labor hours.

**Table 3. Transit operating expenses by mode and object class, fiscal year ending between July 1, 1980 and June 30, 1981. (From *National Urban Mass Transportation Statistics, 1981*, Section 15 Report. Excerpts from pp. 1-19, 1-20, 1-24)**

Expense Object Class	Percent All Motor Bus	Percent All Rapid Rail	Percent Total All Modes*
Labor			
Operators' salaries and wages	31.9	10.0	24.1
Other salaries and wages	18.4	41.5	25.5
Fringe benefits	22.7	29.0	23.7
Services	3.2	2.0	3.5
Materials and supplies			
Fuel and lubricants	9.9	0.1	6.5
Tires and tubes	0.9	0.0	0.6
Other material and supplies	6.4	6.3	6.3
Utilities	0.9	10.5	3.7
Casualty and liability costs	3.0	0.6	3.9
Taxes	0.5	0.0	0.3
Purchased transportation	1.6	0.2	1.5
Miscellaneous expense	0.8	0.4	1.0
Expense transfers	-0.1	-0.4	-0.8
Total	100.0%	100.0%	100.0%
Total Operating Expenses (\$ Millions)	4,117.5	1,587.5	6,442.3
Number of Transit Systems Reporting	301	9	319
Total Number of Transit Systems	301	9	319
Reconciling Items (\$ Millions)			143.2
Total Expenses Including Reconciling Items (\$ Millions)			6,585.5

\* Includes Motor Bus, Rapid Rail, Streetcar, Trolleybus, Demand Response, Other, and Joint Expenses.

**Table 4. Distribution of labor-related operating expenses by functional area and object category (percentage distribution).**  
(From Bickford, 1983, p. 130)

	Salaries and Wages	Across All Modes*	Total
		Fringe Benefits	
Vehicle operations	43.6	17.7	61.3
Vehicle maintenance	13.7	5.7	19.4
Non-vehicle maintenance	6.2	2.5	8.7
General administration	7.3	3.3	10.6

\* Includes bus, heavy rail, light rail, trolley coach, cable car and inclined plane.

Within transportation departments, one finds little variation in the organization, distribution of employees, or operating expenses by size of organization. Organizational reporting patterns are sufficiently similar to be grouped into three "generic" structures in a recent Peat, Marwick, and Mitchell study (Schwager, 1983) (see Figure 9). Further, distribution of employees varies little by size. For example, executive, professional, and supervisory personnel comprise a low 3.9 percent of personnel among organizations with 110 to 499 buses and a high of 5.3 percent in smaller organizations with under 25 buses. Revenue vehicle operators range from 66.2 percent of employees in systems with 50 to 99 buses to 59.6 percent of employees in systems with over 1,000 buses. (*National Urban Mass Transportation Statistics*, 1981, pp. 1-48, 1-49.) The range of difference is small.

Bickford (1983) suggests that the heavy concentration of employees in the categories of operator and mechanic (in bus and rail systems of all sizes) implies a strategy for change that targets the largest segments of the work force.

Departments within transit organizations are highly interdependent, in competition for scarce resources, and limited in cross-departmental communication. Coordination is the responsibility of top management, and decision-making tends to be centralized. Departments are often geographically dispersed, a fact that increases the need for communications between departments. But most communications are within departments and vertically within the organization. This pattern is exacerbated by the fact, noted above, that managers within line departments tend to get their position from in-house promotion, while staff positions are more likely to be filled from outside.

The recent publication, *The Transit Service Reliability Problem and Potential Solutions*, proceedings of a workshop, documents the interdependence and lack of communication between transit departments. When improvements in system performance are desired, these characteristics can be impediments. Considering maintenance problems as a contributor to unreliable service, workshop participants first identified problems internal to such departments and under maintenance managers' control. Of greater interest, however, were the participants' observations on other maintenance-related contributors to unreliability: organizational causes and systemic causes. "Organizational causes stem from a lack of coordination within the transit property or from inconsistent departmental objectives. Systemic causes are related to the physical, fiscal, and political environment." (Abkowitz, 1983, p. 30; emphasis added) Inconsistent departmental objectives are also a cause of conflict between employees and management, which often get played out over safety vs. budget issues (*Washington Post*, December 22, 1982, p. A21).

### Operators' Jobs

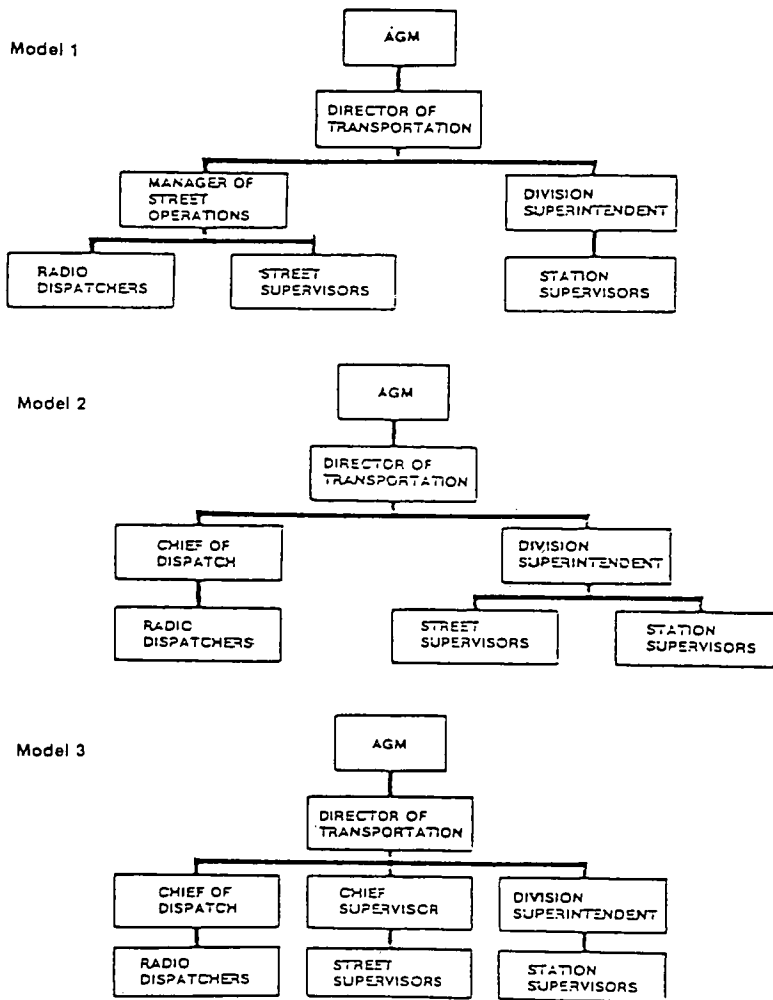
Bus operators are important to transit organizations in terms of their proportion of the work force, and they are important in a structural way. Operators are in "boundary" positions, that is, having considerable and often unsupervised client contact (Perry and Angle, 1980, p. 25). In any organization, these employees are a key to profitability and productivity. Peters ("Putting Excellence into Management," *Business Week*, July 21, 1980) in his report on "excellent" companies says, "The well managed companies are customer driven—not technology driven, not product driven, not strategy driven. Constant contact with the customer provides insights that direct the company." In service organizations, the importance of client contact is increased, and in service organizations supported by public funds, contacts become even more important. Perry and Angle (1980, p. 25) emphasize the point:

... the driver is the organization. The network of transit operators that the organization puts on the street constitutes the organization's public face. Ultimately, public attitudes toward the organization and public support of the transit operation may come to depend in large part on how well these operators represent the organization to the public.

The day-to-day performance of bus operators, however, is influenced by the fact that the job contains a number of disparate qualities. Perry and Angle (1980, p. 25) point out that the bus operator's job "is one of the most controlled and one of the most autonomous of blue-collar occupations." Elements of control include requirements of time tables and fixed route for operations, linked with street supervision and passenger complaints to enforce adherence. On the other hand, the operator has considerable freedom in passenger relations and enforcing company policy *vis-a-vis* passengers.

Another incongruous element of the job, expressed by drivers, is that they "take the brunt of the public's dissatisfaction with company policies, but they have no real voice in the formulation or revision of those policies" (Perry and Angle, 1980, p. 26). This theme is echoed in a report by the Consumer Research Section, Washington Metropolitan Area Transportation Authority (1982, pp. 33-34). The report summarizes group discussions of volunteers from WMATA's boundary employees (bus operators, station attendants, and transit police). The report states that operators feel "left out"; they try to handle the problems of the riding public, but they have no way to convey to management what they have learned about the public's needs. The operators were certain their organization could benefit from





In general, each system has several operating divisions that are structured similarly. In most instances the vehicle operators report to a Division Superintendent.

Figure 9. Generic organization structures in transportation departments. (From Schwager, 1983, p. 2.8)

tapping the experience they gain in day-to-day interactions with patrons.

A dilemma faced by operators as boundary employees is the conflict between service to individual passengers (e.g., waiting for a person running to a bus stop) and service to the public (e.g., predictable adherence to a time schedule). A Swedish study of bus operators asked, "How often do route schedules prevent you from being as service-minded as you would like?" Forty-six percent of the drivers said this occurred daily. The report (Gardell *et al.*, 1982) suggests that because being "service-minded" to an individual at one stop could produce complaints from other passengers, the driver will constantly feel inadequate (see Figure 10).

Considering the anomalies of the job, it is not surprising to find that transit operators express less job satisfaction than do other transit employees, and less than others in comparative occupations. Perry and Angle report the scores from a study of organizational commitment by a variety of occupations and their own results from a survey of transit employees. Transit maintenance personnel and bus operators evidenced two of the four lowest scores of commitment to the respondents' organization (see Table 5). Commitment is associated with job satisfaction

and on a direct measure of satisfaction in a separate survey; the results are replicated in Table 6.

Two subsets of these data, however, are of particular interest. First, transit employees demonstrate higher variations from the mean scores on both commitment and satisfaction than do most other occupational groups (i.e., there is less homogeneity in their opinions). Second, satisfaction with intrinsic factors (aspects of the job itself) was consistently higher than satisfaction with extrinsic factors (aspects of the context in which work is performed).

Perry and Angle also report on attitudes of operators on 20 different aspects of their jobs. The mean scores illustrate the difference in satisfaction between factors relating to the job itself, intrinsic factors, vs. the context in which work is performed (extrinsic factors). Note the mean satisfaction with the intrinsic factors—*independence* (6.15), *social service* (5.84) and *activity* (5.56)—compared to satisfaction with company policies and practices (3.23), *recognition* (3.78), and *advancement* (3.81). Only one extrinsic element—*security*, with a mean satisfaction score of 6.18—ranks high, and this could be attributed to a union as much as to management (see Table 7).

Job dissatisfaction has been linked to stress and absenteeism,

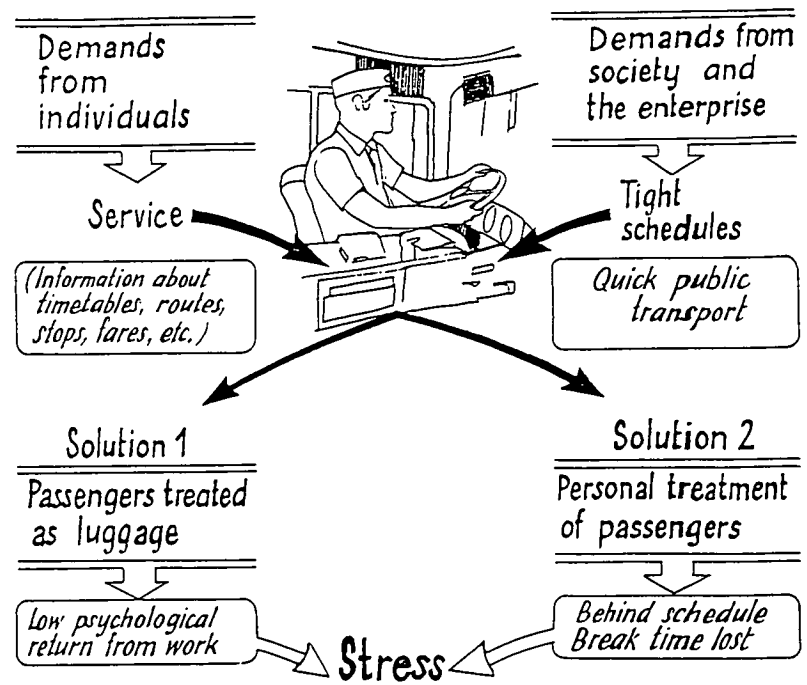


Figure 10. Service dilemma in operators' jobs. (From Gardell et al., 1982)

Table 5. Occupational comparison: organizational commitment. (Adapted from Perry and Angle, 1980, p. 66)

Occupation	Mean Score on Commitment to Organization
Retail management trainees	6.1
Auto company managers	5.3
Bank employees	5.2
Hospital employees	5.1
Transit supervisors	4.9
Telephone company employees	4.7
University employees	4.6
Transit, non-operators (1st level)	4.5
Public employees	4.5
<u>Bus Operators</u>	4.4
Scientists and engineers	4.4
<u>Transit Maintenance</u>	4.3
Psychiatric technicians	4.2

Table 6. Occupational comparison: job satisfaction. (Adapted from Perry and Angle, 1980, p. 68)

Occupation	Mean Score on Job Satisfaction
Salesmen	5.59
Janitors/maintenance (non-transit)	5.46
Engineers	5.45
Machinists	5.31
Office clerks	5.21
Transit supervisors	5.16
<u>Transit maintenance</u>	5.01
Transit non-operator (non-supervisory)	5.02
<u>Transit operators</u>	4.79
Electrical assemblers	4.72

and considerable research has focused on these factors as they occur among bus operators. Although these topics are not the focus of this research, several studies in this area contribute to the understanding of the nature of work in transit.

The recent Swedish study by Gardell *et al.* (1982) utilizes a model of job strain developed by Karasek (1979) in analyzing the results of an extensive survey of full-time bus and rail operators and guard personnel. (Karasek's (1979) model predicts job strain will result from work situations that combine low job decision latitude and heavy job demands. He defines "job decision latitude" as skill level (possessing a variety of skills) and autonomy (the freedom to decide how to use the skills). Karasek notes that these are two of the core dimensions in Hackman and Oldham's (1980) job enrichment concept. The same combination of low decision latitude and high demands is also associated with job dissatisfaction.) The researchers' hypothesis follows:

Table 7. Transit operators: satisfaction with 20 job factors. (From Perry and Angle, 1980, p. 69)

Factor	Mean	Variation From Mean <sup>a</sup>
Activity	5.56	1.33
Independence	6.15	1.15
Variety	5.40	1.63
Social status	4.70	1.75
Supervision: human relations	3.90	2.12
Supervision: technical	3.97	1.94
Moral values	5.31	1.68
Security	6.18	1.23
Social service	5.84	1.19
Authority	4.70	1.46
Ability utilization	4.99	1.91
Company policies and practices	3.23	1.85
Compensation	4.88	1.89
Advancement	3.89	1.96
Responsibility	4.69	2.01
Creativity	4.12	1.89
Working conditions	4.30	1.91
Co-Workers	5.24	1.64
Recognition	3.78	1.99
Achievement	4.92	1.80

<sup>a</sup>/ Higher numbers indicate more variation in responses.

We expect that the group with high loads (demands) and few resources (job decision latitude) for control is most exposed from the viewpoint of health, while the converse applies to the group with many resources and low loads.

However, the researchers do not expect that job demands can be lowered.

Public transport is characterized by the rigours of a timetable. The drivers accordingly often work under time pressure. Another important characteristic is that operators have to make quick decisions in situations where the amount of information is very large, time is of the essence, and faulty judgments and decisions can have serious consequences in the form of accidents.

But the "load" problem cannot be measured fully through descriptions of external conditions because individuals differ in what they experience as an optimum load. Therefore, the measures in that study included both external factors and subjective reactions. Specifically, high workload was identified as time pressure, complaints, troublesome passengers, and conflict between keeping the timetable, and traffic safety and service orientation.

The second component of the model is resources to control

job demands. In the study, "resources" were operationalized as technical, social, organizational, and personal authority.

As mentioned, for bus drivers we have chosen to introduce a concept *resources for load control*. A distinction is made between four kinds of resources. A *technical resource* is the radio and alarms system, which can be said to have two main functions, namely information and security. The radio enables the traffic management to disseminate information to transport personnel and the driver to ask for requisite information. The security function is the driver's possibility of calling for help when threatened or assaulted, in the event of vehicle breakdown and the like. Secondly, there are *social resources*, which cover the support and help the operator receives, from his/her immediate superiors as well as from fellow workers. Thirdly, there are *organizational resources*, meaning those available to the employee through the trade union for affecting his work situation. Fourthly, *authority on the job* can be a resource. This measurement was established on the basis of how the operator perceives his ability to handle problematical passenger contacts.

Gardell, *et al.*, found less strain in all "load" conditions where resources were high. The importance of the Swedish study is its recognition of the difficulty of changing the job of bus operator and its attention to possible modification of the context in which work is performed, that is, changing the extrinsic factors of work.

## Jobs in Maintenance

Maintenance is structurally different from transportation operations in at least three ways. (1) The organization of the maintenance function within transit agencies is more varied than the organization of transportation. No generic pattern of organization as was found with transportation departments in the Peat, Marwick study, was identified. It is noted, however, that patterns of organization are less "flat" within maintenance. (2) Maintenance jobs are not boundary positions. (3) Jobs in maintenance are more comparable to jobs outside the transit industry.

Patterns of organization appear to be influenced by the degree of specialization in positions since supervision and interorganizational communication requirements increase with specialization. Greater organizational diversity and specialization of work also lead to somewhat greater opportunity for upward mobility within maintenance. Some agencies have extremely detailed job descriptions; MBTA (Boston), for example, has more than 100 job classifications within the maintenance function. Other agencies have few generalized position descriptions. VIA Metropolitan Transit (San Antonio) is illustrative with one job classification for "shop repairman" which includes machine, body work, electrician, etc., and a total of only eight job descriptions covering all hourly employees in maintenance.

The patterns of work specialization and supervision in maintenance are similar to patterns of work found in private sector production organizations. The foreman (or first-line supervisor) is responsible for assigning and controlling work within a group of employees. This pattern is rarely found in a transportation division, where the typical supervisory functions (assigning and controlling work) are often divided between two positions—dispatcher and road supervisor—and picks of routes may make supervision of any one driver short term.

Patterns of organization also seem to be influenced by the number and variety of functions handled. In some agencies the maintenance function includes not only the routine functions of vehicle cleanliness and repair, but purchasing (handled by administration in some agencies) and bus stop maintenance (handled by city or county government in some jurisdictions).

A second factor distinguishing maintenance and transportation is that the former jobs are not boundary positions, and "success" in their work depends more on objective criteria and internal communications. Compare bus scheduling and routing, for example, dependent on information from outside the organization, to maintenance of buses, dependent on objective mechanical standards and feedback from operators. Most communication within maintenance is with other maintenance employees, usually with those performing the same specialized work. There is little face-to-face communication outside the department, and communications between operators and mechanics tend to be formalized and in writing.

A third structural characteristic of the maintenance function which indicates differences from the transportation function is the standardization of maintenance jobs across several industry groups. The transferability of skills and, it may be noted, the demand for these skills is higher in the maintenance than in the transportation function. Although transferable, maintenance experience is particularly valued within an organization because of the variety of types of equipment. Paradoxically, knowledge of the maintenance function is highly agency-specific because of the nature of work conditions and equipment (Bocock, 1981, p. 62).

Perry and Angle's (1980, p. 66) research on organizational commitment and job satisfaction shows low levels of commitment among public transit maintenance personnel (refer to Table 5). In fact, this group of employees had the lowest mean score on commitment among transit employees and the lowest, with one exception, in a comparison with nine other occupational groups. Low levels of commitment are associated with high turnover. Since maintenance skills are transferable, but also valued because of the agency-specific nature of technical expertise, this finding could point to problems in any future shortage of skilled employees.

Concerning job satisfaction, transit maintenance personnel scored somewhat above transit operators, but, as with organizational commitment, lower than all but one category in comparisons to other occupations. As with operators, maintenance employees were more satisfied with intrinsic job factors than with the context in which the job is performed, that is, nature of supervision, recognition, working conditions (Perry and Angle, 1980, p. 68).

## Sociotechnical Approach

Most of the transit research that was reviewed focuses on operators and maintenance employees. Bickford (1983), however, suggests a sociotechnical framework for the analysis of any job in transit. The framework is thought provoking in this context, particularly because she hypothesizes that the framework could be used as a tool to judge the applicability of QWL to transit positions.

She suggests that five dimensions are useful in sorting out "what makes jobs different for different employees" and "what structural dimension might limit or encourage the applicability of various programs [quality of work life] to different areas" (Bickford, 1983, p. 150). The five dimensions follow:

1. *Spatial features.* Characteristics of work differentiated by conduct of work at one defined location, primarily at one location, but requiring travel; or primarily across locations.
2. *Temporal features.* Work characterized by shift or nonshift work.
3. *Task types.* Differentiation of work following sociotechnical theory: transformation tasks, control tasks, transformation problem, exploratory problem, and inferential problem.
4. *Characteristics of output.* The degree to which work results in a service or a product.
5. *Requisite interactions.* A variety of dimensions with primary emphasis on whether individuals perform work separately or in groups and whether tasks can be performed independently or are dependent on completion of prior tasks.

Bickford analyzed a number of positions at Massachusetts Bay Transportation Authority along several dimensions. Considering interactions and spatial patterns, for example, she differentiates information clerks and payroll clerks on the dimension of interaction, with payroll clerks having more interaction with coworkers. Both, however, have the same spatial pattern, being located in one defined area.

Further testing of Bickford's hypothesis would be particularly useful in the absence of clear patterns of needs analysis or other indicators of "organizational readiness" for QWL.

## Labor Relations in Transit

The collective bargaining relationship is another dimension of the transit environment that must be considered in the application of quality-of-work-life techniques. Three characteristics of labor-management relationships are particularly influential when quality of work life is being considered.

Labor relations in mass transit are characterized as (1) having a unique legal framework, (2) being mature *vis-a-vis* other public sector relationship, and (3) involving strong unions. The mass transit industry had a long history of bargaining under the National Labor Relations Act and related court cases. But during the 1960s and 1970s, over 90 percent of transit agencies transferred from private to public ownership, and NLRA was no longer the governing law. During the 1960s, unions were an emerging force in the public sector, but state and local labor relations were not (and are not) covered under federal bargaining law.

The transit industry in 1964 came under the Urban Mass Transportation Act which sanctioned continuation of collective bargaining rights even in those states that refused recognition of other public employee unions. It also included employee protection provisions in Section 13(c). The legal framework is not completely unified, however, as commuter rail systems come under the Railway Labor Act. Thus, labor relations in transit differ from most other public sector union-management relations in coverage by federal law and the long history of bargaining based on a private sector model.

According to Perry and Angle (1980, p. 6), the legal framework has "less impact on transit performance" than anticipated. Those authors note that the weak relationship between collective bargaining laws and transit performance considers the impact of 13(c). They attribute the lack of relationship between the legal framework and performance to some degree to lack of knowledge of the law; they also note that legal barriers appear more as potential than real problems.

Although the legal framework may not affect transit performance, there is no doubt about the impact of collective bargaining. Management and unions have certain established rights, and areas of uncertainty are often arbitrated or litigated. The 1982 case involving the New York City Transit Authority and Transit Workers Union around productivity issues is illustrative, and excerpts of the *Government Employee Relations Report* (August 30, 1982, 977, p. 25) follow:

The question about Transit's right to set work standards and seek greater productivity arose after a three-member arbitration panel considering a contract dispute between Transit and TWU ruled . . . May (1982) that work quotas, wherever they existed, should be abolished.

Transit had argued that it had the right to obtain better productivity, . . . the arbitration panel . . . noted that over a period of years a quota system had been negotiated with TWU that defined the specific work output constituting a tour of duty. Transit argued that the system had the effect of defining the finishing time of a tour of duty as the completion of a given number of units of output.

After the first case was decided, the Authority established requirements for submission of individual time records for each maintenance operation performed, and it set work standards. Another arbitration case ensued, which the Authority also won. The arbitrator, however, warned the agency not to use the decision as an excuse to exert force as a method of supervision or as an excuse for sudden recourse to disciplinary action. Al-

though agreeing that management had the right to seek improved productivity, the arbitrator said:

I sincerely hope that the authorities realize the practical limits of the affirmation of their rights in this award and that they will now resort to reason in the exercise of their management rights." He continued: "Common sense dictates that their right to manage is not an invitation to labor warfare. I trust that the authorities' acknowledgement of their errors to date, and their stated pledge to attain a higher level of communication with the union, serve as an indication that they understand that the greatest protection for their rights is their own commitment to fair play and mutual understanding.

The case's theme of the importance of productivity and the interdependence of management and union in achieving productivity underscores the impact of labor relations in the industry today.

Jennings (1976) and Stern (1977) suggest that the history of bargaining in mass transit has led to mature relationships between the parties, in comparison to other public sector union-management relationships. Clarification of rights through arbitration and litigation may also contribute to the maturity of the relationship. Jennings notes that negotiations are generally carried out smoothly in the amount of time allotted. Further, labor and management have engaged in joint efforts, notably lobbying, another sign of a mature relationship. While underscoring the importance of a mature collective bargaining relationship to quality-of-work-life programs, John Rowland, President of the Amalgamated Transit Union, as well as some observers, has stated that the relationship between union and management at the industry level has deteriorated in the current political environment (speech to Labor-Management Quality of Work Life Conference, Pittsburgh, Pennsylvania, June 20, 1983) and, he says, this could preclude cooperative efforts.

The history of bargaining and the legal framework has led to high levels of organization among transit employees and strong unions. In the public sector, only firefighters and teachers have comparable percentages of employees organized. The strength of transit unions suggests reductions in unilateral decision-making by management, and Stern (1977) notes that the major transit unions have already demonstrated they will not "voluntarily forego 'hard won' job protections, wage levels, or union security. Therefore, approaches to productivity issues, if major conflict is to be avoided, may necessarily involve productivity bargaining and/or some form of the labor-management, productivity, and employee committees now the subject of experimentation in such industries as steel and retail food."

The implications for the future of labor-management cooperation in mass transit are that the industry represents a good opportunity for joint efforts. Cooperation is most likely to be successful when there is a mature relationship in which both parties are contented with their contractual relationships and in which management views the union as legitimate (Brower, 1982; Ahern, 1983).

Perry and Angle (1980, p. iii) suggest " . . . changes in the collective agreement hold the potential for the improvement of organizational performance, provided that negotiated changes in organizational policy result from mutual problem solving, rather than distributive bargaining."

## SUMMARY OF QUALITY OF WORK-LIFE PROGRAMS

Table 8 summarizes quality-of-work-life programs by position and process issues. The literature citations in the table are given in full in Appendix A.

Table 8. Quality-of-work-life program summary by position and process issues.

<u>Job Redesign</u>		
<u>Location</u>	<u>Position/Coverage</u>	<u>Citation*</u>
State Government Agency, MN	Clericals	Gomez, L. (1975)
Air Force Logistics Command	Mechanics	Herzberg, F. (1979)
Federal Government Agency, U.S.	Clericals	Locke, E.A., Sirota, D., and Wolfson, A.D. (1976)
Government Agency, South Africa	Clericals	Orpen, C. (1979)
<u>Process Issues</u>	<u>Potential Barriers</u>	<u>Citation</u>
	Poorly planned and implemented changes.	Hackman, J. and Oldham, G. (1980)
Stresses implementation issues such as feedback in a client relationship. Measurement of changes in employee attitudes and productivity is necessary.	Lack of participation by employees whose jobs are to be changed.	Herzberg, F. (1979)
Measurement of behavior and attitudes is stressed.	Expectation by employees that significant rewards would be the result of improved productivity.	Locke, E., Sirota, D., and Wolfson, A. (1976)
	Broad-scale implementation is difficult.	McBride, S. (1980)
<u>Work Teams</u>		
<u>Location</u>	<u>Position/Coverage</u>	<u>Citation</u>
Coal Mine, Central PA	Autonomous work groups involve goal setting on production, safety issues.	Trist, E.L., Susman, G.I., Brown, G.R. (1977)
Bank	Clerical workers, supervisors cross trained, move from specialized to general function.	Zemke, R. (1981)
U.S. Steel	Work group of hourly employee and supervisor deal with production, safety, incentive pay, quality. Union and management at plant must consent to program before initiation.	"A Try at Steel Mill Harmony," (1981)
<u>Process Issues</u>	<u>Potential Barriers</u>	<u>Citation</u>
Controlled experiment in how to establish work groups; decision making and production goals for the groups which included safety, performance, and job satisfaction.	Lack of full labor-management cooperation, setting up work groups "as an experiment."	Trist, E., Susman, G., Brown, G. (1977)
	First line supervisory management style.	"A Try at Steel Mill Harmony" (1981)
<u>Incentives</u>		
<u>Location</u>	<u>Position/Coverage</u>	<u>Citation</u>
Mass Transportation Authority, Flint, MI	Monetary incentives to reduce lateness, unexcused absenteeism, and to increase safety. All operators and mechanics covered.	Resource Guide (1982)
City Government Agencies, Philadelphia, PA	Engineered work standards for all positions handling water meter repair and installation. Production in excess of certain standard resulted in bonuses. Supervisors receive bonuses when unit costs under supervisor's control were reduced.	Greiner, J. and Dahl, R., et al., (1977)

\*See Appendix A for full reference.

Incentives (continued)

<u>Location</u>	<u>Position/Coverage</u>	<u>Citation</u>
Department of Sanitation Flint, MI	Wage incentive and quality control was instituted in Department of Sanitation for all unionized employees.	Greiner, J. and Dahl R., et al., (1977)
Various sites	Local government--variety of positions. Survey shows expansion in usage of monetary and non-monetary incentives.	Greiner, J.M. (1979)
North American Tool and Die, Inc.	All employees. CEO directly involved. Turnover reduced six percent, profits up substantially.	Melohn, T.H. (1983)

<u>Process Issues</u>	<u>Potential Barriers</u>	<u>Citation</u>
	High administrative costs; work standards without incentives produce employee dissatisfaction; supervisors resist worker incentives.	Greiner, J., Dahl, R., Hatrv, H., Millar, A., (1977)
Goal of this program (North American Tool and Die) is to improve employee involvement in profitability of organization. Includes monthly recognition meetings, cash awards for innovative suggestions and service, and a management report on company progress and concerns.		Melohn, H. (1983)
Describes state and local incentive programs, includes job rotation and enlargement.		National Commission on Productivity and Work Quality (1975)
Guidelines for the development of individual incentive plans are presented including responding to attendance, downtime and overtime problems.	Computer controlled work, poor labor-management relations, and where quantity is as important as quality.	"A Vote for Individual Incentive Plan" (1982)

Task Forces

<u>Location</u>	<u>Position/Coverage</u>	<u>Citation</u>
Merck and Company	Internal task forces work with outside consultant in analyzing problems.	Flax, S. (1981)

<u>Process Issues</u>	<u>Potential Barriers</u>	<u>Citation</u>
Task forces can be used easily and successfully when other forms of participation may be threatening to the organization. Guidelines are suggested for task force formation.		Turney, J. and Cohen, S. (1980)

Quality Circles

<u>Location</u>	<u>Position</u>	<u>Citation</u>
Metropolitan Transit Commission, St. Paul, MN	Mechanics	Caria, G.G. and Diers, J.W. (1982)
Variety cited	Hourly employees in manufacturing: General Motors, Lockheed, Honeywell and others.	Gryna, F.M. (1981)
Westinghouse Defense and Electronics Systems Center, Baltimore, MD	Hourly employees in four manufacturing units, staff members from Production, Electrical Test and Purchasing.	Swartz, G.E. and Comstock, V.C. (1979)
Mount Sinai Medical Center Miami Beach, Florida	Nurses, nurse supervisors, dietary workers, transportation and other support staff. Facilitators drawn from mid-top management. Improved morale, commitment by employees lead to program expansion.	Baird, J. (1981) Also Johnson, D.E.L. (1981)
Ford Motor Company	Hourly employees. Union opposition kills program.	"Britain's Unions Brake Ford's 'Quality Drive.'" (May 18, 1981)

Quality Circles (continued)

<u>Location</u>	<u>Position/Coverage</u>	<u>Citation</u>
Norfolk Naval Shipyard, VA Federal Facility	All employees, union on steering committee.	Bryant, S. and Kearns, J. (1982)
Northrop Corporation Aircraft Division	All employees from top management to shop floor workers.	Burck, C.G. (1981)
Montgomery County, MD Department of Transportation	Five pilot QC's in equipment, operations, engineering, transit services, traffic engineering. Evaluation after one year shows cost benefits.	"County to Expand Use of Quality Circles," (1983)
Laguna Beach, CA; Dallas, TX; Ramsey County, MN; Fort Collins, CO	Mechanical maintenance workers, foremen; convention center employees, data services, housing and urban rehab, parks, police, human services division, automotive mechanics.	Godsey, M.W. (1982)
Westinghouse Construction Division	Employees and managers of six units including personnel, controllers, marketing and hourly employees in construction. Overall Westinghouse growth six percent, division with QC had eight percent.	Greenland, B.P. (1983) Also Main, J. (1981)
Honeywell, Inc.	4,000 employees (five percent of workforce) Company encourages managers at all levels to be involved.	"The New Industrial Relations," (1981)

<u>Process Issues</u>	<u>Potential Barriers</u>	<u>Citation</u>
Norfolk Naval Shipyard needs assessment, implementation and evaluation described.	Mid-management and supervisor involvement a necessity. Communication of progress throughout organization to avoid resentment.	Bryant, S. and Kearns, J. (1982)
Northrop Corporation Aircraft Division Training and evaluation issues described.	Lack of good planning for the program and authoritarian mid-managers.	Burck, C. (August 1981)
	Authority and accountability changes challenge mid-level managers.	Burck, C. (June 1981)

Quality Circles (continued)

<u>Process Issues</u>	<u>Potential Barriers</u>	<u>Citation</u>
Effect of unionized setting on planning, implementation and evaluation of QC program.	Lack of union involvement.	Burton, C. (1983)
Metropolitan Transit Commission (St. Paul) needs assessment and implementation process.		Caria, G. (1982)
QC concept must be adapted to fit American industry.	Lack of mid-management support. American industry different than Japan's.	Cole, R.E. (1980)
	Sharing power, decentralized decision-making, sharing information a threat to both union and management.	Cole, R.E. (1983)
	Role of the union, mid-management and issue of "voluntary" participation.	Cole, R.E. (1981)
	Group problem solving not fully accepted in U.S. Worker distrust of management motives.	Dumas, R. (1983)
Explains what QC's are, and needs assessment, program design, and training overview given.		Gryna, F. (1981)
Structure and QC process are described.	Individual participant lack of cooperation.	Manning, G. and Curtis, R. (1982)
Westinghouse experiment with QC's: planning, implementation, and measurement of company growth are described.		Main, J. (1981)
Implementation and needs assessment process described.	Reaction to a "fad" may lead to improper implementation; organizational readiness; union lack of participation; inadequate planning; facilitator selection critical; impact on the organization of participative process.	Metz, E.J. (1981)



Quality Circles (continued)

<u>Process Issues</u>	<u>Potential Barriers</u>	<u>Citation</u>
Emphasis on QC as part of human resource development, participative management.	When divorced from HRD, program will be short lived.	Alexander, C. P. (1983)

Labor-Management Committees

<u>Location</u>	<u>Position/Coverage</u>	<u>Citation</u>
Mass Transportation Authority, Flint, MI	110 covered, 140 total employees. Director of Operations, Superintendent of Bus Operations, Superintendent of Building, Grounds and Maintenance, Teamsters Local Chief Steward, employees in operations, employees in maintenance. Total three working committees.	<u>Resource Guide to Labor Management Cooperation</u> (1982)
Transit Authority, Seattle, WA	Five union representatives ATU, #587 Five management representatives, 2,500 covered, 3,300 total employees.	<u>Resource Guide</u> (1982)
City Government Agencies, Columbus, OH	3,000 covered, 6,000 total employees Public Service Department (Division of Sewers and Drains, Water Sanitation) Mayor, AFSCME Area Director, local president and Board of Trustees. Total 19 working committees.	<u>Resource Guide</u> (1982) Also in Trist, E. (1980)
City Government Agencies, Cumberland, MD	100 covered, 310 total employees. Three union, three management--public works, equipment maintenance, personnel	<u>Resource Guide</u> (1982)
New York City Department of Sanitation Bureau of Motor Vehicles	All mechanics	Contino, R. (July 1982) Also Contino, R. (Jan./Feb. 1982)

Labor-Management Committees (continued)

<u>Location</u>	<u>Position/Coverage</u>	<u>Citation</u>
San Francisco Municipal Railway	Multi-level committee: at top, General Managers, Union Executive Board; at Department Level, department heads, union officials; at work site, hourly employees (union) and supervisors.	Brown, B. (1983)
Garden City, MI	Four LMCs within city department. Suggestions analyzed and implemented. Budget influenced.	Godsey, M.W. (1982)
AT&T	300 LMCs throughout Bell System, emphasize employee involvement in problem solving.	"Private Sector Report: QWL in the Bell System," (1983) Also Watts, G. (1983)
General Motors	QWL programs (implemented through LMC) established through contract agreement. Participation voluntary, now at about 90 plants. Training provided for management and hourly employees.	"Report on Quality of Working Life," (1982) Also: "The New Industrial Relations," (1981)
Milwaukee Road Railroad	Top level LMC dealing with work rule changes, job enlargement, flexible scheduling, job enrichment.	Laughlin, L.R. and Pauley, R (1981)

<u>Process Issues</u>	<u>Potential Barriers</u>	<u>Citation</u>
Northwest Labor Management Center implementation of labor-management committees.	Internal union politics.	Brower, M. (1982)

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Labor-Management Committees (continued)

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<u>Process Issues</u>	<u>Potential Barriers</u>	<u>Citation</u>
Describes needs assessment process, implementation, information dissemination, and evaluation issues.		Clark, S. (1980)
New York City Bureau of Motor Vehicles needs assessment, implementation evaluation process described.		Contino, R. (1982)
Various methods of implementation, structural issues are discussed.		Keidel, R. (1981)
Describes measurement techniques used to determine success of Harmon Bolivar Plant LMC program.		Macy, B. (1980)
Describes how 18 industry programs are working (with implementation and evaluation issues)		<u>Resource Guide</u> , (1982)
Implementation and results oriented report on AT&T labor-management committee effort.		"Private Sector Report," (1983)
Respect for each others labor-management issues is stressed as a prerequisite for success.	Survival over a period of time is a result of incentives to generate cooperation; rank and file employees often not convinced of need for and benefits to them of committees.	Stepino, L. (1982)

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Participative Management Programs

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<u>Process Issues</u>	<u>Potential Barriers</u>	<u>Citation</u>
North American Rockwell experiment in implementation and evaluating different types of participative management.		Chaney, F.B. and Teel, K.S. (1972)
	Management and union attitudes that mitigate against change.	Cohen-Rosenthal, E. (1980)
Involves a change in management style.	Manager perceptions of loss of control, legislative resistance to change.	Donaldson, W.D. (no date)
Describes variations in approach and technique in six companies' QWL experience. Organizational readiness as an issue.		Keidel, R. (1980)
	Needs of management, union and worker must be met or there will be resistance to change.	Kochan, T. and Dyer, L. (1976)
Delegation to a group is the definition used for participative management.	Lack of careful planning and implementation. Appropriate employees must be involved.	Kanter, R. (1982)
Case studies and chapters on different participatory techniques are presented.		Loftus, J. and Wallfish, B. (1977)
Measurement techniques for behavioral and cost benefit changes is presented.		Macy, B. and Mirvis, P. (1976)
Discusses various techniques and implementation issues in transit.		Laughlin, L. and Pauley, R. (1981)

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Participative Management Programs

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<u>Process Issues</u>	<u>Potential Barriers</u>	<u>Citation</u>
General discussion of QC's, participatory management, incentive systems, and training programs to build new labor-management relationship.		"New Industrial Relations" (1981)
Needs assessment based on declining productivity focused the problem on lack of employee involvement.		Pauley, R. (1981)
Emphasizes supervisory role in facilitation and participation in QWL programs.	Lack of reward system for supervisors.	Strauss, G. (1975)
	Middle management, lack of definition of roles and responsibilities, dealing with "cosmetic" solutions.	"Toward a More Human Way" (1979)
Measurement issues for OWL programs are defined and the necessity of involving employees in establishing those measures is discussed.		Tuttle, T. (1982)
Productivity and human resource management discussed in chapters on transit, and ideas about getting resources for implementing and measuring a program.		Washnis, G. (1980)
Planning and implementation must involve the union; discusses many types of employee participation efforts.	Union lack of cooperation in programs seen as "take-over." Gimmicks such as QC's; lack of union involvement in planning and implementation.	Watts, G. (1983)

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Participative Management Programs

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<u>Process Issues</u>	<u>Potential Barriers</u>	<u>Citation</u>
Issues include task accomplishment in the supervisory position. The role of the work group and total organization is recognized.	Supervisory dissatisfaction.	Walton, R. and Schlesinger, L. (1979)
Decision making and goal setting, motivation, communication and supervisor and subordinate relationships are discussed.		Zander, A. (1982)

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## APPLICATION OF QWL TO TRANSIT

Quality of work life (QWL) is an approach to organizational change that stresses human values and human resource development, aims to offer employees the opportunity to participate in decision-making, and promotes productivity improvement. Quality of work life is implemented through a variety of techniques, some oriented toward human development and others combining this orientation with participative processes that are expected to produce improved productivity. Work redesign, quality circles, and labor-management committees are examples of the variety of techniques used to implement QWL. It has been noted that because QWL focuses on organizational change, implementation of more than one technique is usually necessary to accomplish change. Further, in organized environments, QWL is implemented through joint efforts of management and union.

Can this approach to organizational change be successfully applied to the urban mass transit industry to produce increases in productivity and job satisfaction? Industry characteristics described in the preceding chapter (lack of promotion opportunities, potential line/staff conflict, limitations on interdepartmental communication, competition for resources, and some evidence of increased union-management tension) strongly suggest the utility of QWL. But which of the variety of techniques can be applied and are particularly suited to transit? To answer this question, the authors of this report review usage of a number of QWL techniques that have been applied in transit; discuss process issues related to implementation; and comment on available evaluation of outcomes.

Currently, quality of work life is not widely accepted in the transit industry. Techniques associated with QWL have been applied singly to small numbers of employees. The scope of such programs is narrow and results tend to have limited impact. Rarely have employees been involved in the planning processes, and joint labor-management efforts to improve productivity and quality of work life are also rare. The level of experimentation with QWL in the private sector, documented by the New York Stock Exchange Report, *People and Productivity*, has not been attained in either the public sector, generally, or in the transit industry.

This situation appears to be related to lack of knowledge of QWL rather than to lack of suitability of the participative processes to transit. There are examples of success in transit, and the conditions for success appear transferable.

Thus the research has led to the development of recommendations concerning application of certain QWL techniques to transit organizations. All of these recommendations, discussed below, have some link to motivational theory and/or to theories of bureaucratic organization. All have some empirical evidence in the form of existing programs considered successful.

The recommendations, however, must be considered within the context of established principles regarding the process of organizational change. These principles are discussed in *NCHRP*

*Report 6*, and the reader interested in implementing any of the quality-of-work-life techniques described is urged to be aware of both the process of change and the substance of the technique under consideration.

### WORK REDESIGN FOR INDIVIDUALS

Work redesign encompasses job enlargement, a greater variety of tasks but no additional responsibility; job enrichment, a greater variety of tasks, additional responsibility and greater autonomy; and job rotation. Transit agencies using work redesign reported these goals: improve productivity, permit flexibility, add variety to the job, encourage career development, and improve morale. All of these stated goals are consistent with Hackman and Oldham's (1980) approach to work redesign.

Fourteen percent, or 21 of the 152 agencies responding to the PAS survey, reported use of work redesign. Of these, four were large sites, six were medium, and eleven were small agencies. Thirteen of the 21 agencies' programs consisted of job rotation, implemented through cross-training. One program was job enrichment for supervisors, but follow-up telephone contacts found the remaining seven programs were no longer operating or did not fall in the defined category. No cases of job enlargement were identified, although cross-training could be used to enlarge jobs in addition to allowing for rotation.

### Job Rotation

Supervisors were the target group for job rotation at 10 agencies, the most common pattern being cross-training for road supervisor and dispatcher, with rotation scheduled as needed to either position. Clerical employees were involved in cross-training at five agencies and two sites reported cross-training for mechanics, but none of the clericals or mechanics were regularly rotated into other positions.

The application of job rotation appears fairly narrow in scope. Few employees were involved and only five of the respondents indicated that employees participated in planning or implementing the programs. Because the target groups were generally nonunion (supervisors and clericals), one assumes that the union was not involved. No specific concerns on implementation or barriers to job rotation or cross-training were uncovered in the telephone follow-up. Further, none of the large or medium sites, and only two small sites, reported evaluation of these programs, and these two evaluations proved to be subjective evaluations.

### Enriched Jobs for Supervisors

Supervisor's jobs are fragmented in transportation departments and, at most agencies, span of control is too broad to

permit interaction with the people supervised. Quarterly route picks by drivers also tend to depersonalize the supervisor-operator relationship. The duties of assigning and controlling work that in other industries are expected to be handled by one person usually are divided between dispatchers and road supervisors. Further, supervisors express low levels of satisfaction with their jobs relative to supervisors in other nontransit jobs. The problem appears to be centered in the nature of the job, rather than in extrinsic factors, suggesting that job enrichment is an appropriate technique to consider for supervisors.

Job enrichment for street supervisors was identified at the Spokane Transit Authority and San Francisco Municipal Railway (the latter identified through the APTA survey). In each case the job of the supervisor was significantly changed in terms of the nature and scope of work. Hackman and Oldham's principles of job redesign—variety, task identity, significance of the work, autonomy, and feedback—appear to have been incorporated into the redesigned jobs. In San Francisco, where reorganization and change in civil service classifications were occurring simultaneously, the position of Transit Line Coordinator (TLC) was developed from the older position of Inspector. Figure 11 compares the two positions with regard to Hackman and Oldham's dimensions. San Francisco is monitoring improvements in headway maintenance and decreased passenger complaints as a consequence of the redesigned supervisor jobs.

Adoption of job enrichment appears to be an appropriate

technique to apply to supervisors' jobs, but potential barriers must be considered. First, job enrichment requires careful analysis prior to implementation of change. Hackman and Oldham stress the necessity of determining whether the design of the job is the problem as it appears to be in this analysis of supervisors' jobs. They suggest using the Job Diagnostic Survey (the survey is available as an appendix to Hackman and Oldham's 1980 publication). Small agencies, for example, may find that the possibility of face-to-face interaction between operator, dispatcher, and road supervisor prevents alienation and reduces the fragmentation of responsibilities that frequently occur at larger agencies. In addition, organizational arrangements, such as the size of the garage as a base for operations or the degree to which routes change during pick periods, may influence the results of the JDS. One cannot assume that all supervisors' jobs need enrichment.

If diagnosis indicates moving ahead, the second step is the redesign of the job. Factors unique to the agency must be considered as the job structure is modified to incorporate the concepts of variety, task identity, significance, autonomy, and feedback. A technical expert is usually required.

The results of changing the supervisor's job will affect other jobs and the structure of the organization. San Francisco Muni was undergoing a complete reorganization that changed lines of authority, created new positions, and changed job classifications at the same time the supervisors' jobs were being redesigned. Greiner *et al.* (1980) have noted that civil service

Dimensions of Job Enrichment	Inspector	Transit Line Coordinator
Span of Control	1:40-250	1:25
Variety of Tasks	Moderate--record data, write reports, direct vehicles, supervise operators. Must take exam for new job.	High--monitor schedule adherence, direct vehicle to maintain headway, supervise, instruct, and counsel operators. Eligible for seven different jobs without civil service exam.
Task Identity	Low--accountable for segments of line, accountable for some parts of operator performance, but did not evaluate operator.	High--accountable for complete line (or lines) with authority to make adjustments to maintain schedule or headway. Increased operator contact, evaluate operators.
Task Significance	High--responsible for reliable service.	High--responsible for reliable service, leader of group of operators.
Autonomy	High	High
Feedback	Low--little opportunity for interaction with operators, limited to "corrections." Limited information on total line performance, inadequate radio system.	High--lower ratio of supervisor to operator permits interaction, control over total line and improved radio communications. Permits better feedback on service reliability.

Figure 11. Example of job enrichment.

requirements concerning reclassification often become barriers to implementation. Broad organizational change, which is costly and time consuming, is commonly associated with job enrichment.

### **Work Redesign for Operators**

Available evidence suggests that none of the three types of work redesign is particularly appropriate for bus operators' jobs. Job rotation does not mesh well with the established practices of route picks and other scheduling practices. Further, rotation would tend to reduce established driver-passenger relationships, which most drivers value. Job enlargement and job enrichment are both designed to reduce dissatisfaction with the job; yet, as can be seen in Table 6, operators are generally satisfied with the intrinsic qualities of the job. Their dissatisfaction is with the context in which work is performed. Either of these two approaches to work redesign would attack a nonexistent problem.

### **WORK REDESIGN FOR GROUPS**

Work redesign for groups is accomplished in two ways. (1) Work is redesigned so that teams have responsibility for an entire task or set of tasks, and the skills needed to complete the work are found within the group. All group members report to the same supervisor who assigns work to the group rather than to individuals. (2) Work is redesigned so the group has responsibility for the entire task or set of tasks, and all group members learn the skills necessary to complete the task. Group members are autonomous in that there is no supervisor, and the group assigns and controls work internally. This second type, called autonomous work groups, is extremely rare, and no examples were identified in transit agencies.

Work teams, however, were reported by 12 percent or 19 agencies responding to the PAS survey. Of these, three were large agencies (15 percent), six were medium (17.6 percent), and ten were small (10 percent) agencies. Work redesign for groups is not extensively used in transit, and the existing programs appear narrow in scope.

Survey respondents indicated that the primary reason for establishing work teams was to increase productivity and to involve employees in problem solving. Indeed, six agencies included employees in planning the work teams.

Work teams have been used in conjunction with many different positions. VIA Metropolitan Transit in San Antonio, Texas, uses a work-team approach among clerical employees.

The Spokane Transit Authority uses a work-team approach, called the "Unit Management System," in which 20 operators are assigned to each road supervisor. Drivers had some choice as to which supervisor they preferred when the system was initiated. Supervisors work a fixed 35-hour week, plus 5 hours of flex time to enable them to be in contact with each of the drivers in the unit. This allows better communication about the problems of individual drivers as well as a better opportunity to praise good performance. Unit supervisors also meet together on a weekly basis to discuss operational problems and personnel issues.

Spokane has found it easier to judge not only the performance of individual operators but also the work of supervisors. Increased absenteeism, high customer complaint levels, or a changed grievance level for a unit may indicate poor perform-

ance of a supervisor or some other problem that the next level of management should address.

The Gainesville, Florida, Department of Transportation uses work teams for a different purpose. There, work teams of mechanics and operators have been formed and given responsibility for preventive maintenance for a group of identified buses. Prior to the work-team method, preventive maintenance was done by individual mechanics on a scheduled basis. Now it is accomplished on a nightly basis, and responsibility for preventive maintenance is pinpointed to a certain team. The Director of the Department of Transportation believes the program has led to improvements in their maintenance procedures, but there is no evaluation component associated with the program.

### **RECOMMENDATIONS CONCERNING APPLICATION OF WORK REDESIGN**

Work redesign, whether for individuals or groups, is not extensively used in transit, and there appears to be little flexibility for redesign of most jobs within transit. Job enrichment, one type of work redesign, does not appear useful for operators because job satisfaction surveys indicate generally high levels of satisfaction with the job (although not with the work context). Enrichment of supervisors' jobs, however, deserves serious consideration. The changes can positively influence not only the supervisors, but the operators. The changing nature of the transit work force, operators' dissatisfaction with supervision, and some evidence that supervisors' dissatisfaction is intrinsic, suggest that redesigning the supervisor's job can have substantial benefits to both groups of employees and be a positive influence on the organization.

Job rotation has been used more frequently than job enrichment, but has not been evaluated to determine the effect on productivity or job satisfaction. Any experimentation should be limited to management jobs.

No cases of autonomous work teams were uncovered in the course of the research, and even work teams are rare. Work teams may, however, be useful among clerical and maintenance personnel, particularly in medium-to-small agencies where the increased flexibility provided by a team approach can be a benefit. The existing research, which focuses on clerical employees, however, is inconclusive and, if managers have limited resources, targeting job redesign as an agency's primary to QWL is not recommended.

### **ALTERNATIVE WORK SCHEDULES**

The variety of alternative work schedules reviewed in Chapter Two appears to have limited applicability in transit. Nonunion clerical employees and information clerks would be the most likely groups to benefit. Use of alternative work schedules was not determined in this research because neither the PAS nor the APTA survey specifically requested responses on this topic. Isolated examples, however, have been identified. Dispatchers in Montgomery County, Maryland, have a compressed work-week as one schedule option along with more traditional schedules included in their quarterly schedule picks.

### **INCENTIVES**

Incentives are widely used in the transit industry. The PAS

survey found that incentives are being used in 75 percent (115) of the responding agencies, with 85, 88, and 69 percent of large, medium, and small sites, respectively, reporting use. In addition to being the most often used of the QWL techniques, incentives have also been used for a longer period of time than other techniques, an average of 5.8 years. Interestingly, the mode, or the year most commonly cited in relation to incentives, is one year. This apparent contradiction reflects the fact that many have long-standing incentive programs—seventeen reported that incentives have been used for 10 years or more—but other agencies are just starting to use incentives. Nineteen reported new programs.

Operators were included in incentive programs at every site, but mechanics were involved in only 50 percent of the programs. Twenty-three sites reported that all employees were covered. Supervisors were mentioned specifically only five times and clerical workers only four. These figures relate to the type of program an agency has. Safety incentives are more suitable for operators and mechanics, for example, than for secretaries.

Overwhelmingly, program goals were to improve safety and reduce absenteeism as well as to reward exemplary performance. These goals were linked to improving productivity by 24 respondents.

In Chapter Two, a variety of approaches to incentive programs were reviewed. These approaches may be divided roughly into four categories: (1) individual, nonmonetary; individual, monetary; group, nonmonetary; and group, monetary.

#### **Types of Incentives in Transit Agencies**

##### *Nonmonetary Incentives*

In transit, incentive programs mostly fall into the category of individual, nonmonetary. The Safe Driving Award of the Des Moines, Iowa, Metropolitan Transit Authority is illustrative of the type of program that is widely used as an incentive for bus operators. The program is open to all operators. Safety patches are awarded to those who drive for a 12-month period without a chargeable accident. The program provides recognition to safe drivers, increases the emphasis on safety, and demonstrates employee accomplishments to the public.

This incentive program, one among a number of incentives offered by Des Moines, provides recognition for a specific behavior, safe driving records, and is awarded on an individual basis. Recognition of safe driving for operators and freedom from personal injury for mechanics are the most typical individual, specific behavior, nonmonetary incentives. The next most common program of this type is recognition for attendance.

A number of agencies combine attributes of safety, attendance, and other factors in determining the basis for recognition and combine monetary and nonmonetary rewards. Metropolitan Transit Commission, St. Paul, is particularly noteworthy in the rigor of its standards and the fact that the program was developed by a group of operators, working with staff from the Human Resources Department. The standards and awards involve several levels of achievement: Meritorious Driver and Distinguished Driver. Requirements and rewards are discussed in Appendix C.

In the first 6 months of this program, 40 percent of the drivers remained eligible for the Meritorious Driver Award and 10 percent for the Distinguished Award. This program, along with the new, clearly stated attendance policy on which it is based,

resulted in sharply decreased absenteeism. Driver absenteeism due to unscheduled sickness and workers compensation averaged 6.1 percent during 1982, representing a 28.2 percent decline from the 1981 average of 8.5 percent. Other types of absences monitored by this policy also declined in the past year: lateness, "no-show," and "requests off" have all decreased.

##### *Monetary Incentives*

Monetary awards to individuals are less frequent than non-monetary awards in the transit industry. But because monetary incentives have been subject to considerable experimentation in the private sector and have been generally found to be successful in improving productivity and job satisfaction, this approach was considered worthy of consideration. Thus, one transit agency using monetary incentives for individuals was selected for a site visit and that program is described in the following.

The Mass Transit Authority (MTA) at Flint, Michigan, has established an incentive program and a number of other programs through the bargaining process with the Teamsters Union. The MTA-Teamsters contract establishes a number of innovative programs that are seen by participants as integral parts of a whole and that are called "Quality of Work Life" (QWL). The incentives program, for example, is considered unworkable without the trust established in the labor-management committee. The reader should be aware that the authors do some disservice to the total fabric and philosophy of Flint's efforts by separating the programs for descriptive purposes.

*Incentives for Attendance.* Incentives for attendance are included in the labor contract. These incentives are available to all unionized employees (i.e., operators and mechanics). The goal is very straightforward; to reduce unexcused absences and late arrivals.

The program is planned to provide an escalating incentive during the year. For each calendar month, any employee with no unexcused absence or tardiness receives \$0.10 per hour actually worked, payable by the 15th of the following month. Those with three successive months without unexcused absence receive an additional \$0.10 per hour worked for the 3-month period. This quarterly bonus is paid by the 15th of the month following the end of the quarter. A \$0.15 per hour worked bonus is awarded those with no unexcused absence or lateness throughout the year.

The annual bonus and the fourth quarter bonus (as well as the safety bonus described below) are presented at a banquet, planned by employees and paid for by MTA, held each December. Top dollar last year went to two bus operators who each received over \$1,200. In 1982 almost all hourly employees received a bonus check of some amount.

In the first 3 months of the incentive program there were 130 unexcused absences. In the most recent 3-month period for which comparable records are available (July to September 1982), there were 36 unexcused absences. Late arrivals show a similar trend. From July to September 1980, 61 late arrivals were recorded; from July to September 1982, only 18 late arrivals were recorded. Details of the improvements are given on Tables C-1 and C-2 in Appendix C.

As would be expected, improved attendance has had a positive effect on overtime usage. Overtime, as a percentage of total hours, declined from 14.9 percent in July 1980, to 4.8 percent in September 1982.

The percentage of extra-board employees as compared to total employees has also declined, from 30.1 percent in June 1980, to 9.3 percent in September 1982.

The union leadership emphasizes two points concerning the attendance incentives. First, the incentives were evaluated *vis-a-vis* other trade-offs during negotiations. A cost-of-living adjustment (COLA) was relinquished, and the union recognized that overtime would be reduced. What made these palatable to the union was an increased base wage rate that was offered by management along with the incentives. Without the increased wage rate, it is unlikely that incentives would have been accepted as a trade-off for cost of living and the expectation of reduced overtime. Overall earnings have increased, according to the union, even without a COLA and with reductions in overtime.

Second, assurances were given by management that reductions in personnel would be by attrition. Those extra-board drivers who were no longer needed were absorbed into the system as regular drivers.

Unions are likely to oppose an incentive program unless they expect the total financial package to be better than the previous wage package. Further, unions are not likely to accept programs that will reduce personnel unless there is a guarantee that reductions will be accomplished by attrition. These two potential barriers were avoided in Flint.

Another potential barrier, avoided in Flint, is the failure to keep precise records. An established computer system, as well as the small number of employees, made the hourly incentive program easy to administer. An agency that does not have adequate information and payroll procedures would be wise to upgrade those procedures before instituting monetary incentives based on attendance.

According to management in Flint, the benefits of the system outweigh the costs, but the cost/benefits ratio of the attendance program has not been quantified and systematically analyzed.

**Safety Incentives.** Safety incentives are also found in the MTA-Teamsters' contract and are available to all unionized employees. The purpose of the incentives is to reduce accidents, improve safety for the employees, and reduce accident-related costs.

As with attendance, safety incentives are escalating rewards. The monthly bonus is \$0.05 per work hour where at least 120 hours are worked without an avoidable accident. Each quarter, an additional \$0.05 per work hour without an avoidable accident is available to those who accumulated 3 months with a perfect record on avoidable accidents. Another \$0.05 per work hour is added if the quarter was accident-free (i.e., the operator has neither an avoidable nor a nonavoidable accident).

Each year that the employee qualified for all 12 months' basic safety incentive (i.e., no avoidable accidents), an additional \$0.05 per work hour is added to that already paid in the monthly and quarterly bonus. Finally, \$0.05 is added per work hour for a year without any accident, avoidable or nonavoidable. Decisions on whether an accident is avoidable or nonavoidable are made by the supervisor.

For the rare cases when this decision is appealed, an Accident Review Committee, made up of safety experts from West Michigan University, the City of Flint (Police Accident Division), and Genesee County Police, is available. For incentive pay, decisions of the committee are final. For other purposes, for example, discipline, the decision is grievable.

Incentives are most effective when awarded in close proximity to the behavior and, in Flint, all monthly incentive awards are

paid by the 15th of the month following the period for which the incentive was gained.

Accidents have declined during the period of the contract. Between October 1980 and September 1981, there were 121 accidents. In the following fiscal year, there were 98 accidents. Management attributes the decline to the incentive program.

Considerable time must be spent in record-keeping and a computerized system appears necessary for all but the smallest agencies. Flint's computerized record-keeping system was in place prior to initiation of safety incentives.

A high level of distrust between labor and management would preclude the effectiveness of safety incentives. If decisions of the Accident Review Committee were not accepted as being fair, it is unlikely that these incentives would be a motivator because awarding incentive pay could be seen as based on factors other than one's safety record. Both managers and union leaders in Flint note that the trust built up in the labor-management committees has made both attendance and safety incentives more effective.

**Similar Programs at Sunline Transit Agency.** In 1982, the Sunline Transit Agency (Palm Springs, Calif.) established monetary incentive awards for safety and attendance. Bargaining unit employees, both operators and mechanics, can qualify for the awards. The incentives are paid for each hour worked. The safety incentive accrues as follows:

- Each month the employee works without an avoidable accident or industrial injury. (*Paid by the first day of the following month; \$0.05*)
- Each quarter the employee worked without an avoidable accident or industrial injury. (*Paid by the first day of the month following the end of the quarter; additional \$0.10*)
- Each year the employee qualifies for the full period without an avoidable accident or industrial injury. (*Paid annually; additional \$0.15*)

The attendance incentive is also cumulative, with additional cents per hour worked possible in each quarter and annually. In the interest of fairness, the employee will not lose eligibility for the attendance incentive for any time taken as a result of earned sick leave, bereavement leave, scheduled vacation or holiday time, or approved leave of absence. But any unauthorized absenteeism or late arrival results in the loss of the incentive bonus for the employee for that period.

Each month those meeting the standard receive an incentive bonus of \$0.10 per hour worked, paid by the first day of the following month. When the employee maintains the standard for a full quarter, an additional \$0.10 per hour worked is awarded on the first day of the month following the end of the quarter. Each fiscal year the standard is met, the employee receives another \$0.10 per hour worked with the incentive paid within 2 weeks of the year's end.

Although the programs at Sunline have not yet been formally evaluated for cost/benefit, the agency reports that fewer accidents have occurred and attendance has improved.

#### *Incentives for Groups*

Incentives for groups of employees are extremely rare in transit, and only one such program was identified. In Gainesville, Florida, the Department of Transportation participates in a citywide incentive program aimed at safety. Employees are divided into groups, and if a group of employees can work 6



months without an accident or injury, each member of the group earns a \$17 incentive that can be used toward the purchase of safety equipment or as a meal ticket at a restaurant of their choice. This program has been in place 10 to 15 years, but has not been accompanied by an evaluation component.

### Evaluation

Incentive programs have rarely been subject to rigorous evaluation in transit agencies. Of all 115 transit agencies reporting use of incentive programs, only 15 agencies, or 13 percent, indicated that the program was evaluated. Follow-up telephone contacts found no nonmonetary programs with rigorous before-and-after evaluation components. Flint's evaluation, described earlier, was the only monetary program with a careful evaluation component capable of demonstrating the effect of the program. Even in this case, however, cost/benefit is not available.

One problem frequently encountered as agencies attempted evaluation is that several changes occurred simultaneously. For example, changing the absenteeism policy, putting the policy in writing, and establishing rewards for meeting policy standards, if instituted all at once, are likely to improve attendance. The degree to which the improvements are attributable to employees' understanding and having access to a written policy—or to an incentive award system—cannot be determined because of the unavailability of base-line data. These problems are illustrated by a description of incentives in Kansas City.

The incentive system for bus operators in Kansas City was part of a federally funded match program from the National Safety Council. It was aimed at reducing accidents. The incentive program, conducted on an experimental basis, used a team approach, competition, and cash rewards to reduce what had become an ever increasing accident rate. The structured evaluation consisted of control and experimental groups. The program resulted in a 27 to 30 percent decrease in accidents. Although the program was successful in decreasing accidents, it was not possible to determine which of the three variables (team approach, competition, or cash) had the most impact. When the federal grant ran out, the program was discontinued.

In its place, the Authority implemented a remedial discipline program. The discipline program was based on a point system, derived from two factors: accident avoidability and accident severity. The safety officer initially assigned the points. The employee could appeal an adverse action to a board of two operators, two management representatives, and a safety officer.

Managers report that the remedial discipline system has worked as well as the incentive system. They believe that the incentive and remedial discipline systems provide equal benefits, but the discipline system has the advantage because there are no up-front costs. The remedial discipline system has been in effect since June 1980, and has not been grieved.

### Recommendations Concerning Application of Incentives

Even in the absence of well-documented evaluation of incentive programs, these programs appear useful for transit agencies. There is widespread documentation of success in the private sector and some evidence in transit. The theory underlying incentives suggests they are particularly useful in responding to the type of job dissatisfaction expressed by operators and main-

tenance personnel (i.e., dissatisfaction with the work context). Incentives, both monetary and nonmonetary, provide a visible demonstration of management support and recognition. In addition, incentives can be geared to the agency's budget because a wide variety of nonmonetary rewards may be established. Finally, incentives require no complicated scheduling arrangements as do many other QWL techniques.

Incentive systems are particularly useful for transit's largest employee group, operators—these boundary line employees who interact daily with clients but have little opportunity for direct contact with management. Caught in the middle, many operators think management automatically blames the operator when passengers file complaints. Public recognition of operators with exemplary performance is one step management can take to increase support for its boundary line employees.

Other employees, however, should not be ignored as incentives are developed. Indeed, one of the principles of implementation, discussed in Chapter Two, is the issue of perceived fairness. This issue is particularly acute since most transit agencies that have incentive programs limit participation to operators. Forty-three of 115 agencies reporting said their programs were only for operators, an additional 34 programs were for operators and mechanics. There were no reports of programs only for maintenance employees. Few agencies make clerical employees or other staff groups eligible for participation in incentive programs. While certain types of incentives may be suitable only to one group of employees (e.g., safe driving for operators), other kinds of awards (e.g., attendance) are applicable to all. Opening the program to only one group will raise questions of fairness. Another requirement of fairness is that all who meet the criteria receive the reward. This means careful attention to record-keeping.

Another issue to be considered during planning and implementation is whether incentives will be established for individuals or for groups. Most existing incentive plans in transit are based on standards to be accomplished by individuals. Changes in individual behaviors, however, do not always result in increased system performance. Group incentive programs tend to focus on system performance, and in that regard are particularly useful for transit. Wherever team work can increase organizational performance, group incentives are appropriate. For example, increased miles between road calls for buses operating out of a garage could be the basis for recognition to all maintenance personnel in that garage. As with incentives for individuals, the criteria for receiving the reward must be objective and credible.

Incentive programs must be firmly backed by top management for implementation to be successful. One type of support is a guarantee of job security. Incentive programs have resulted in reduced extra-board requirements. No employee wants to participate in a program that may lead to layoffs of fellow employees. Managers can alleviate this concern by guaranteeing reductions through attrition.

Another demonstration of support by top management is some guarantee of continuity for the program. An incentive program that is short lived appears manipulative. Thus, evaluation should be undertaken to improve the program, not to determine, in the short run, whether the program will be continued.

Two other principles of implementation have particular relevance for transit managers. Both of these principles concern the organizational atmosphere. Put simply, incentives cannot be effective in a climate of mistrust, insecurity, or highly adversarial

labor-management relationships. Conversely, incentives appear to work best in an open, participative atmosphere. Thus, a first step is to develop the proper organizational climate, perhaps by using labor-management committees to increase communication, or using task forces to develop the standards and rewards.

The existing research indicates that incentive programs are widely used in the private sector, in state and local governments, and in transit. Monetary incentives have been shown to be effective in changing behavior and increasing productivity, and nonmonetary incentives, although not documented in the same fashion, are consistent with motivational theory and are believed to be effective.

These programs, however, must be carefully designed and implemented with attention to issues of fairness, the type of work, job security, and the organizational climate. As a quality-of-work-life technique, incentives are most effective when combined in a total program that encourages employee and union involvement.

## TASK FORCES

Task forces are committees formed to solve a particular problem. Task forces are generally composed of employees at the same level of the organization, but from different departments or divisions. In some more recent cases, membership has been expanded to involve employees at different levels of the organization.

Task forces are fairly common in the transit industry, with 34 percent of the agencies indicating usage. This technique, however, is much more common among large agencies (60 percent) than among small agencies (25 percent). In fact this technique shows more variation in usage related to size of agency than any other technique included in the PAS survey. The results are not surprising. Task forces are particularly useful in increasing cross departmental communication to solve problems that affect more than one department. Limits on communication are accentuated in large organizations where physical separation and specialization tend to reduce communication. Thus, task forces are seen as particularly useful in large organizations and less useful in small, where informal patterns of communications may already cross departmental lines.

According to the PAS survey, task force membership is fairly evenly divided between the more traditional approach of restricting appointments to the management level and the newer approach of involving employees from all levels of the organization. Of the 52 agencies reporting the use of task forces, eight said top management comprised the task force membership, and ten said membership was open to all employees. Seven agencies said task forces were set up among operators, and six reported task forces among supervisors. One said that task forces involved management and union officials, and twenty did not report which groups of employees were eligible for task force membership.

The quality-of-work-life philosophy is clearly seen in survey responses concerning the purpose of task forces. Involving employees in problem solving and increasing communication were the two reasons most often given for establishing task forces. Fifty-two percent of the agencies using task forces involved employees in planning and implementing task forces.

Task forces have dealt with significant issues in transit agencies. In Hillsborough, North Carolina, operators and supervisors

participated in a task force that successfully influenced the passage of a referendum involving tax support for the transit authority. In Billings, Montana, operators were involved in a task force to recommend standards for a new performance evaluation system.

Spokane Transit establishes "focus groups," task forces whose purpose is to advise the agency on specific issues. For example, when new routes were being planned, five groups consisting of drivers, a supervisor, and telephone information operators were formed. Group suggestions were incorporated in the new plan. Focus groups have also been used to advise on marketing plans and improved customer information for the system.

## Task Forces at MTC

The Metropolitan Transit Commission (MTC) in St. Paul, Minnesota, makes extensive use of task forces involving employees from all levels of the organization to work on specific problems. The task forces, which are short term, and committees, which are long term, are part of an overall program of organizational change initiated in 1981, and designed to implement a philosophy of participative decision-making throughout the agency.

The task forces and committees vary in the degree of formality related to appointment, scheduling of meetings, and written minutes, depending on the problem addressed. Major or long standing problems tend to be addressed by task forces that are more formally structured. The variety of issues addressed by task forces at MTC is reflected in an inventory of existing task forces, as shown in Figure 12.

One of the more formal task forces is the Driver Recognition Committee. It is composed of five top managers, one union representative, and five drivers picked by the managers of each garage. It meets periodically and is chaired by a member of the Department of Human Resources. As a result of the Driver Recognition Committee's work, an incentive program (described above) which combines both attendance and performance criteria was established in 1982.

- Driver Recognition Committee.
- Performance Review Committee.
- Nonunion Incentives Task Force.
- Light Duty Compensation Committee.
- Attendance Recognition Committee.
- How to spend vending machine resources.
- Roadeo/Wrench-o-Rama development committees.
- Revenues Task Force.
- Lay-Off Task Force.
- Fare policy implementation.
- Motivation Research Implementation Committee.
- Strategic Planning Task Force.
- Data Processing Implementations Committee.
- Inventory Control Study Committee.

Figure 12. Task forces at MTC.

## Evaluation

The effects of task forces are rarely evaluated. Only eleven of the agencies using task forces reported evaluation, and follow-up contacts found that most evaluations are informal (i.e., the task force is considered successful if the problem goes away). Long Island Railroad, however, used a consultant who conducted an organizational climate survey among managers, identified problem areas that were addressed by task forces, and then conducted a second survey which identified improvements in the previously identified problem areas that resulted from task force recommendations.

## Recommendations Concerning Application of Task Forces

Although use of task forces has not been carefully evaluated in transit, they are recommended as a useful technique, particularly in large or medium-sized agencies. There are several reasons for the recommendation.

1. Task forces are low-risk investments for management and union. There is a definite beginning and end, costs are low, outputs are recommendations. When an aura of mistrust or adversarial relations prevails, task forces are a useful first step toward changing the organizational environment because both sides may be willing to participate in low-risk ventures. The success of the task force may form a basis for changing attitudes.
2. Task forces can be used for many different groups of employees because of the specific focus of the problem addressed and the flexibility of scheduling.
3. Task forces can deal with one of the major problems of transit agencies—lack of communication across functional responsibilities and geographical divisions. Task forces can bring together managers and hourly employees from different work units, and all may gain from the interaction of different perspectives on the identified problem.
4. Task forces may be used in conjunction with other approaches to organizational change. For example, problem-solving techniques learned in quality circles may be utilized in task forces, or labor-management committees may appoint task forces to make recommendations on specific problems identified by an LMC.
5. Task forces may reduce line/staff conflict by increased interaction and line managers receiving benefits (e.g., problems solved) attributed to staff support.

In summary, task forces, particularly those involving participation across departments and across all levels of the organization, are seen as useful QWL techniques, especially for large agencies or where a low-risk first step is appropriate for initiating QWL. Task forces can improve morale by involving employees in decisions that affect their work and consequently can improve productivity of the organization in which they work.

## QUALITY CIRCLES

Quality circles (QCs) are another technique designed to involve employees in decision-making. Quality circles are structured programs in which small groups of employees work with their supervisor for one hour per week on problems of their own choice that are related to their own work area. Recommendations for solving problems are presented by QC members to top management, and after a decision whether to proceed is reached by management, QC members often implement and then evaluate their work. The program guidelines of Metropolitan Transit Commission, St. Paul, Minnesota, reveal program goals and procedures (see Figure 13).

Quality circles are a relatively new type of QWL technique, and they are not widely used in transit. Eight percent of the PAS survey respondents indicated that QCs were in operation at their agency, but follow-up contacts suggest that at least 6 of the 13 programs were not QCs but other, less structured and less formal employee involvement programs. Where QCs have been used they have been pilot or experimental programs, involving only a few employees—usually mechanics—but occasionally clerical, customer information, or dispatcher personnel. None of these programs has been in operation more than 2 years, so complete evaluations are not expected. However, even though it is difficult at this point to determine the cost/benefit ratio of these programs, one example will be given of potential payoff.

The engine overhaul circle, the “Knuckle Busters” at MTC, came up with an initial list of 24 “problem” issues. It focused on the need for proper and modern repair equipment which could potentially repair cast iron parts. Their question was broadened to include “premature engine failure due to inadequate engine building equipment.” The QC researched other transit agencies and diagnosed the buses that were currently “down” at MTC because of engine failure. Was the problem machines, manpower, materials, or methods? The circle decided to focus on the need for proper tools. Their analysis then included contacting equipment companies, vocational and technical instructors, and other mechanics at MTC. When the management presentation was given in December 1982, an extensive tool list, improved training, and new record-keeping procedures were recommended. To quote from that presentation:

Knuckle Busters quality circle proposes the following solutions. The first is the acquisition of elemental engine building tools and the second is the training necessary in order to reduce our first year engine failure rate and thereby reduce overall engine building costs. A list of tools, their cost, and an explanation of what they do and why we need them is contained in other sections of this proposal. We anticipate that these tools and training will also aid us in improving our productivity, and help the MTC to maintain high standards, service, and reliability to the public it serves.

The costs of implementing the recommendations were the time of the circle members, the money to be spent on new tools (approximately \$27,000), and the training costs. The circle estimates that the payback period would be 9 months. The benefits will continue to accrue to the MTC in improved engine performance.

Intangible benefits also should accrue from a quality circle program: increased communication between employees and managers; the use of problem-solving techniques on the job; improved morale; and the knowledge that employees are valuable sources of information.

Even with limited application in transit, certain advantages and disadvantages of application of this technique to transit may be identified.

## Advantages and Disadvantages of QCs in Transit

Even with limited application in transit, certain advantages and disadvantages of application of this technique to transit may be identified.

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"Who should be in a Quality Circle?"

Anyone who wants to be involved. Initially 3 QCs will be established at the Overhaul Base, each having a maximum of 10 members. The term of QC membership will be determined after the QC has been active for six months. If more people volunteer than can be accommodated, membership shall be selected by lot.

Who should be the QC leader?

Initially the Foreman or Supervisor. Leadership may change periodically; the new leader will be selected from the QC by the QC members. Any starting circle should have a foreman as a member up to a maximum of one year.

What matters are not to be considered in a QC?

Contract issues; discrimination of any kind--race, religion, national origin or sex, personality traits. Any issue that is currently under the federal, state, or local units of government.

How are recommendations submitted to management for consideration?

The QC will make a management presentation to the management related to the particular problem. All recommendations must be submitted in writing and should contain a statement of the problem encountered, alternative recommendations considered, the final recommendation together with rationale and specific implementation steps. In addition, a member of the QC may be selected to provide additional verbal information or a physical demonstration of the recommendation.

The committee decided that the written recommendation may be informal and need not be typed.

How will management respond to QC recommendations?

All replies by management to QC recommendations will be in writing. The manager will meet with the QC for explanation of the decision or to discuss in more detail the recommendation made. All management personnel must respond as soon as possible. If response cannot be made within 10 business days, a memorandum will be sent to the QC advising the date the decision will be made."

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*Figure 13. MTC's quality circle guidelines.*

1. Quality circles were developed and applied within manufacturing organizations. Those work units with characteristics most similar to manufacturing—groups of employees doing similar work reporting to one supervisor—are most likely to be successful. In transit, mechanics, clericals, and nonunion staff personnel appear to be the most likely candidates.

2. Quality circles require rigorous adherence to scheduled meetings. Meetings are held only one hour per week, and it is important that all members attend regularly. Circles also require stability of membership since it is common for a circle to work 3 to 4 months on any problem. The difficulties (and costs) of scheduling bus operators for certain meeting times on a weekly basis over a minimum of a 3- to 4-month period, suggests that QCs are least appropriate for bus operators.

3. Quality circles are particularly useful in solving problems within departments, and the program increases vertical communication. Work units with tasks that are not highly dependent on work done elsewhere in the organization are especially suited for application of QCs (e.g., purchasing departments).

4. Quality circles have been used extensively in nonunion private companies and consequently union suspicions of this technique are high. Organizational climates with hostile labor-management relations are not suited to QCs. Unions must be full partners with managers on the steering committee for long-term success.

5. Quality circles are high-risk programs with potentially large payoffs. The risks are the start-up costs, the necessity of top management commitment for a long time period, and the importance of involving the union. Payoffs include increased productivity, an awareness of cost/benefit ratios developed throughout the organization, and improved morale. Agencies with high rates of turnover of management or those experiencing great financial strains are not advised to embark on QC programs.

**Recommendations Concerning Application of Quality Circles**

Although QCs may have great usefulness within certain departments, especially maintenance, the general applicability of QCs to transit appears limited. Quality circles are a high cost program in a time of limited resources. Their greatest value is increasing vertical communication in organizations, but in transit, horizontal communications appear to be an equal or greater problem. Quality circles work best in a climate of labor-management trust and cooperation, a situation not widespread in transit today. Where managers are seeking to make a good situation better, QCs are quite valuable. As first steps to improve the quality of work life, however, they are not recommended.

## LABOR-MANAGEMENT COMMITTEES

Labor-management committees are formalized structures within an organization, usually parallel to the structure of the organization. Commonly, such committees are made up of equal numbers of managers and union leaders, and the members are of equal levels of influence within their own organization. Labor-management committees function to exchange information, improve labor relations, and identify and solve problems. Committees may serve narrowly defined purposes (e.g., accident review committees); or they may deal with broad issues of organizational performance, productivity, and morale. The former type is usually structured as one discrete group, while the latter often has a steering committee with departmental subcommittees or task forces designed to involve bargaining unit employees in the process.

Labor-management committees were reported by 39 percent of the agencies responding to the PAS survey. There was no significant variation by size; 45 percent of the small, 53 percent of the medium, and 45 percent of the large agencies reported having LMCs. The stated goals were improving labor relations (31 agencies), improving communications (19 agencies), involving the union in problem-solving (13 agencies), and improving productivity (7 agencies).

Although it is difficult to judge from the survey results, it appears that most of the LMCs in transit have narrowly defined purposes such as setting up employee assistance programs, accident review committees, or planning and monitoring apprenticeship programs. Of the 60 committees identified, 35 appear to be narrow in scope. Twelve could not be judged, leaving only thirteen with a broad quality-of-work-life approach.

Single purpose committees have particular utility in dealing with specific problems and in establishing a climate of trust between the parties. They are not usually considered as one of the most effective quality-of-work-life techniques because decision-making power is limited to a particular topic and with this limitation, they cannot bring about organizational change.

Labor-management committees with broad goals have not been used extensively in transit, but they have been used in a variety of situations, demonstrating the flexibility of this technique. They have been used in large, medium, and small agencies, in bus and rail operations, in strong union and right-to-work states. Committees at the Mass Transit Authority (MTA) of Flint, Michigan, VIA Metropolitan Transit of San Antonio, Texas, and San Francisco Municipal Railway all have active, broadly based LMCs. San Francisco's structure and organizational characteristics were discussed in Chapter Two. It is quite similar (except in size) to the structure, organization, and philosophy of the committee at MTA. Descriptions of MTA and VIA follow.

### QWL Implemented Through LMCs at Fllnt

There are three labor-management committees at MTA. One is in bus operations; one is in maintenance; and one is a systemwide, umbrella committee called the 4Rs Committee. All committees meet on a monthly basis, and chairmanship rotates between management and union. Openness of discussion is encouraged by the fact that the contract specifies that no discipline or grievance may come as a result of activities within the labor-management committees.

## *Committees in Operations and Maintenance*

The committees in operations and maintenance each have six members—three union and three management. Because many problems cut across both departments, membership includes one union member and one manager from the other department. Thus, the membership of the maintenance LMC consists of two union members from maintenance and one from bus operations. Management is represented by one person from maintenance, one from bus operations, and one from the purchasing department. Union members are chosen from among volunteers by the union leadership. There is no fixed term for committee membership.

The agendas for the committees in operations and maintenance are developed from suggestions submitted in writing by any employee on a form available for that purpose. The agenda is circulated in advance of the meeting. When an agenda item is introduced at the meeting, any member may say that he or she does not consider the item to be of "mutual interest," that is, it is a management issue or a union issue and should not be taken up in the joint committee. If that happens, the employee making the original suggestion is informed that the committee did not take up the item.

Frequently agenda items are continued over from one meeting to the next as committee members (usually the managers) collect information necessary to come to consensus on the issue. Written records are kept of the requests for information and the responses that were given. Although motions are offered and voted on, decisions are rarely offered for a vote until it is clear that consensus has been reached. Once a decision is reached, it is recorded on a form and becomes part of the official record.

At any time during the process, until a vote is taken, any member may break off the discussion by saying that the issue is not of mutual concern. No pressure is brought to bear on the person who makes this statement, and that person does not have to explain the reason for vetoing the issue. Committee members, however, emphasize that this rarely occurs.

Implementation of decisions is handled by management. Contract language is clear on this issue: "The implementation of the decisions . . . are necessarily constrained by operating budgets; however, management is committed to provide necessary resources for implementation and administration of the programs the LMCs promulgate."

Both managers and union leaders stress that decisions, once made by either the bus operations committee or the maintenance committee will be carried out. If there are budgetary constraints, the issue is timing, not whether the decision will be implemented.

Note that there are three forms associated with each item of discussion—the original suggestion, requests for information, and the decision. A staff assistant to the Assistant General Manager tracks all these and keeps a central record. The assistant also keeps a central record of all minutes and sees that the minutes are posted. This elaborate record-keeping process is time consuming, but it ensures that no suggestion is lost and that everyone who makes a written suggestion receives feedback on resolution of that issue.

### *The Umbrella Committee*

The 4Rs committee has oversight responsibilities for the department LMCs, but also takes a pro-active role in planning

events that encourage participation from employees throughout the organization. It is made up of five management and four union members. On the management side, the positions of Assistant General Manager, Superintendent of Bus Operations, Superintendent of Maintenance, Director of Personnel, and Director of Marketing are designated participants. On the union side, the Chief Steward (highest local office) and Secretary-Treasurer are represented. Two other union members are chosen from among volunteers. Recently there have been efforts to broaden participation and, as a result, one union member, who had been on both the maintenance LMC and the 4Rs, relinquished her position on the maintenance committee.

This committee has responsibility for promoting employee responsibility, rights, recognition, and rewards (the 4Rs). To determine what needs to be done in these areas, the committee reviews the annual employee attitude survey. The same questionnaire is used each year so the committee can compare results with previous years to target areas that have changed or need improvement. Committee members have become more sophisticated in interpreting the results of this survey, and they recognize the survey's utility and weaknesses. Results are seen as a guide to problem areas, and decisions on what programs to initiate or continue are to some degree influenced by the survey.

The 4Rs committee has an annual budget of \$10,000. The money is usually allocated for social and sporting events along lines suggested by the survey. The committee has sponsored dances, picnics, a bowling league, a softball team, and a number of clubs for hobbyists.

The 4Rs committee also is responsible for oversight of bus operations and maintenance LMCs. If those committees are not meeting regularly, are stuck on a problem, are concerned over implementation of a decision, or have other procedural problems, the 4Rs committee is to act as a troubleshooter and may intervene. In the past this rarely happened, in part because there were no formal channels for communication between these groups. Recently the staff assistant, who tracks the written record of the bus operations and maintenance committees, was given the responsibility of bringing problems that were noticed to the attention of the 4Rs committee.

### *Impacts*

Results of the work of the LMCs may be seen in changes in decision-making patterns, changes in attitudes, and increases in participation in activities beyond scheduled work time. Decision-making has changed because responsibility for certain kinds of decisions has been pushed downward in the organization. Decisions that influence the day-to-day work that is accomplished by employees are made at lower levels in the organization than was the case before the LMCs. For example, the bus operations and maintenance committees routinely make decisions in new equipment. Members solicit input from other employees, talk with staff from the purchasing department, learn about federal or other regulations, and consider cost. Decisions have resulted in new external mirrors on buses, schedule racks on buses, new safety goggles for maintenance, and new hoses for air-powered equipment, among others. Recent projects include consideration of the design of mobile tool carts and changes in maintenance lock-up procedures.

Changes in attitude are difficult to assess on the basis of

interviews, but most employees said there had been positive changes since the LMCs had been initiated. One union official stated, "In 1977 there was a feeling as thick as a fog when you entered a room (with management). Now people don't mind talking about problems, and the attitude is 'someone will find a way to resolve this.'"

Grievances have averaged 50 per year over the past 3 years; arbitration, 6 cases per year. Union officials believe this is a reduction from the period prior to LMCs. Also, there has been a shift in arbitrations. In the 1977-1979 period, 15 cases were taken to arbitration, and the union lost 12 of them. Recently the union has taken fewer cases to arbitration, but won a high percentage.

Participants in the Quality of Work Life Training Program were quite open in their discussions of attitudes at MTA. Some felt there had been dramatic changes; others, citing a history of distrust, held to a "wait and see" posture. Their willingness to vent anger and feelings of distrust to a top management official, however, was in itself, some indication of openness.

Some MTA managers and union members suggested that the high unemployment rate in Flint could be a reason for improved attitudes and job satisfaction at MTA. Having a job in Flint is satisfying. This factor simply points to the difficulty of isolating causal factors of change in any organization.

Participation in events scheduled by the 4Rs committee is estimated to be 90 percent of all employees. At the first annual awards banquet, only 20 nonmanagement employees attended. Last December, just over 100 (of 117) nonmanagement employees attended.

The 4Rs committee has sponsored numerous sports events, and MTA has a softball team, bowling league, exercise class, and was planning golf for the summer. Other social events include a summer picnic, dinner dance, and local rodeo.

Both social events and sports have helped increase communication and trust between union and management. The fact that the 4Rs gets credit for planning these events has helped to institutionalize the LMC concept.

### **QWL Implemented through LMCs at VIA**

The committee at VIA is structured differently; it involves a single, top-level committee. This committee deals with a broad range of issues, and like the LMCs at Flint and San Francisco, encourages input from all employees. The goals of the labor-management committee are open communication, early identification of problems, and provision of a forum for union members to address their concerns to management. The committee does not address grievances or other contractual issues, although it may act as the negotiating committee during bargaining.

### *Structure and Procedures*

The LMC meets monthly, has a prepared agenda, and written minutes. Membership on the union side is stable—the president and 10-member executive board, elected by union members. On the management side, the Manager of Operations, Director of Transportation, Chief Dispatcher, and Chief Station Foreman are regular attendees. Other management members attend as items on the agenda reflect concerns in their area.

The agenda is developed from suggestions during the "New Business" part of the previous meeting, input from union members, and announcements that managers want communicated throughout the organization. Typical agenda items are safety questions, proposed route changes, and interdepartmental problems between operations and maintenance. The design of the new streetcar was a recent agenda item with the union emphasizing concerns it had over safety.

### *Impacts*

The committee provides for regular exchange of information and early identification of problems. Every agenda item receives follow-up. On the issue relating to the new streetcar, for example, management responded by inviting the union president to visit the factory and drive the first completed car. After he reported his experiences to the ATU Executive Board, the union suggested a number of design changes that have been incorporated in the streetcar.

One of the major accomplishments of the labor-management committee is a written policy on attendance. Attendance is not part of the working agreement, and the policy was not in writing. Confusion over the policy among new employees and concern over consistency in application led the union to press for a written policy. This was accomplished after discussions in the labor-management committee.

The policy, defining lateness and other unexcused absences, calls for record-keeping on each hourly employee for a running 365-day period. (May 11, 1982 record drops out as May 11, 1983 is added.) After 3, 6, and 9 unexcused absences, the employee is counseled by his or her supervisor, and a report is sent to the union president who also talks with the employee. The tenth absence within a one-year period results in automatic termination.

The policy, in writing for approximately 2 years, has had positive impacts on "miss outs" and overtime usage. The decrease in overtime in 1982 from 1981 is particularly striking when considering that there was a decrease in active operators.

Although no one has documented dollar savings, both managers and union leaders stressed their utility. Hundreds of operational problems ranging from the lack of restroom facilities for women operators to procedures for writing up maintenance problems have been dealt with in the LMC.

### **Recommendations Concurring Application of Labor-Management Committees**

Labor-management committees appear to be a particularly useful QWL technique in the transit environment for a number of reasons. Among the techniques reviewed, LMCs are the most adaptable to different sizes of organizations and different organizational climates. Labor-management committees are most capable of dealing with major reorientations facing the transit industry.

Adaptability is guaranteed because the parties define the structure, organization, and ground rules of their own committee. Different agencies may find that one central committee is best, while others may have a central committee with subcommittees based in each garage. *Ad hoc* committees or task forces may be formed to gain the perspective of particular groups

of employees (i.e., operators on the third shift or mechanics in the Southside garage). Flexibility is particularly important in transit because of the variations in size, scheduling problems, and the varied nature of union-management relationships.

Labor-management committees are also useful for transit agencies because they typically represent different parts of the organization from both a union and management perspective. Cross-organizational representation legitimizes horizontal communications, thus dealing with one of the problems frequently noted in transit agencies, failure to exchange information across departments. Hourly employees in most agencies all belong to one bargaining unit, further legitimizing the information flow in the committee.

Labor-management committees provide protections for the interests of both parties, and thus where labor relations are mature, even if hostile, LMCs may be the only QWL technique in which the parties are willing to engage. It is noted that maturity does not imply the absence of adversarial relationships, but that each side recognizes the rights and roles of the other, and neither seeks to undermine the legitimate authority or the existence of the other.

Initiating most QWL techniques (e.g., quality circles, incentive plans) requires an open environment and mutual trust. Labor-management committees are useful precisely because they are a technique that may be used to build that climate.

If relationships are hostile, an outside neutral facilitator is commonly used to assist the parties in setting up the structure, purpose, and ground rules, and to initiate the first working sessions. Almost all of the successful LMCs in the public sector began with support from a neutral outsider.

### *A Private Sector Model*

Transit managers face troubled times. In certain private industry groups (e.g., steel, autos), LMCs at the industry and plant level have been one response to severe economic crisis. Unions and management have seen it in their joint interest to share information, to tap the creative potential of employees, change the nature of the work relationship between foreman and employee and to work together at the company or industry level in planning for economic recovery. "Opening the books," considered a major barrier, was seen as a radical move, but as information sharing produced positive results in troubled segments of the private sector, plant managers and union officials increasingly have begun to work together on issues of productivity, and improvements have been experienced by employees at all levels of the organization.

Public transit does not face a severe barrier in this regard because financial reports of transit agencies are public information. Thus, borrowing the concept of LMCs to reorient industry in times of economic trouble appears a feasible concept.

### *Barriers*

It is not easy, however, to establish labor-management committees with broad mandates of quality of work life and organizational improvements. Some of the barriers are of general concern, but particular problems exist for transit agencies. Of general concern is the need for stability. Labor-management

committees are often slow to develop and produce results, and where turnover in union or management leadership is the organizational norm, LMCs are not likely to have the necessary time to become institutionalized.

Further, where long standing patterns of distrust exist, the time needed to reach decisions and produce results will be extended. Participants and nonparticipants may lose patience and commitment to the concept.

In transit, scheduling is a particularly difficult barrier to overcome. The top-level committee will usually include high ranking managers (Assistant General Manager, Superintendent of Maintenance and Transportation) and middle managers (e.g., Chief Dispatcher, Station Foreman, Shift Foreman in maintenance). On the union side, the executive board members usually participate. Scheduling is often difficult at this level because of pressures of other business and rotating shifts of foreman, street supervisors, and dispatchers. At lower levels of the organization, scheduling is even more difficult with quarterly picks producing schedule changes for hourly employees.

Another problem for transit is allocating resources for neutral staff at a time of fiscal restraint. Most organizations find that active LMCs require staff support. In Flint, a member of the administrative staff spends many hours each week documenting employee suggestions, distributing minutes, and attending meetings. In San Francisco, two full-time coordinators were hired to handle the multilevel program. Yet, because the benefits are long-term rather than immediate, it may be difficult to convince governing boards of the utility of this approach and of the

necessity of expenditures for outside facilitators, or the addition of neutral staff, or even the redirection of current staff to assume new responsibilities.

Another barrier is the lack of transit-related experience with LMCs. Although this research documented three case histories of LMCs in transit, and suggested that LMCs were appropriate, systematic study of all the conditions related to success was not accomplished. Little is known, beyond a pioneering study of labor-management committees in the public sector (not transit), of the conditions for success. Most of the committees in transit are new and have not been subjected to review. Are certain structures "best" for transit? One may speculate that scheduling difficulties at lower levels of the organization suggest that establishing a top-level committee with a series of task forces throughout the organization would be most appropriate, but there is no evidence to support this approach. Will providing training in problem-solving to all participants speed up the process, that is, will it shorten the time between initiation and results? Perhaps consensus decision-making is slow whether or not training is part of the program. Again no evidence exists to answer the question. Thus, the final barrier is the absence of a systematic body of knowledge that could guide local decision-makers interested in establishing LMCs as a means of improving productivity and quality of work life.

An action research project that would involve careful documentation of the start-up process and the "best" structures for LMCs in transit is seen as particularly useful.

## CHAPTER FOUR

# CONCLUSIONS AND SUGGESTED RESEARCH

## CONCLUSIONS

There have been two general categories of response to the changing environment faced by transit managers. Kemp (1982) refers to them as the balance sheet approach and the productivity approach (1). The balance sheet approach involves fare increases and service cutbacks. This is a most common response because the results as reflected in operating ratios are almost immediate. Yet, this approach, while often justified, may produce long-range negative effects in terms of lost ridership and a related decline in public support. (2) The productivity approach has typically involved capital investments in the transit industry as in many U.S. corporations. Peters (*Business Week*, July 21, 1980) studied management practices in "excellent" corporations and reports, "One way to get productivity increases is to install new capital equipment. But another method is often overlooked. Productivity can be improved by motivating and stimulating employees."

A dilemma for managers is that they may decide to implement QWL programs because of expected payoffs in productivity improvements; yet they may be more reluctant to attempt the group of QWL techniques that emphasizes productivity because of the lack of predictability of the process and the results. Further, these techniques require employee participation in decision-making that is not compatible with the top-down management style typical of transit.

Union leaders also face a dilemma. Their interests are to encourage those programs that will directly benefit their members, and they would be expected to support those techniques directly related to human development issues. But, if initiated by management, the union as an organization will not benefit. Further, union leaders must ask themselves how they can support programs that clearly emphasize productivity when "productivity" has often been associated with layoffs. Productivity improvements may be feared by employees in an industry where 80 percent of operating expenses go to wages and salaries (Kemp,



1982, p. 3) and job security is highly valued (Perry and Angle, 1980, p. 69). Yet Dina Beaumont, assistant to the president of Communications Workers of America, asserts, "productivity shouldn't be a dirty word to unions. An efficient organization is more likely to sustain growth, add jobs, and improve pay and benefits than an inefficient one." (Speech to U.S. Department of Labor Workshop on Labor-Management Committees, August 1981.) Furthermore, job security can be a required factor in establishing QWL programs.

Techniques oriented toward participative processes with expectations of productivity improvement appear to hold the most promise for the transit industry. The union's dilemma is partially resolved because, for participative processes to be effective, human development programs cannot be ignored. Further, most managers agree that characteristics of the work force require new approaches, and few would argue that the rigid top-down authority structure of the past will work well in the future. In addition, neither union leaders nor managers would argue that productivity can be ignored. Managers and union leaders may argue over the extent of the fiscal "crisis" facing transit organizations—indeed, effective lobbying by labor and management associations may have lessened the crisis. But the taxpayer revolt is real. The need to provide service that is both efficient and effective in meeting social goals is real, and the need to improve productivity in this environment is also a reality that must be faced.

Quality of work life as a participative approach to organizational improvements can protect the interests of management and union and bring benefits to each. Quality of work life deserves on-going attention.

The research process evidenced certain characteristics typical of initial research probes into broad and loosely defined subject areas. First, considerable time was taken to specify definitions. Although all definitions are arbitrary, attempts were made to determine the existing usage in academic circles and in the field prior to establishing the working terminology used in this report. If widely read, the report will contribute not only to the development of an understanding of QWL and the techniques useful for implementing that approach to organizational change, but also should contribute to more consistent use of terms among practitioners, thus increasing the possibility of transfer of innovative ideas.

Certain variables expected to be influential at the beginning of the research appear to be less important than predicted, another characteristic of pioneering research. The size of an organization, for example, was expected to be influential, but size did not have a major influence on the distribution of the work force within transit organizations (see Table 2), the characteristics of the work, the extent of use of QWL (see Table 1), or on the techniques used.

Variables relating to the nature of the work proved to be more important. For example, geographical dispersion, required of street supervisors, influences their relationship with operators. Their supervisory role is fragmented because of other job requirements. Further because of the system of route picks, the supervisory role is fragmented by time. Supervisory powers also are limited by the limited availability of powers of enforcement. These powers are usually limited to disciplinary actions; street supervisors have few "rewards" to offer for good performance. Variables relating to the nature of work and those relating to the interaction between work groups have not been thoroughly studied *vis-a-vis* the applicability of QWL techniques.

The differences between the two types of QWL techniques, those oriented toward human development and those oriented toward participative processes to improve productivity, also proved more important than originally expected. Specifically, results of those techniques relating to human development appear more predictable and more under management control than those relating to participative processes. Flex time, for example, has predictable results when carefully planned and instituted. Certain barriers must be considered (e.g., the difficulty of providing supervision over a longer work day), but these barriers and the means to overcome them are fairly well known. Job enrichment is more complex because changes in the job must be tailored for the organization's requirements; but, as with flex time, the procedures for planning and implementing job enrichment are well documented.

With participative processes, however, less is known about the procedures or the expected outcomes. Change is slower because more parties are involved in decision-making. Once the process is begun, the group (LMC, task force, QC, etc.) makes decisions about problems on which to work and thus, the results are less predictable. Further, there is little consensus on how to evaluate results and even the purpose of evaluation: improve the program vs. discontinue the program if it is not producing results.

## SUGGESTED RESEARCH

Two general methods to expanding the knowledge of quality-of-work-life techniques are suggested: (1) policy-related experimental research and (2) action research. The first approach attempts rigorous control of the experimental situation in an attempt to isolate how certain variables influence program outcomes. If successful, research of this sort can provide specific policy guidelines for practitioners regarding the conditions and procedures for implementing QWL. Further, results derived from methodology can suggest cost/benefit evaluations. Evaluation of the Rushton Mine experiment, however, illustrates the complexity, cost, and possibility of controversy over the results of even rigorously controlled experiments.

Action research is the second method. Research of this type targets individual sites, and the researcher works with the site to determine the variables related to success, the "best practices" for implementation, and the most practical methods for evaluation. Evaluation is understood to be undertaken to improve the program, rather than as evidence to expand or discontinue the program. Rather than stand outside the process, as in the case of controlled experimental research, the researcher, who is also a process consultant, is part of the process and feeds results back to the parties so adjustments may be made to improve the program.

The major limitation of this approach is that results are site specific. One method of compensating for this limitation is to choose sites for implementation of QWL techniques that are respected within the industry. Results of action research from respected innovators are more likely to be transferred to other agencies.

For on going research in this area, action research is recommended. There are several reasons that action research is the preferred method:

1. Action research is particularly useful in documenting pro-

cess issues. This research focused on programs that had been in operation at least one year, but systematic data on start-up were not available. Action research could document factors relating to program initiation. The question of what is "organizational readiness" could be answered with regard to QWL.

2. Action research allows for corrective decisions throughout the process. Transit officials would be more willing to participate in an action research project than in a controlled experimental process. The latter methodology tends to emphasize error. Political considerations suggest that no agency wants general publicity on a "failed" experiment.

3. Action research is practitioner oriented. The results of action research are written more for practitioners than for academic journals. Transferability of results is supported in an action research approach.

Action research would involve selection of one or more sites willing to initiate QWL techniques in an open and participative environment. The research team would work with the site as advisors and assist the site in planning, implementing, and evaluating change. Of particular value would be use of variables related to organizational performance identified by Fielding (1983). The results would be documented to provide a basis for transfer.

A project of this sort would serve to extend the objective of the original project. That project was designed to test the feasibility of job enrichment and other quality-of-work-life techniques. The project research results lead the authors to conclude that quality of work life is a feasible and desirable approach to organizational change in transit. The next step is application of the findings to transit agencies.

## APPENDIX A

## REFERENCES AND ANNOTATED BIBLIOGRAPHY

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"A Try at Steel Mill Harmony." Business Week, No. 2694 (June 29, 1981) pp. 132-36.

At various U. S. Steel plants, teams of ten to fifteen workers and supervisors are formed at the departmental level to solve problems not traditionally addressed by union-management procedures. Topics that are discussed include production bottlenecks, safety and health issues, efficient use of tools, absenteeism, incentive pay, and product quality. The goal of these discussions is to stop U. S. produced steel's decline in worldwide competition and provide job security for workers. Efforts are being met by both enthusiasts and skepticism on both sides. Steelworkers want to be involved. The biggest problem has been to convince first line supervisors to change their management style from giving orders, to first listening to workers' suggestions. Plant sites for the discussion groups are selected by getting local union and management consent, and plants with poor labor-management relationships are avoided. U. S. Steel wants the first teams set up to be successful, to promote the idea that the teams can work. Quality circles have also been set up in one plant.

"A Vote for Individual Incentive Plans." Training, Vol. 19, No. 2 (February 1982) pp. 46A.

The article is an account of information which appeared in Small Business Report (SBR). The SBR encouraged the use of individual work incentive plans over group incentive plans which overreward mediocre workers and under compensate the best workers. Guidelines for use of individual incentive plans in the non-sales arena are presented: the plans should be aimed at increasing machine utilization because most productivity today is machine-paced; labor and management must trust and agree with each other; "bail-out" clause should be included, which limits the incentive by time or to a specific project. Individual incentive programs are inappropriate where machine work is computer controlled, where quality and quantity are equally important, or where labor-management relations are poor. The individual incentives are most workable in labor intensive work, when employee attendance decreases, where individuals have quality responsibility, where machine downtime is very expensive, and when exempt overtime cost go up.

Abkowitz, M., The Transit Service Reliability Problem and Potential Solutions, U.S. Department of Transportation, Report No. UMTA-NY-06-097-83-01 (April 1983) 52 pp.

Publication focuses on a workshop held to discuss transit reliability. Discussions of route conditions, human relations, and other factors as contributing to unreliable service. Factors divided into controllable and external (generally not controllable). Of particular interest is theme of how communications are blocked by structure, work rules, fear of discipline, and this contributes to lack of reliability.

Alexander, C. P., "Beyond the Coming Shake Out in Quality Circles." BNA Communicator, Vol. 3, No. 3 (Summer, 1983) p.6.

The author argues that Quality Circles developed out of a theoretical base established by McGregor, Maslow, and Likert have become divorced from this theory and become tools for short-term productivity and economic gain. The participative and human resource elements must be the foundation if success is to be long-term. In Japan, the "people building" aspects of the program have been fundamental and this is why they have been more successful in Japan. "Projects based primarily on economic necessity will likely fall by the wayside when the economic necessity recedes."

Angle, H. L., and Perry, J. L., "An Empirical Assessment of Organizational Commitment and Organizational Effectiveness." Administrative Science Quarterly, Vol. 26, No. 1 (March 1981) pp. 1-13.

The article reports on a study which attempts to relate the organizational commitment of lower-level

employees to organizational effectiveness in organizations offering bus services. Organizational commitment was found to be associated with organizational adaptability, turnover, and tardiness rate, but not with operating costs or absenteeism. Two subscales were constructed to measure value commitment and commitment to stay in the organization. Few significant differences were found between the subscales, as they relate to various indicators of organizational effectiveness, and the overall pattern suggested the need to avoid simplistic assumptions about the impact of commitment on organizationally relevant behavior.

Angle, H. L., and Perry, J. L., "Job Related Employee Attitudes in Urban Mass Transit." Transportation Research Record, No. 759, (1980), pp. 20-25.

The article reports on a recent research study which examines employee attitudes in mass transit. Early efforts to find attitude-behavior linkages on the job centered largely on job satisfaction. More recently, organizational commitment has joined job satisfaction as a focal variable and, indeed, shows greater promise as a predictor of both employee participation and worker productivity. Nonetheless, job satisfaction continues to be of interest partly due to current societal concern about the quality of working life. Neither concept, however, seems to have found a wide audience within the transit industry. This research attempts to fill that void by assessing the degree of organizational commitment as well as patterns of job satisfaction in a sample of 1244 lower-level employees in 24 public mass transit organizations. Cross-industry comparisons are facilitated by the use of standard measures. Contrary to the belief of some scholars, lower-level transit employees do become committed to their organizations. On the other hand, overall satisfaction levels were lower for transit employees than for those employed in most comparable occupations. The specific job aspects responsible for dissatisfaction tended to be those related to the rewards and employee treatment that are under control of the organization rather than the nature of the work itself. In general, the unique pattern of job concerns found among transit employees indicates that attitudinal research based on other occupations should be applied in the transit industry only with caution.

Baird, J., "Quality Circles May Substantially Improve Hospital Employees' Morale." Modern Healthcare, Vol. 11, No. 9 (September, 1981) pp. 70, 72-74.

Quality Circles can aid hospital administrators by reducing costs and waste through improved work methods, increasing employee morale, and easing recruitment and retention of staff. Training given to circle leaders strengthens management and supervisory skills. Nurses especially find QC programs rewarding, but all hospital employees should be involved. Quality circles require two main elements: participation skills and an organizational structure. Circle members and leaders are trained in problem identification and problem solving. Usually an advisory board or steering committee is formed at the top of the organizational structure to oversee the entire process. Then facilitator(s) are drawn from upper or middle management to perform the logistical elements of the program: scheduling meetings, assisting in the implementation of circle recommendations, and teaching circle skills to leaders and participants. Quality circle meetings usually occur on company time; if held after hours, participants are paid overtime rates. Members present their recommendations to management. If management cannot accept the circles' solutions, it must schedule a formal meeting to explain its reasoning.

Blake, R. R., Morton, J. S., and Sloma, R. L., "The Union-Management Intergroup Laboratory: Strategy for Resolving Intergroup Conflict." Social Technology of Organization Development, pp. 101-125.

Conflict between groups within an organization can limit the organization's effectiveness in reaching goals, e.g., making profit, providing service to the public, etc. Using M. Sherif's theories of group conflict, authors have developed an eight step model of conflict management. Union and management

representatives meet separately and together to clarify their image and expectations of one another, diagnose problems, and seek solutions. Both sides must protect their own interests as they seek win-win solutions. The article provides the theoretical underpinning for approaches such as Relationship by Objective.

Blau, G. "An Empirical Investigation of Job Stress, Social Support, Service Length, and Job Strain." Organizational Behavior and Human Performance 27, No. 2 (April 1981) pp. 279-302.

Test of a person-environment (P-E) model relating job stress to health of bus drivers. Prediction that job stress leads to strain (dissatisfaction) is supported. Prediction that stress leads to poor performance is not supported. Author is suspicious of dissatisfaction relationship. Social support from supervisors and co-workers found to be important in offsetting dissatisfaction.

Bocock, P. "Transit Employee Training Project 1977-1981." Final Report Vol. I. AFL-CIO Appalachian Council, Inc. Urban Mass Transportation Administration, U.S. Department of Transportation (1981) 120 pp.

The report describes needs assessment research, training program development (for operators, mechanics) and project evaluation. Of particular interest are discussions of labor and management's initial suspicions, the impact of a labor-management project advisory committee, dissemination efforts, characteristics of the maintenance function, and outcomes of training.

Brachman, M. E., Sinha, K. C. and Pustay, M. W. The Effects of Labor Strikes on Bus Transit Use. Purdue University (1976) 136 pp.

The study shows that strike probability increases with system size; fares tend to go up after strike; ridership goes down and tends to stay down.

Brett, J. M., and Hammer, T. H. "Organizational Behavior and Industrial Relations." Industrial Relations Research in the 1970s: Review and Appraisal, T. A. Kochan, D. Mitchell and L. Dyer, eds., IRRR, Madison, Wisconsin (1982) pp. 221-281.

Authors look at legally mandated and "granted" participation programs. Granted participation consists of quality circles (QC) and quality of work (QWL) life programs. They conclude that "there is no published research that evaluates either the process of participation or the outcomes of circle activities." (p. 234) Positive organizational outcomes are reported for QWL, but as with QC no controls for other changes (such as an upswing in the general economy) are used. Effects of QWL on intangible results (satisfaction, commitment) have more documentation.

"Britain's Unions Brake Ford's 'Quality' Drive." Business Week, No. 2688 (May 18, 1981) pp. 44-45.

The Ford Motor Company, in order to survive in the Western European market, introduced quality circles at its plant in Britain. Ford neglected to get prior consent to set up the quality circles from unions at the national level. The key element in Ford's strategy to stay alive in Europe was to encourage worker involvement and hold down costs by solving problems before they became chronic. This was to be done through voluntary labor/management forums. There was union concern about Ford's new ideas to improve productivity and change operating procedures. The quality circle idea failed. Britain's unions are willing to discuss alternatives to quality circles to improve product quality. They say they are equally as concerned about quality as is management.

Brower, M., Starting Labor-Management Quality of Work Life Programs. Washington, D.C., U.S. Government Printing Office No. 029-000-00415-3 (1982) 21 pp.

Experiences of the Northeast Labor Management Center (Massachusetts) in starting up and assisting a number of quality-of-work-life programs. Particularly useful is a section describing how internal union politics can affect programs.

Brown, B., "The San Francisco Municipal Railway Joint Labor-Management Board with the Transport Workers Union Local 250-A." Paper presented to the APTA Western Conference (April 1983) 32 pp.



The paper describes the Joint Labor/Management Board established in 1982, in which highest level managers and union officials participate in policy decisions, mid level operations managers and the union executive board deal with problems affecting more than one division, and work site divisional committees (rank and file, division level supervisor, manager and union representative) deal with particular work site issues. The paper focuses on the problems that demonstrated the need for such an approach, implementation issues, roadblocks, the potential for success and transferability within the industry.

Bryant, S., and Kearns, J., "Workers' Brains as Well as Their Bodies: Quality Circles in a Federal Facility." Public Administration Review, Vol. 42, No. 2 (March/April 1982) pp. 144-50.

The authors examine the experience of the Norfolk Naval Shipyard in establishing a quality circle program, and its possible applications to other agencies. They describe how brainstorming, cause and effect diagrams, pareto analysis, and other analytical techniques were taught to circle participants and how they were used to solve problems. Examples of productivity savings and how they were measured are given. Factors which led to a successful program are also cited.

Burck, C. G., "What Happens When Workers Manage Themselves." Fortune, Vol. 104, No. 2 (July 27, 1981) pp. 62-69.

The benefits/problems of QWL programs are discussed. The managers of firms that have adopted successful QWL programs report results of high productivity and quality, and greater worker job satisfaction. It is difficult to measure specific results especially in terms of dollar gains, but the companies with successful programs mainly saw reduced absenteeism and higher product quality. The managers of the firms talked about the amount of work involved to create successful QWL programs. Training in problem analysis and solving was seen as one of the most important phases of setting up a program. Participation in the program from the head of the company to the shop-worker is also vital. Essentially, when a program is used to its full advantage, blue-collar workers become the lowest level of management.

Major barriers to success are lack of good organization and the problem of mid-level managers, who seem to have difficulty changing from being authoritarian to taking suggestions from workers. Examples are given of successful programs such as Northrop Corporation's Aircraft Division, where 55 QC's are operating. The cost of manufacturing a 747 went down 50% in the two years of QC operation. During that time, the Aircraft Division's work force quadrupled in size, and people who had "never seen an airplane" had to be trained.

Burck, C. G., "What's in It for the Unions." Fortune, Vol. 104, No. 4 (August 24, 1981) pp. 88-92.

In the past, union leadership was against QWL programs. The programs were seen as a means of undermining union power. Recently, union leadership has begun to change. The United Auto Workers Union (UAW) was examined most closely, although other major U.S. unions were mentioned. Quality of work life concepts offer benefits to both workers and management. The worker grievances that unions deal with are down; committeemen have become co-leaders with management of programs that bring new status to employees, and this, of course, gives status to the union for its part in the program. Union leaders feel that QWL will also be a boon to the employees of firms that employ most of a city's inhabitants. In cases like that, QWL programs that save a company from going under are well worth the effort.

Burck, C. G., "Working Smarter." Fortune, Vol. 103, No. 12 (June 15, 1981) pp. 68-73.

Discusses basic assumptions and intentions of QWL programs: people want to work together in common purpose; workers are willing and able to participate in management decisions at all levels; and any organization that shuns the participation of workers in management is wasting valuable intelligence. Quality of work life programs are applicable in offices and service businesses as well as factories.

The article contains statements from heads of firms with successful QWL programs and theories of QWL experts, espousing basic QWL assumptions. There are dangers, however. Quality of work life challenges a system of authority and accountability that has been used through most of history. Supervisors and mid-level managers generally don't like QWL programs; it seems they must be the most willing to change their management styles, accept suggestions from workers, and not give up authority.

Burton, C., "How to do Quality Circles in the Unionized Workplace." Transactions, International Association of Quality Circles (1983).

Quality circles (QC) are a growing phenomenon. Approximately half of the QC programs are found at unionized worksites. This article explains the rationale for involving the union, as an equal partner, in program planning, implementation, and evaluation. The author suggests practical check points, e.g., if a decision is made to go ahead with a QC program, union and management must decide what resources they each have to contribute, whether the program is to be experimental, whether they want a third party, etc. Including all the parties at the worksite--management, union, and employees, "directly and actively," makes the program more complex and doubtless more time consuming to implement, but conflict will be minimized, and it is more likely that the program will flourish.

Caria, G. G., and Diers, J. W., "Quality Circles: Problem Solving in the Shop." Transitions, ATE Service Co., Cincinnati, OH (Autumn 1982), pp. 21-28.

The authors are managers in the maintenance division of the Metropolitan Transit Commission, St. Paul, MN. They provide a case history of the needs assessment, problem identification process, and development of quality circles in their division. The guidelines developed for their program are included and are useful since they appear transferrable. One example follows: "How will management respond to quality circle recommendations? All replies by management to Quality Circle recommendations will be in writing. The manager will meet with the members of the circle for explanation . . . All management personnel must respond as soon as possible. If response cannot be made within 10 business days, a memorandum will be sent . . . advising the date the decision will be made."

Chaney, F. B. and Teel, K. S., "Participative Management: A Practical Experience." Personnel, Vol. 49, No. 6 (Nov/Dec 1972) pp. 9-19.

Authors instituted an experimental participative management program aimed at supervisors at Autonetics, a division of North American Rockwell. Participative management was a tool to improve employee motivation and technical solutions to production problems. A pilot using different conditions (e.g. individual vs group goal setting) was instituted and evaluated. Then program was implemented throughout the organization. Supervisors received extensive training in group process from staff psychologist. Psychologist was available as group facilitator and to coach supervisor. Industrial engineers were available as technical consultants. Supervisors met regularly to discuss process and substantive issues.

Results: Of 40 groups led by participative methods, 27 showed statistically significant performance gains, 12 no significant changes, 1 significant decline. Conditions related to success: 1) The higher and more extensive the participation the greater the performance. 2) The more commitment by supervisors, the greater the performance. 3) Participative techniques between supervisor and his boss helpful, but not a requirement. 4) Group goal setting on production output not a requirement. 5) Participative is not to be confused with permissive. Supervisor is the group leader and sets guidelines.

Clark, S. G., Executive Report on a Guide to Labor-Management Committees, HUD-PDR-601 (August 1980). Available from HUD USER; P.O. Box 280, Germantown, Maryland 20767, 11 pp.

Summary of issues to consider when deciding whether to initiate an LMC. It is directed toward public

sector labor leaders and government officials. Written in question and answer format, the publication deals with procedural issues (number of members, who should be on committee, minutes, voting) and questions of information dissemination, evaluation, problem solving. The report is based on federally sponsored research.

Cohen-Rosenthal, E., "Should Unions Participate in Quality of Working Life Activities?" Quality of Working Life; The Canadian Scene, Vol. 3, No. 4 (1980) pp. 7-12.

The article describes various management and union positions and attitudes in American industry. These attitudes boil down to each side wanting a bigger slice of the power pie. The author voices the concerns that unions have about quality of working life programs. Costs and benefits of QWL programs are discussed, as well as the management and union attitudes which can block progress in QWL programs. The interdependence for the good of the company of management and labor is described. While QWL programs may not be for every company, they can, in a climate of trust, be a boon to a union.

Cole, R. E., "A Japanese Management Import Comes Full Circle." Manager's Journal, Wall Street Journal, February 22, 1983, p. 30.

Quality circles may have peaked as a problem solving technique in U.S. industry. Enemies (such as mid level managers, unions) now point out the problems. Cole argues the main problem is that they were portrayed as a "nice clean package" to solve all problems. Management was not prepared for the consequences within the organization when QCs were implemented. These include sharing information. The vice president who asks why he should use QCs when he could solve the same problem in three hours that the QC solved in three weeks, is, according to Cole, "Your solution will be gone in three months, but the circle's solution will endure."

Cole, R. E., "Value of Quality-Control Circles for U.S. Work Organizations." Transportation Research News, No. 95 (July-August 1981) pp. 14-17.

The article describes the quality circle technique and its advantages for the self development of employees and for the organization. The author also discusses the limitations of such programs and a preliminary evaluation of their success in the United States. He points out that American organizations must focus on the role of the union, potential problems with mid-management, and on voluntary participation. Despite these potential problems, he feels the technique can make an enormous contribution to organizational productivity.

Cole, R. E., "Will QC Circles Work in the U.S.?" Quality Progress (July 1980) pp. 30-33.

The author discusses "the adjustments which must be made if the Quality Circle concept is to have even a reasonably successful chance of being implemented and sustained in American industry." Circles are a vehicle for allowing workers a sense of dignity, a sense of fuller participation in the organization and an opportunity to develop their skills. At the same time, circles "can contribute to organizational goals such as raising productivity, cost reduction and improvement of quality." He warns that in the U.S. circles must be seen equally as an employer and union program. Monetary incentives must play a larger role in the U.S. since the Japanese have the lifetime employment system and very large annual bonuses (5 month's salary). Lack of middle-management support has been the major obstacle to success in the U.S.

Committee for Economic Development, Improving Productivity in State and Local Government, New York, N.Y. (1976) 92 pp.

Discusses the need for productivity improvement in state and local government and defines four targets of opportunity: improved management, human resource development, technology, and capital investment.

Contino, R., "The Theory Z Turnaround of a Public Agency." Public Administration Review, Vol. 42, No. 1 Washington, D.C. (Jan/Feb 1982) pp. 66-72.

This article analyzes the progress of the New York City Bureau of Motor Equipment of the Department of

Sanitation in improving productivity and employee job satisfaction utilizing Ouchi's Theory Z management techniques. The techniques transform an organization from a "Type X" organization where decision making authority is vested in one person to a "Theory Z" organization where decisions are based on qualitative and quantitative input from all levels of labor and management. The article provides evaluation data which proves how successful this approach is when implemented carefully.

Contino, R., "Labor/Management Cooperation Steers a Course to the Bottom Line." Productivity Brief 15, American Productivity Center (July 1982) 8 pp.

This article describes New York City's Bureau of Motor Equipment (a Division of the Department of Sanitation) labor/management committee program. The Division is responsible for the repair and maintenance of a fleet of over 500 vehicles. The author maintains that the key to productivity improvements they have attained is the direct working relationship between labor and the very top levels of management.

"County to Expand Use of Quality Circles." The Gazette, May 18, 1983, p. 75.

Announces the expanded use of quality circles in Montgomery County, Maryland, government and reports on the pilot quality circle program which began in the county Department of Transportation in January 1982. The original five QC's, meeting in the equipment, operations, engineering, traffic engineering, and transit services divisions, have recommended innovations which will save the county an estimated \$30,000 per year.

Dodson, C. and Haskew, B., "Why Public Workers Stay," Public Personnel Management, Vol. 5, No. 2 (March/April 1976) pp. 132-138.

This study of approximately 600 employees in a major division of state government examines reasons public workers stay on their jobs. The survey, designed with Herzberg's theory in mind, relates "motivators" and "maintenance" (hygiene) factors to decision to stay. The authors find several related variables. High skill level is a motivator for staying, but there is an inverse relationship between motivation and length of service. Managers, more than low skill level employees, are concerned with hygiene factors (pay, benefits, changing jobs). The authors note that if Herzberg is right, the findings have serious implications for public managers.

Donaldson, W. D., "Participatory Management--Employees Are Creative!" Strengthening Local Government Through Better Labor Relations Series, No. 16. Labor Management Relations Service, U.S. Conference of Mayors, Washington, D.C. (no date) 8 pp.

The author's thesis is that a management style must be adopted that recognizes and releases creative abilities in others. Problems with such an approach include managers feeling a lack of control, managers being hurt when an employee says he's wrong, and legislators thinking managers are creating anarchy. In spite of these bleak possibilities, 10 case histories prove the success of this style. One was in transit--an employee initiative in developing a low-cost bus locator system.

Dumas, R. A., "The Shaky Foundation of Quality Circles." Training Vol. 20, No. 4 (April, 1983) pp. 32-33.

Quality circles work in Japan, without formal training in group skills and individual supervisory skills. Can quality circles work in the U.S. in the same way? The author says no; group problem solving is accepted in Japan, it is not fully accepted in the U.S. Problems with QC's in the U.S. are discussed, ranging from workers suspecting that management receives most of the benefits of QC's, to companies promoting the supervisors who have good leadership qualities out of the first-line jobs where they are most needed. The training of supervisors is seen to be the most effective way to cope with such QC problems as keeping managers informed, delegating tasks to group members, keeping meetings focused on solving problems, and dealing with disruptive behavior by individuals.

Dyer, L. and Schwab, D. P., "Personnel/Human Resource Management Research." Industrial Relations Research in the 1970s: Review and Appraisal, T. A. Kochan, D. Mitchell, and L. Dyer, Eds., Industrial Relations Research Association Series, IRRRA, Madison, Wisconsin (1982) pp. 187-220.

Article is a review of research concerning relationships among several variables, e.g., job, support, satisfaction, performance, etc. Authors find serious methodological weaknesses regarding satisfaction questionnaires (NSQ, JDI, MSQ) and with measurement of absenteeism. Research on causal links between variables shows no pattern regarding employee job satisfaction/performance or satisfaction/absenteeism. "Consistent, modest, negative relationship" between satisfaction and turnover was identified.

Fein, M., "Job Enrichment Does Not Work." Atlanta Economic Review, Vol. 25, No. 6 (November/December 1975) pp. 50-54.

Job enrichment has received a great deal of attention in the literature. Fein presents a case that points out the differences between what workers say they want from their jobs and what academic researchers say they should want.

Fielding, G.J., "Changing Objectives of American Transit." Transport Reviews Vol. 3, No. 3 (1983) pp. 287-299.

In this article, Fielding reviews the changes facing American transit since World War II and the strategies used for coping with current problems. The most critical issues are financial: the cost of producing transit has been rising at about twice the rate of inflation, while local, state, and federal assistance, after a dramatic increase in the early 1970s, has begun to taper off. Fielding analyzes management's response to hard times: transit performance is being monitored more critically; peak-period alternatives to regular transit are being implemented, and new, more effective and equitable fare structures are being introduced. Strategies are integrated into a budget-based financial planning cycle in which capital acquisitions and service deployment are related to anticipated revenues. Part I reviews changing objectives between 1950 and 1980. Part II (distributed under separate cover), outlines management's response to the need for improved efficiency.

Flax, S., "The Corporate Truth Squad." Forbes, Vol. 127, No. 11 (May 25, 1981), pg. 118.

A consulting firm, Intellectics, that solves a company's internal problems using the company employees' solutions is discussed. The company's workers are encouraged to offer criticisms and solutions. Then Intellectics uses statistical methods to allow the employees to evaluate their own ideas. The firms that hire Intellectics must be able to tolerate such tough self-examination. Usually the firms are so healthy that the candor can be tolerated, or so sick that it cannot be avoided. The case of one healthy client, Merck & Co., is discussed. Improved training in personnel evaluation was Intellectics' cure.

Gallagher, W. E., Jr., and Einhorn H. J., "Motivation Theory and Job Design." Journal of Business, Vol. 40, No. 3 (July 1976) pp. 358-373.

Authors describe the major job redesign approaches that have been developed, the motivational assumptions behind those approaches, some experiments in job design, and implications for embarking on a job redesign program. Evidence indicates that success is more likely if improved quality of output, rather than quantity, is the desired outcome.

Gardell, B., Arronson, G., and Barklöv K., The Working Environment for Local Public Transport Personnel, Report from the Swedish Work Environment Fund, Stockholm (1982) 58 pp.

This report is a summary of research conducted in six Swedish cities. 1,442 transit personnel were surveyed. A theoretical model is suggested that combines the workload variables (time pressure, complaints, troublesome passengers, conflict between time and safety, time and service orientation) and resources (personal, social, technical, organizational). Resources are used to mediate the impact of workload and therefore are important to

health. A strong relationship was found, i.e., most absences were among those with high workload and few resources.

Garin, R. H., and Cooper J. F., "The Morale-Productivity Relationship: How Close?" Personnel, Vol. 58, No. 1 (January/February 1981) pp. 57-62.

"Are morale and productivity directly related? An analysis of the literature reveals that the pendulum has swung both ways, with the most recent research leaning toward a negative conclusion."

Gildea, J. A., "45,000 Employees Judge Effectiveness of Internal Communication." Journal of Organizational Communication (1981-82) pp. 3-11.

This survey documents the sources of information received by employees (55 percent from supervisor, 40 percent grapevine) and from where they would like to receive information (90 percent from supervisor, 58 percent small group meeting).

Glaser, E. M., "Productivity Gains Through Worklife Improvement." Personnel, Vol. 57 (January-February 1980) pp. 71-77.

"Mounting evidence points to the impact of an organization's quality of worklife. Where it is high, improvement in job satisfaction and productivity are usually among the desirable results."

Godsey, W. M., Employee Involvement: A Local Government Approach to Quality Circles. International City Management Association, Washington, D.C. (1982) 27 pp.

This handbook is part of an ICMA training package. Its particular utility lies in linking theories of motivation (Maslow, Herzberg, McGregor) to quality circles. The remainder of the handbook outlines the roles and responsibilities of program participants with emphasis on the various levels within management. Appendix A is an overview of the problem solving and problem analysis techniques used within a QC. Appendix B is several brief cases of QCs in local government.

Goldoff, A. L., and Tatage D.C., "Union Management Cooperation in New York." Public Productivity Review, Vol. 3, No. 2 (Summer/Fall 1978) pp. 35-47.

Study of attitudes of participants in NYC productivity improvement programs. Cost of living adjustments were to be based on improved performance. The data suggest that participants are committed only to a short-term cash savings program to pay employees. Union dissatisfaction, an adversary relationship between labor and management, and an overlap between productivity and collective bargaining issues indicate a lack of success for a long-term program.

Gomez, L., and Mussio S., "An Application of Job Enrichment in a Civil Service Setting: A Demonstration Study." Public Personnel Management, Vol. 4, No. 1 (January/February 1975) pp.49-54.

Authors use Herzberg's theory and look for "motivators," "hygiene," and the opportunity for more responsibility, achievement, recognition, growth. Data on satisfaction, performance, and absenteeism were collected before any changes and six months after. Results were positive in all three categories but there were no tests for significance. Limits on the study were the six month follow-up and the small number of subjects (eight).

Greenberg, P. D., and Glaser E. M., Some Issues in Joint Union-Management Quality of Worklife Improvement Efforts, Upjohn Institute for Employment Research (1980), 85 pp.

Summarizes proceedings of a conference of union officials and includes management comments on QWL issues. Purpose was to: clarify QWL concept; formulate suitable objectives for QWL programs; identify workable structures for joint QWL efforts; stipulate appropriate union role in QWL; develop policy implications of QWL. Management and labor representatives supported the concept of QWL improvement and agreed it required bilateral effort. Some reasons for failure of QWL programs are outlined.

Greenberg, E. S., "Participation in Industrial Decision Making and Work Satisfaction: The Case of Producer Cooperatives." Social Science Quarterly, Vol. 60, (March 1980) pp. 551-569.

Assesses "the general impact of various forms of industrial organization by comparing the levels of expressed work satisfaction in industrial plants that vary only with respect to the degree of worker participation in decision making." Concludes that "participation in the governance of industrial enterprises significantly enhances the sense of satisfaction at work."

Greenland, B. P., "Keys of Success for Westinghouse QCs." The Maryland Workplace, Vol. 5, No. 1 (Jan/Feb 1983) p. 1.

Article focuses on the question, "How does Westinghouse keep its quality circles active and productive year after year?" Among the answers: make success visible; involve managers; circle participates in self-assessment annually. A productivity program checklist is used to conclude the article.

Greiner, J., "Incentives for Municipal Employees: An Update." Urban Data Service Reports, Vol. 11, No. 8 Washington, D.C.: International City Management Association (August 1979) 18 pp.

The author reports on the results of a 1978 survey on the use of incentives in municipal government conducted by the International City Management Association. There were 1,661 responses to the survey. The article discusses several approaches in detail: educational, safety and attendance incentives, task systems, job enrichment programs, variations in working hours. Other techniques are examined briefly: monetary rewards, target setting (MBO and work standards) career development and fringe benefits. The author concludes that there has been considerable growth in the use of incentives, discusses possible implementation barriers, and suggests that although incentives show promise in terms of increased productivity and job satisfaction, their impact has rarely been systematically evaluated.

Greiner, J. M., Dahl, R. E., Hatry, H. P., and Millar, A. P., Monetary Incentives and Work Standards in Five Cities: Impacts and Implications for Management and Labor. The Urban Institute, Washington, D.C., (1977) 94 pp.

Five case histories in local government departments of vehicle maintenance, water meters, police, and streets are presented in considerable detail. Overall findings suggest that productivity programs where employees share the benefits in the form of extra pay can produce significant improvements even in efficient departments. Work standards alone generally did not produce results. Administration of incentives, however, involves costly record keeping. Neither incentives nor work standards damaged labor-management relationships in the long-run, but the authors recommend "early and meaningful participation by employees and their unions." Work standards in the absence of monetary incentives produced some employee dissatisfaction. Supervisors were "a major source of resistance." Group incentives had several beneficial side effects, notably increased cohesion and cooperation in work groups. The authors think components of incentive programs are transferable to other functional areas.

Greiner, J. M., Hatry H. P., Koss M. P., Millar A. P., and Woodward P., Productivity and Motivation. The Urban Institute, Washington, D.C. (1981) 461 pp.

A part of this publication presents survey findings for four major types (team efforts, increased participation, job rotation and job redesign) of job enrichment programs found in state and local governments. The authors conclude there has been little systematic evaluation of these programs. With few exceptions there is little documentary evidence that job enrichment has led to improved productivity or employee job satisfaction. Found that 244 jurisdictions had 309 programs; 187 of them involved police or fire, only 122 in other departments; in some of these participation was entirely top management.

Gryna, F. M., Jr., Quality Circles: A Team Approach to Problem Solving. Amacom, New York (1981) 96 pp.

This short work is extremely useful in introducing quality circles. It explains what QCs are, the benefits that may be derived, and the structure of QCs. It also gives an overview of determining whether QCs are feasible in an organization, designing a program, and training for participation. The author touches on barriers. Experienced trainers could use this book to set up a program. Others would find enough information to be able to evaluate consultant proposals.

Hackman, J. R., and Oldham, G. R., Work Redesign. Addison-Wesley (1980) 330 pp.

Hackman and Oldham have been refining principles of work redesign for more than 10 years. This book coherently brings together the whys and hows of work redesign. It is full of details, and the authors urge caution in implementation. "We favor better work redesign activities--thoughtfully planned and executed changes that are fully appropriate for their organizational settings--even if that means we will see fewer of them" (p. 243). This work is the classic on the topic of work redesign.

Hartwig, E. ., "GM Council Calls for New Approach to Labor Relations in Changed Economy." Daily Labor Report, No. 117 (June 16, 1983) pp. A8-10.

The article summarizes a speech given before the New York University National Conference on Labor (June 1983). The author stresses the need to reexamine labor relations in industry which has been marked by "distrust and adversarial tension." He calls for a new, cooperative relationship and found signs of this in the 1982 contract negotiations between the auto industry and the UAW. He suggests that worker involvement in decision making can improve productivity, labor relations and the quality of the product. Workers should be retrained to use new technology, and restrictive work rules and narrow job classifications should be changed.

Hendricks, D. P., The Supervisor's Guide to Boosting Productivity. AMACOM, New York (1981) 121 pp.

This workbook is part of an American Management Association course for supervisors. Chapter 7, which discusses performance development techniques, is particularly useful in distinguishing task content techniques and process techniques. Job enrichment changes the task; quality circles change task and process of getting things done. Supervisors are alerted that employees get more involved where process changes.

Herrick, N. Q., "Decentralization, Democracy and Cooperative Self-Interest." University of Arizona (no date) 31 pp. Monograph available from Work in America Institute.

The author served as consultant during an LMC and QWL experiment in Pima County, Arizona. The paper is a critique of that process. The analysis concentrates on structure, pitfalls, participation, and other aspects of the process. The project included an evaluation component which indicated that the QWL system had a positive influence on the well-being of employees and productivity.

Herzberg, F., "Motivation and Innovation: Who Are Workers Serving?" California Management Review, Vol. 22, No. 2, (Winter 1979) pp. 60-70.

Describes "orthodox job enrichment" at the Air Force Logistics Command. Herzberg emphasizes need for direct client relationship, which can be internal or external, to allow feedback. Those with technical expertise (not just administrative) must participate in job redesign. Measurement must follow this sequence: describe what has been changed to enrich workers' jobs; describe changes in technical support system including changes in supervisor's jobs; develop productivity indicators that are responsive to client needs; and measure worker attitudes. Measurement, Herzberg asserts, can be the greatest single contributor to advancement of knowledge.

Hoerr, J., "A New Friend for Quality of Work Life." Business Week, No. 2758 (September 27, 1982) p. 26.

Applauds the announcement of a new division in the U.S. Department of Labor. The Cooperative Labor-Management Programs Division will gather and distribute information on QWL programs. Labor Secretary Raymond J. Donovan felt the move was necessary due to sluggish productivity growth in the U.S., increased worldwide competition, and workers' growing demands for more job involvement.

"Human Resources: Absenteeism." Transit Actions, Public Technology, Inc., Washington, D.C. (1981).

A series of four reports documenting the problem; suggesting improved record-keeping to control absenteeism; describing techniques such as higher standards for new hires, providing in-house medical programs; and showing how improved labor-management cooperation can be a key in reducing absenteeism. Contact people who have used these techniques are identified.

Johnson, D. E. L., "Quality Circles Put Workers in Charge of Their Productivity." Modern Healthcare, Vol. 11, No. 9 (September, 1981) pp. 68-69, 74.

The first hospital to initiate quality circles did so in October 1980. Mount Sinai Medical Center of Greater Miami, in Miami Beach, Florida, began with 6 QC's and one year later they had twelve. Since it normally takes at least 18 months for quantifiable results from QC's to appear, the hospital is not quite ready to give firm figures on cost savings, or improved quality and productivity. Some results have been noticed. Dietary workers proposed changing the time by which meal orders had to be in the kitchen in order to ease the rush which caused the omission of food items from patient trays. Errors are being reduced in charting menus. The QC in the transportation department has an improved attitude and an increase in the number of wheelchairs returned to the transport area. Alvin Goldberg, CEO of the hospital and advocate of participative management sees a great enthusiasm in hospital workers, which is a change from before QC's were instituted. Management is involved at every level. The bottom line is to produce excellent patient care.

Kanter, R. M., "Dilemmas of Participation: Issues in Implementing Participatory Quality of Work Life Programs." National Forum, Vol. LXII, No. 2 (Spring 1982) pp. 16-19.

The author defines "delegation to a group" as the central theme of participation. The conclusion drawn in the article is that although quality of work life projects must be carefully planned and implemented and the proper people involved, the results in increased communication and job satisfaction are well worth the effort.

Karasek, R. Jr., "Job Demand, Job Decision Latitude and Mental Health: Implications for Job Redesign." Administrative Science Quarterly, Vol. 24 No. (1979) pp. 285-398.

Karasek's hypothesis is that mental strain results from high job demands combined with low job decision latitude. "Decision latitude" is a variable composed of skill and decision authority. Author notes similarity of these variables to Hackman and Oldham's, especially autonomy and skill variety. Job demands include time pressure, too much work, conflicting demands. Model predicts rates of absenteeism, pill consumption, and job dissatisfaction will decrease as job decision latitude increases.

Katzell, R. A., Yankelovich D. and Fein M., Work, Productivity and Job Satisfaction. Report of the National Science Foundation, Division of Social Systems and Human Resources (1975) 62 pp.

Review of literature for empirical evidence of QWL and three topics: design of jobs, distribution of control, patterns of compensation. "Research findings are not entirely unambiguous or consistent." They outline conditions that research says must be met for an "effective system."

Keidel, R., How to Form an In-Plant Labor-Management Committee. Philadelphia Area Labor-Management Committee, Philadelphia, Pennsylvania (October 1981).

Describes the principles of quality of work life and techniques used to implement QWL. A useful section on the structure of labor-management committees is included. We see how a labor-management committee can foster QWL.

Keidel, R. W., Quality of Working Life in the Private Sector: An Overview and a Developmental Perspective. U.S. Office of Personnel Management, Report WPT5 (September 1980) 35 pp.

The first half of this report presents an overview of the field including a section on terminology, a summary of common aspects of QWL initiatives, and an identification of contrasting postures toward QWL. The most useful aspect of this section is a demonstration of the link between techniques of organizational change and the quality of work-life philosophy. The second part is a longitudinal study of six companies' experiences with QWL. All cases are analysed in light of one another and common enabling conditions and contrasting developmental patterns are explained.

Kochan, T. A., and Dyer L., "A Model of Organizational Changes in the Context of Union Management Relations." Journal of Applied Behavioral Science, Vol. 12, No. 2 (Spring 1976) pp 59-78.

Kochan and Dyer suggest existing models of organizational change do not take union-management relations into account. There are three interest groups that must benefit from change process-- employer, employee, and union. All three have legitimate claim to rewards. If a program does not benefit all parties it is subject to indifference or undermining.

Kwoka, J. E., Jr., "The Organization of Work: A Conceptual Framework." Social Science Quarterly, Vol. 57, No. 3 (December 1976) pp. 632-643.

The discussion seeks to bring some order to the chaos of experiences and theories concerning modified work organization. In addition to emphasizing some basic distinctions and proposing a method of quantification, there is an attempt to develop a general framework for analyzing job design and worker participation in management.

Laughlin, L. R., and Pauley, R., "Productivity Improvement Programs and Techniques in Transportation." Transportation Research News, No. 95 (July-August 1981) pp. 7-11.

The article discusses the need for productivity improvement in transit, focusing on the "people side" of the productivity equation. Techniques such as labor-management committees, job enlargement and enrichment, quality circles, autonomous work groups, and monetary and non-monetary incentives are discussed. Numerous transit examples and a case study of the use of these programs are cited.

Locke, E. A., Sirota, D., and Wolfson, A. D., "An Experimental Case Study of the Successes and Failures of Job Enrichment in a Government Agency." Journal of Applied Psychology, Vol. 61, No. 1 (1976) pp. 701-711.

An experimental job enrichment program was introduced in three clerical work units of a federal agency. Matched control groups were selected for each experimental unit. The program was introduced after careful diagnosis of the work situation and thorough training of the personnel involved. Within the limits imposed by the field situation, before-after measures of both behavior and attitudes suggested that changes in behavior (e.g., productivity, absences) occurred in favor of the experimental groups. Job enrichment apparently had no effect on attitudes. The productivity changes were attributed mainly to more efficient use of manpower, elimination of unnecessary operations, and feedback and competition, while the absence changes were attributed to initial changes in morale based on the expectation of extrinsic rewards. It was concluded that attitudes did not improve because the expectation and desire for such rewards had not been met. The problems and limitations of job enrichment are discussed.

Loftus, J. A., and Wallfish, B., eds. "Breakthroughs in Union Management Cooperation." Work In America Institute Report (1977) 49 pp.

This report is based on a conference on union management cooperation sponsored by Work In America

Institute and the National Center for Productivity and Quality of Working Life. It examines new forms of cooperation and participation in the work place, presents case study examples and contains chapters on labor management committees, the Scanlon Plan, Socio-Technical Systems, and Relationships by Objectives.

Macy, B. A., and Mirvis, P. H., "A Methodology for Assessment of Quality of Work Life and Organizational Effectiveness in Behavioral-Economic Terms." Administrative Science Quarterly, Vol. 21, No. 2 (1976) pp. 212-26.

This paper describes the development and implementation of a standardized set of definitions, measures, and costing methods for the behavioral changes expected to result from quality of work-life programs. The research, conducted over a three year period, quantified costs of certain behaviors such as absenteeism, late arrival, accidents. Measures of quality of output were also developed. The research is primarily suited for application in industrial setting, but two elements are worth noting. First, certain behaviors can be quantified, and second, QWL programs can have measurable results. A sophisticated system could use the methodology to establish monetary incentives for certain behaviors.

Macy, B. H., "The Quality of Worklife Project at Bolivar: An Assessment." Monthly Labor Review, Vol. 103, No. 7 (July 1980) pp. 41-43.

Describes measures used at Harman's Bolivar, TN works: Job Security: jobs created, turnover; Health and working conditions: accident rates, short-term absence due to sickness, rate of minor illness, rate of medical leaves; Financial security: average hourly rate, rates relative to area standards, fringes; Job security based on organizational performance: daily output/hourly paid employees, net product reject cost, customer return rate, cost benefit.

Main, J., "Westinghouse's Cultural Revolution." Fortune, Vol. 103, No. 12 (June 15, 1981) pp. 74-93.

Westinghouse began experimenting with William Ouchi's Theory Z form of participatory management two years ago. The construction group, representing 7% of Westinghouse's work force, was used for the experiment. The company expected no results for the first two years, and thought that then years would be required to realize the full benefits of the program. Experiment started with management and moved down to the workers. In the Executive Vice President's office, there are three quality circles and a business/strategy board. The general managers of the 6 divisions within the group formed their own groups--10 councils comprised controllers, personnel directors, marketing directors, and other specialists. In the plant, the workers and supervisors formed 60 quality circles. The program was begun as an attempt to recoup losses in the 1970's. Usual company growth annually is 2-3%, in the last 2 years, 6.1% growth has taken place. The Public Systems Group, which includes the construction group, realized 8% growth. When this article was written, Westinghouse as a whole was using the program; had 600 quality circles, and three were being added each day.

Manning, G., and Curtis, R. K., "The Why of Quality Circles." Transitions, ATE Service Co., Cincinnati, OH (Autumn 1982), pp. 1-20.

The authors describe the structure, operations, and history of Quality Circles. Although less detailed than Gryna (1981), the same outline is followed. Potential benefits of Quality Circles are discussed as are the barriers to a successful program. Of particular interest are the problems caused by individual participants. The conclusion of the article includes steps for implementing a program.

McBride, S., "Job Enrichment: Oklahoma City Air Logistics Center." Excerpt from speech, Oklahoma State University Productivity Center (March 19, 1980).

"Job enrichment is difficult to implement on a broad scale in bureaucratic organizations." Areas with most potential are characterized by management commitment. When job enrichment discloses technical problems use other techniques to solve those before going on. An enriched job is characterized by having

client relationships, self-scheduling, job-related communications, accountability, control over resources, and new experiences.

Melohn, T. H., "How to Build Employee Trust and Productivity." Harvard Business Review, Vol. 83, No. 1 (Jan/Feb 1983) pp. 56-61.

The author is CEO and half-owner of North American Tool and Die, Inc. In four and a half years of ownership, Melohn and his partner have tripled sales, dropped employee turnover to 6%, and profits have multiplied by six. Beginning with the premise that the company's well-being depends completely on employees caring about the quality of their work, the partners do everything to recognize an employee's good work and to help an employee, both personally and professionally. Monthly meetings are held to recognize the best employee of the month with a plaque and a cash award. Employment anniversaries are noted with a silver dollar for each year of service. Company progress and concerns are shared with employees. Cash bonuses are also given to employees who show extra innovation, such as devising ways to cut labor costs. The combination of a philosophy of caring and monetary and non-monetary rewards is found to be very effective.

Metz, E. J., "Caution: Quality Circles Ahead." Training and Development Journal, Vol. 35, No. 8 (August 1981) pp. 71-76.

This article discusses the dangers of the tremendous growth of interest in quality circles. If quality circles become a "fad," then firms may try to institute them without proper preparation. The first potential problem is not assessing managerial and organizational readiness for quality circles. This could result in insufficient support for the program; management may not listen to workers' suggestions, or may be too restrictive with information made available to circles. Feeling threatened, unions might tell workers not to participate. The second danger is not doing adequate start-up and implementation planning. A steering committee should be the first step to define program goals, policy, and support. This is especially important for unions and workers, to attain their participation. Third, not exercising care in the selection of a facilitator will create a problem. The facilitators should have enough background and knowledge to be able to train circle leaders, initiate the circles, keep management informed, and promote program growth. Last, there are dangers in not recognizing the organizational development implications of quality circle. This recognition is necessary for reinforcement of the participative process. Without participation, the program falls apart.

Nadler, L., "Quality of Work Life, Productivity, and..." Training and Development Journal, Vol. 35, No. 8 (August 1981) pp. 32+.

This article claims that there need not be a direct relationship between productivity and quality of work life programs: productivity can be measured, QWL is subjective. QWL's purpose is to bring about a working environment where people will be satisfied. To be satisfied, neither the workers nor management should feel threatened that the other side is seeking control. There is a difference between motivation and incentive. Motivation comes from within an individual. Incentives create the opportunity for an individual to feel motivated. Quality of work life programs, given enough time to operate and be successful, are a form of participative management that can be the incentive for a worker to feel motivated to increase his or her productivity.

Nadler, D. A., Lawler, E. E., III, "Quality of Work Life: Perspectives and Directions." Organizational Dynamics (Winter, 1982) pp. 20-30.

The article reviews the development of the term "quality of work life" and provides a working definition: a way of thinking about people, work, and organizations that is characterized by a concern about the impact of work on people and about organizational effectiveness and a commitment to participation in organizational problem solving and decision making. Six conditions predict success in QWL projects: (1) perception of need, (2) problem focus that is salient to the organization, (3) theory or model to guide problem identification and

solving; (4) rewards for process changes and outcomes; (5) management systems (evaluation, communication patterns, rewards) affected; (6) organization-wide involvement.

The authors have excellent research and consulting credentials. The article blends the best of these worlds.

National Commission on Productivity and Work Quality, Employee Incentives To Improve State and Local Government Productivity. (March 1975) 147 pp.

A report which provides a broad overview of incentive programs in state and local government. The report, largely a compilation of project descriptions, is based on mail and telephone surveys. Job enlargement was one of the incentives covered in the report. Job rotation, team approaches, and job redesign programs were reported in 14 percent of the responding local governments and 20 percent of the responding state governments. The report recommends more evaluation of incentive programs.

Norton, S., Massengill, D., and Schneider, H., "Is Job Enrichment a Success or a Failure?" Human Resource Management, Vol. 18, No. 4 (Winter 1979) pp. 28-37.

The article reviews the earlier works of other researchers. The central question of the article's title is not answered since authors argue properly designed job enrichment is rare. The authors described the research findings regarding job enrichment as inconclusive because evaluation methods aren't sufficiently comprehensive. The article presents useful definitions of job enrichment, a paradigm for research on job enrichment, and ten conditions which are "likely to be associated" with successful job enrichment programs.

Orpen, C., "The Effects of Job Enrichment on Employee Satisfaction, Motivation, Involvement, and Performance: A Field Experiment." Human Relations, Vol. 32, No. 3 (March 1979) pp. 189-217.

Study of two groups of clericals (South African government): one enriched, the other not. Very similar to Locke, et al. in design, but not results. Orpen found enrichment caused increases in job satisfaction, involvement, internal motivation; led to decrease in absenteeism and turnover but had little impact on performance.

"It is argued that in order to explain the effect of enrichment on performance, it is necessary to consider other factors than the psychological states produced by jobs . . ."

Parnes, S., Highlights of the Literature: Productivity and Quality of Working Life. Work in America Institute, Scarsdale, New York, Work in America (1978) 43 pp.

Sections on supervision, job design, MBO, employee participation, pace of work and environmental conditions are drawn from academic journals and popular press. Most useful is the section on participation.

Pauley, R. "Human Side of Work." Transportation Research News, No. 95 (July-August 1981) pp. 11-13.

The article discusses changes occurring in the "world of work" including the characteristics of today's worker, and the decline in employee job satisfaction. It then describes work improvement experiments initiated in the 1970's that addressed these job satisfaction issues. These are the joint General Motors/United Auto Workers quality of working life program, the Lincoln National Life "quality commitment" program, and the Cummins Engine Company program. The central theme of each of these programs is employee participation in decision making.

People and Productivity: A Challenge to Corporate America. New York Stock Exchange, Office of Economic Research, New York (1982) 53 pp.

The NYSE conducted a national survey of corporations using "quality of worklife" programs which they define as any effort "to encourage employees to participate in the decisions that affect and determine day-to-day work patterns," although in its broadest sense it includes "general efforts to

stimulate workers by making their jobs more interesting, giving them more control over their own activities, and providing them with a more direct stake in their companies' fortunes." They found 14 percent of the 49,000 corporations surveyed have QWL programs. Larger corporations were much more likely to have programs, 53 percent of those listed on the Exchange have programs. Programs were initiated for a variety of reasons, the top three being: to cut costs, to deal with poor employee attitudes or morale, and because the top manager had heard of other successful programs. Of corporations with over 500 employees the four most successful programs were personalized hours, setting company objectives, formal training, and task forces. Among all programs, 12 percent of corporations considered their programs "highly successful," 42 percent "successful," 24 percent "partially successful," 0 "unsuccessful," and 20 percent "too early to evaluate."

In addition to the survey, the publication looks at the components of Japanese success and suggests it stems from the quality of primary and secondary education rather than management practices such as quality circles.

Perry, J. L., and Angle, H. L., The Impact of Labor-Management Relations on Productivity and Efficiency in Urban Mass Transit: Employee Attitudes, Withdrawal Behavior, and Bargaining Unit Structure. U.S. Department of Transportation, Research and Special Programs Administration Report DPB-50 (1980) 236 pp.

The overall focus of this research report is on the impact of four controllable aspects of the labor-management situation (i.e., the legal framework, bargaining structure, the labor-management relationship pattern, and the collective agreement) on four components of transit performance: service effectiveness; service efficiency; employee withdrawal (i.e., turnover, absenteeism and tardiness); and organizational adaptability.

Employee commitment to transit organizations had beneficial impacts on service efficiency, organizational adaptability and turnover. The extent of employees' commitment was related, in turn, to satisfaction with several aspects of treatment by the organization. Turnover, in moderate amounts and under appropriate organizational policies, was found to be cost-beneficial. Absenteeism, on the other hand, was found to be costly--an expense that could be reduced by suggested changes in policy. Several common beliefs about the impact of bargaining structure on organizational effectiveness were unsupported.

"Private Sector Report: QWL in the Bell System." QWL Review, Vol. 1, No. 4 (March 1983) pp. 9-11.

The article describes the establishment in 1980 of a Joint National Committee of the Communications Workers of America and AT&T to encourage and support quality of worklife efforts within the Bell System. There are now almost 300 joint local committees spread throughout the Bell System which identify workplace problems and recommend solutions. Committees which have been in existence for a longer period of time tend to consider more complex issues such as training requirements, job redesign and flextime. The emphasis is on QWL as a process and not on project completion with fixed objectives and timetables. Both union and management agree that the new approach is already showing its worth.

"Quality of Work Life: Catching On." Business Week, No. 2706 (September 21, 1981) pp. 72-80.

Article discusses the findings of the second international conference on the quality of worklife. Interest in QWL programs is increasing, although it still faces many obstacles. Case histories are presented, showing that QWL programs improve product quality and productivity; reduce absenteeism and turnover; and increase job satisfaction for workers. The manager of Ford Motor Company's Livonia, Michigan plant told of cost reductions and efficiency improvements resulting from suggestions from employees in involvement committees. There were discussions about the labor/management issues involved in QWL. However, even the most challenging questions indicated an

increased level of interest. The common thread among union people was that for years, it was felt there was no concern about human problems in the plants and now that companies are facing economic problems, management is asking for labor's help. Unions question whether management will be as dedicated to QWL when companies get back on their feet. Benefits for both sides were seen. Negotiations over economic issues are typically adversary; a more collective approach toward daily shop-floor problems could aid economic bargaining. The World Association for the Quality of Work and Life was formed, consisting of representatives from labor, management, government and academia. It will be headquartered in Canada, where interest in QWL is increasing rapidly. Noted at the conference were two trends forcing QWL interest: growing world competition, and the microprocessor revolution which will create a partially employed society.

Rendall, E., "Quality Circles: A 'Third Wave' Intervention." Training and Development Journal, Vol. 35, No. 3 (March 1981) pp. 29-31.

The author sees quality circles becoming a job requirement for employees, since some companies already offer day care and stress management centers and the like. As American industry becomes more technological with the computer age, worker boredom will retard productivity and creativity. Quality circles demand participation, which will make the workplace become more personalized. A one hour quality circle meeting per week carries over into the other thirty nine hours and workers have a reason to communicate, both on the job and in their off hours. Employees are looking for self-actualization on the job.

"Report on Quality of Working Life." Education Report, IUE Department Social Action. (January 1982) 9 pp.

As defined in this article, quality of working life programs are created to ease the traditionally adversarial approach to labor-management situations, increase job satisfaction, and improve quality and productivity. The essential component of any QWL program is the opportunity for individuals to influence their working environment. A climate conducive to suggestions and questions relating to improving existing operations is necessary. Union and QWL programs have a history dating to the 1920's and union-management committees in the AFL; and CIO leaders suggested employee participation initiative in the 1930's. Today, the United Auto Workers and General Motors have QWL programs in 65 plants. General Motors is also working with the International Union of Electrical, Radio and Machine Workers. The union credits those QWL programs increasing jobs and job security and improving worker satisfaction. Bakery, Confectionary, and Tobacco Workers are working with Nabisco, Inc. in Houston. Together, they have reorganized the assembly line and are starting on other solutions for workplace problems. Quality of working life programs are gaining in importance due to a new breed for worker: better educated, younger, and having higher expectations of their jobs. Technological changes in the workplace are an important factor in QWL programs' popularity. Quality of working life programs can take on many forms; one of which is the quality circle. The article discusses the purpose, concerns, and history of QC's. Labor's history of distrust of QWL programs is discussed. Most basic solution to that problem is for management to fully explain QWL programs to the union, and give reassurances that both sides will benefit from the program.

Resource Guide to Labor-Management Cooperation. U.S. Department of Labor, Labor-Management Services Administration, Washington, D.C., Government Printing Office, #029-000-00414-5 198 pp.

Describes 181 in-plant programs and lists industry and area labor-management committees as well as productivity and quality of work-life centers. Entries are indexed to permit identification of programs by region, industry, and union. Several labor management committees in urban mass transit and other transportation agencies are identified.

Rubenstein, S., "Integrating Quality Control and Quality of Work Life." ASQC Transactions-Houston, (1979) pp. 774-779.

"Employee participation in problem solving is now a world-wide movement." Discusses need for a supportive environment for quality circles. Problem of short-term duration of managers and their emphasis on short-term results makes it difficult to implement long-term programs such as circles. Emphasizes reduction in resistance to change problems due to "parallel structure" of circles--a mechanism in addition to other channels.

Schlesinger, L. A., and Walton, R. E., "The Process of Work Restructuring and Its Impact on Collective Bargaining." Monthly Labor Review, Vol. 100, No. 4 (April 1977) pp. 52-56.

A look at participatory work restructuring efforts at eight U.S. firms to test author's theory of behavior in collective bargaining. Concludes that participation, once begun in a meaningful way, is hard to stop and moves emphasis in collective bargaining from adversarial behavior to problem-solving behavior.

Schriesheim, J. F., Von Glinow, M. A., and Schriesheim, C. A., The Impact of Job Design Variables on Affective, Motivational, and Behavioral Variables in a Public Sector Organization. Academy of Management Proceedings Athens, Ga., (1979) pp. 353-356.

"This study examined the relationship between six job-design dimensions (Hackman and Oldham, 1976: skill variety; autonomy; task identity; feedback; task significance; dealing with others) and various affective, motivational, and behavioral outcomes for a sample of 152 municipal employees (white-collar, white males, in planning and traffic departments). Four facets of non-economic job satisfaction and a measure of organizational commitment were found to be reliably related to task design variables. Economic satisfactions were generally more weakly related to task design. Over a six-month period, task dimensions differentially and significantly predicted absence and lateness. The findings suggest the importance of job design efforts for public sector employees. . . ."

Schuster, M., "The Impact of Union-Management Cooperation on Productivity and Employment." Syracuse University, School of Management, Grant No. 91-79-10, Employment and Training Admin., U.S. Department of Labor (January 1982) 39 pp.

This field study examined the effectiveness of nine cooperative union-management experiments. Regression analysis demonstrated improvement in productivity in six of eight firms; employment was stable in eight of nine. Measures involved output per hour and level of employment. Other factors (e.g., capital investment) were looked at. Experiments included productivity sharing plans (Scanlon; Rucker) which were successful, and three types of LMCs which were not. One was unsuccessful because management personnel received five percent pay increase immediately after union agreed to moratorium on increases for one year. The second plan was tied to a national agreement with weak commitment at local level. In the third, union leadership was divided, and supervisors were not involved in planning.

Schwartz, G. E., and Comstock, V. C., "One Firm's Experience with Quality Circles." Quality Progress, (September 1979), pp. 12-15.

The article provides a detailed account of starting a Quality Circles program at Westinghouse. Although costs are not given, the reader can make judgments on time spent and staff hired to run the program. The authors comment on tangible (productivity) and intangible (open communication, quality consciousness) benefits that resulted.

Sirota, D., and Wolfson, A. D., "Job Enrichment: What Are the Obstacles?" Personnel, Vol 49, No. 3 (May/June 1972) pp. 9-17.

Major obstacles to job enrichment are described: managers lack of education about job enrichment, anti-job enrichment ideology, organizational pressures, managerial resistance, technological restraints, belief that employees are incapable or uninterested in job enrichment, lack of problem analysis, belief in uniqueness of organization, job enrichment is just "good management," and requirement for considerable management time needed. The discussion of obstacles serves to emphasize the need to introduce job enrichment activities properly.



Sirota, D. and Wolfson, A. D., "Job Enrichment: Surmounting the Obstacles." Personnel, Vol. 49, No. 4 (July/August 1972) pp. 8-19.

Describes an approach to overcoming the obstacles to job enrichment programs that was developed in a large manufacturing organization. There are four phases: diagnosis of where job enrichment could be used most appropriately; top management exposure to problem analysis; training of designated "key men" throughout the organization in theories of motivation, job design, idea generation implementation strategies, evaluation and group leadership; keymen serve as consultation resources for managers during the job enrichment process. Case histories of actual programs are described. The article addresses the problem of implementation: How does one get job enrichment started in environments where the barriers seem nearly insurmountable?

Stepina, L. P., "No Free Lunch: Labor-Management Productivity Committees." CERL Forum, Center for Employment Relations and Law, Florida State University (July 1982) 7 pp.

Stepina focuses on productivity committees with a brief historical review of both private and public sector activities. Few committees survive over time. Attitudes toward productivity differ dramatically between labor and management, therefore strong incentives must exist to generate cooperation. In discussing a model for productivity committees, the author notes management, but not the union often wants to bargain for productivity. Rank and file must see need and expect benefit or political pressure within union will lead to failure. Cooperative efforts require that each respect the other's interest.

Strauss, G., Improving the Quality of Work Life: Managerial Practices. Monograph series sponsored by U.S. Department of Labor, Contract No. L-74-84 (June 1975) 123 pp.

Emphasizes supervisory characteristics necessary for quality of work life in organizations. These are consideration, facilitation, and participation. Discusses need for change in reward system for supervisors in shift from traditional management style.

Streker, I. U., A Comparison of the Effects of Job Redesign With and Without Employee Participation. New Haven (1976) 315 pp.

Laboratory experiment to examine effects of different styles of implementing job redesign. In Group I, work group participates in job redesign; in Group II, first line supervisor imposes changes; in Group III, plant manager informs supervisor and work group of changes, which are the same as those developed by Group I. Results "appear to indicate that participatory implementation method has positive effect on employees' satisfaction . . . and leads employees to view characteristics of the job more positively than employees who had the same job redesign imposed," but resistance to change is most influenced by the relationship between supervisor and workers before and after the changes.

Study of Operator Absenteeism and Workers Compensation Trends in the Urban Mass Transportation Industry. Transportation Management Program, Urban Mass Transit Administration (1980).

Transit operator job-related injury leave is three times higher than private sector as a whole, five percent higher than private transportation average. Total cost estimate is \$187 million per year. Findings: management should collect, analyze, and standardize absence data. Positive reinforcement for good records as well as punitive measures for poor records should be used. Management should work with employee representatives in work improvement committees which would "represent a radical departure for transit labor relations, (but) the potential for labor management cooperation in transit was demonstrated by the surveys and interviews . . ."

Susman, G. I., A Guide to Labor-Management Committees in State and Local Government. Public Technology, Inc., Washington, D.C. 20036 (1980) 68 pp.

The Guide is particularly useful if you are planning for labor-management committees, but it also has general utility because the question and answer format may be used as a guide to important issues in any change effort. It is concise and has practical advice that can be used by transit officials in planning, implementing, and evaluating organizational change efforts.

Susman, G. I., and Evered, R. D., "An Assessment of the Scientific Merits of Action Research." Administrative Science Quarterly, Vol. 23 (December 1978) pp. 582-603.

Authors see a crisis in the study of organizations. As the research methods become more sophisticated, their utility for solving problems decreases. "Pure research" is only remotely connected to the concerns of the practicing manager. Action research is introduced as a legitimate approach for advancing knowledge and solving problems. Action research, particularly useful in interorganizational problem solving, has five phases--diagnosing, planning, taking action, evaluating, and learning. All steps involve the researcher with the client organization. This involvement distinguishes action research from the "pure" approach, and according to Susman and Evered, increases its utility.

Tausky, C., "Productivity, Incentives, and the Quality of Work Life." National Forum, Vol. LXII, No. 2 (Spring 1982) pp. 14-15.

Three themes are found dominant in survey results concerning work--the nature of work, pay and security. The author argues the three are tied together. Increased productivity will not occur where employees fear layoffs. More challenging, complex and responsible work is desired, but must be financially rewarded. The Japanese system of employment security and biannual bonuses tied to productivity is given as example. QWL techniques are available to accomplish these goals in the U.S.

"Techniques for Improving Productivity and Performance." Transit Actions, Public Technology, Inc. Washington, D.C. (October 1979) 264 pp.

This book presents brief descriptions of programs that cut costs or improve effectiveness and efficiency of transit operations. The programs are neither dramatically innovative nor expensive to institute. In fact, two criteria for inclusion were low cost start-up and quick payoff. Contact persons are identified. The section on labor-management relations contains both cooperative and traditional programs initiated by management.

"The New Industrial Relations." Business Week, Special Report, No. 2687 (May 11, 1981) pp. 84-98.

The article focuses on examples of quality of work life programs in major American companies and how these programs are building a new relationship between management and labor. The reason for the formation of the programs is that most people want to be productive and will be if given the proper incentives and a climate of labor-management trust. A participatory process is called for in which workers voice their opinions in decisions involving the plant. Companies, some in collaboration with the unions representing their employees, are designing new mechanisms to involve the workers. Xerox's Reprographics Technology Group has set up two kinds of quality circles: horizontal, involving same-level people from different departments; and vertical work-study groups of people from different levels of the same department. General Motors has QWL programs at about 90 locations, and its management attends annual conferences at which successful QWL programs are described. To get into top management at GM, one now must show a commitment to participatory management. Matsushita Industrial Company and Quasar Company create a "family atmosphere" through recreational activities and educational programs sponsored by the company. Honeywell, Inc. has 350 QC's involving 4000 employees, or 5% of the total work force. More QC's are slated to be formed. The company actively trains and encourages managers at all levels to take QC's seriously. Participation is a requirement at Honeywell. And at Butler Manufacturing Company where 93 employees participate in teams of five to twelve workers, manhours required per unit were reduced 30% to 35% in the first two years of its program.

"Toward a More Human Way of Working in America." First National Conference, American Quality of Work Life Association, U.S. Department of Health, Education, and Welfare, Public Health Service Report No. DHEW (ADM) 79-731 (1979) 54 pp.

Report on a conference of QWL participants from 17 organizations (public and private) in November, 1977. Discusses participants' frustrations with problems that include: role of middle managers,

responsibilities and powers of committees, getting beyond cosmetic workplace improvements. Conclusion was that despite problems, benefits of QWL are improved communications, better morale, better interpersonal relations.

Trist, E. L., Susman, G. I., and Brown, G. R., "An Experiment in Autonomous Working in an American Underground Coal Mine." Human Relations, Vol. 30, No. 3 (1977) pp. 201-236.

Autonomous work groups were installed in an underground coal mine as part of an action research project beginning in 1973. The project was a controlled experiment, to the degree possible, and set for a one-year period in one section of the mine. The goal was to establish work groups that made decisions on operational procedures and production goals to improve performance, increase safety and job satisfaction. Union and management were full partners in the experiment. Autonomous work groups were established and in the process of expansion at the time of writing.

Trist, E., "The Evolution of Socio-technical Systems." Issues in Quality of Working Life, No. 2 (June 1981). Ontario Ministry of Labour, Ontario Quality of Working Life Center, 67 pp.

Trist describes social context (Post WWII) in which the theory was developed. Emphasis on primary work group finding new ways to use technology was contrary to prevailing Weber-Taylor outlook of large bureaucracy and specialization. Sociotechnical approaches examine relationship of technology and organizational forms in the work group, organization, and community/society. Principles of work design have "exceptional" degree of agreement from a variety of researchers considering that it is a relatively new field.

Trist, E., et al., Improving Productivity and Quality of Worklife in the Public Sector: Pioneering Initiatives in Labor-Management Cooperation. Final report on Project Network, University of Pennsylvania, Management and Behavioral Science Center, (Jan. 1980) 240 pp.

Ten case histories of labor management committees in the public sector are presented. One committee dissolved during the course of the study; reasons are suggested. These cases, while interesting, are less useful than the overall observations made by the authors. The observations, unfortunately heavy with academics jargon, touch on structure, strategy for development, third party facilitation, and the relationship of these to accomplishing goals. For example, unified, centralized structures can have quick, low-risk start up, usually deal with generalized issues. Committees of this type may stall because of lack of impact on employees at work site.

Turney, J. R., and Cohen, S. L., "Participative Management: What is the Right Level?" Management Review, AMACOM, New York (October 1980) pp. 66-69.

Participation should be seen as a continuum occurring in degrees rather than a dichotomy--participative or non-participative. There are task attributes, situational conditions, and supervisor/subordinate characteristics that should be evaluated to determine the proper degree of participation to produce optimum results. The article is useful in suggesting guidelines for task force formation. The authors' concern is with productivity rather than job satisfaction.

Tuttle, T. C., "Measuring Productivity and Quality of Work Life." National Forum, Vol. LXII, No. 2 (Spring 1982) pp. 5-7.

Tuttle argues that "quality of working life" and "productivity" are equally ambiguous terms that carry value connotations. Although a variety of definitions have been used, Tuttle suggests definitions involving process most suitable for QWL and definitions involving outcomes most suitable for productivity. If we accept these definitions, measurement questions are simplified. Process indicators (perceptions of employees of their relationship with supervisors, working conditions, value to the organization, etc.) measured over time can be used to assess changes in QWL. Outcome indicators ("hard" data on quantity and quality of output-service provided or products produced) are used for productivity. QWL is enhanced when

productivity indicators are jointly developed and regularly fed back to employees.

Umsot, D. D., Bell, C. H., Jr., and Mitchell, T. R., "Effects of Job Enrichment and Task Goals on Satisfaction and Productivity: Implications for Job Design." Journal of Applied Psychology, Vol. 61, No. 4 (1976), pp. 379-394.

The article describes the results of a controlled experiment to determine the impact of job enrichment and goal setting on productivity and job satisfaction. Job enrichment was defined by skill variety, task identity, task significance, autonomy, and feedback from the job (i.e., performance of the work provides information on whether it is being performed correctly). Goal setting was defined by goal specificity and difficulty.

The work involved part-time jobs to code onto computer information that provided coordination between land accounts and zoning codes.

The outcomes (almost all statistically significant or in the predicted direction) showed job enrichment to be related to job satisfaction, but not productivity; goal setting was related to productivity but not satisfaction. The authors comment on some problems with the controlled conditions, but suggest that their research implies that combining enrichment and goal setting "may result in both productive and satisfied employees. If true, this final implication may be of major significance in increasing the quality of working life."

Walters, R. W., and Associates, Inc., Job Enrichment for Results: Strategies for Successful Implementation. Reading, Mass., Addison Wesley (1975) 307 pp.

Focuses on motivation problems and offers job enrichment as a strategy to "unlock motivational drives." A general, anecdotal approach is taken.

Walters, R. W., "Linking People and Job Design." Daily Labor Report, No. 111 (June 3, 1983) pp. A1-5.

This article summarizes a speech given by the author which warns against installing "quick fix," prepackaged employee participation programs. He explains that programs such as quality circles may undermine long term efforts to improve productivity if they are undertaken without extensive diagnosis of organizational problem areas, communication with employees on program goals, and developing consensus on a proposed program among affected employees.

Walton, R. E., and Schlesinger, L. A., "Do Supervisors Thrive in Participative Work Systems?" Organizational Dynamics, (Winter 1979) pp. 25-38.

In 12 organizations the authors found the greatest dissatisfaction and frustration with worker participation in decision-making at the supervisory level. However, supervisory roles within innovative systems can be analyzed and improved by emphasizing task accomplishment through increased employee participation and self-direction. Many of the problems that currently surround the supervisory role are an outgrowth of inadequate conceptualizations of the dynamic nature of the role relative to the work group and consequently to the larger organization.

Washnis, G. I., ed., The Productivity Improvement Handbook for State and Local Government. New York: John Wiley & Sons (1980) 1492 pp.

The 50 chapters in the book were written by experts in each municipal functional area. Almost a third of the volume is devoted to a wide ranging overview of techniques and organizational issues to be considered when a productivity improvement program is being established. The remaining chapters are filled with practical suggestions arranged by functional operation. Several chapters are of particular interest to mass transit operators who wish to improve productivity. They are "Motor Fleet Operations," "Traffic Management," "Mass Transit," "Organizational Development," and "Labor Relations."

Watts, G., "QWL: CWA's Position." QWL Review, Vol. 1, No. 4 (March 1983) pp. 12-14.

The author, who is President of the Communications Workers of America, comments on the QWL movement from

the perspective of American labor. He warns that QWL challenges the way unions have done business in the past because it is a cooperative, problem-solving relationship rather than adversarial. He emphasizes that QWL has great potential if several issues are understood and kept in focus: (1) avoid gimmicks (management tricks to circumvent unions and increase productivity. He classified Quality Circles as such). (2) QWL involves a long-term change in management style. (3) Unions must be involved in planning and implementing worker participation programs. He established a set of general principles to be followed when establishing a QWL program.

Weather, W. B., Jr., "Productivity Improvement Through People." Arizona Business, Vol. 28, (February 1981) pp. 14-19.

"Substantial productivity gains can be achieved through employee involvement in which nonmanagement employees are allowed to solve problems that affect their job performance, job setting, and the job itself." The author's descriptions are glowing, based on impressions rather than assessment of results.

White, B. J., "The Criteria for Job Satisfaction: Is Interesting Work Most Important?" Monthly Labor Review, Vol. 100, No. 5 (May 1977) pp. 30-35.

Re-examines HEW report, Work in America, that workers want an "interesting job" more than anything else. Composite of survey findings had been used to substantiate that statement. White finds if survey data are broken down by occupational grouping, then good pay, fringe benefits, job security become most important for blue-collarers. However, "interesting work" is not unimportant for any occupational group.

Whitsett, D., "Where Are Your Unenriched Jobs?" Harvard Business Review, Vol. 53, No. 1 (January/February 1975) pp. 74-80.

The author lists and describes 11 structural clues for spotting opportunities to improve the shape of the job and the productivity and satisfaction of the person filling it.

"Worklife Plans, No Substitute for Bargaining." AFL-CIO News, January 23, 1982, p. 3.

Labor-management cooperation to improve the quality of work life can be beneficial where unions are strong, the programs are jointly developed and are an outgrowth of the collective bargaining process, says AFL-CIO Secretary-Treasurer Thomas Donahue. Unions want productive employers and are willing to cooperate to achieve this goal where employers are not simultaneously seeking "union-free" environment.

Yorks, L., A Radical Approach to Job Enrichment. New York, AMACON (1976) 209 pp.

Organizational structure may be a large contributor to productivity problems. Author offers "corporate approach" to improving human resource management. The description is general, anecdotal.

Zander, A., Making Groups Effective. San Francisco, Jossey-Bass (1982) 188 pp.

The author applies a solid knowledge base to practical, common issues in the effective functioning of business, professional, educational, government, and service groups. Drawing from recent investigations of group behavior, Zander offers detailed recommendations in many key areas including decision making, goal setting, teamwork, motivation, communication, and superior-subordinate relationships. The author shows how the findings of numerous studies can be utilized by practitioners in everyday group supervision, leadership, and problem solving.

Zemke, R., "What's Good for Japan May Not be Best for Your Training Department." Training, Vol. 18, No. 10 (October 1981) pp. 62-65.

Despite the pro-quality circle press, quality circles may not be the answer to reverse the decline in American productivity. Even in Japan where the idea started, some companies have dropped QC's, and product quality has not declined. Word has spread quickly about successes without QC's; people with

reason to be threatened by QC's are upset. Unions are suspicious about losing their standing with workers; mid-level managers are threatened because QC's solve the crisis that their jobs were created to solve. Quality circles may not work in the U. S. because workers in the U. S. think differently from Japanese workers.

Zemke, R., "French Bank Trains for Work-Group Autonomy." Training/HRD, Vol. 18, No. 10 (October, 1981) p. 76.

Clerical employees and their supervisors in five specialized areas were cross trained and jobs were redesigned. All worked in teams with former supervisors becoming "problem solvers." Eighteen months of planning and training were required before implementation. Transition period was "very difficult," but program is seen as a success. Workload is up 30 percent with no new staff, reduced turnover, increased morale. Program will be expanded.

## APPENDIX B

### SURVEY RESULTS

The National Cooperative Transit Research and Development Program (NCTRP), administered by the Transportation Research Board with support from the Urban Mass Transportation Administration, is sponsoring an assessment of job enrichment and other quality of work life programs in the transit industry. One aspect of that assessment was a survey conducted last winter and designed to identify programs of this sort currently used in transit properties.

Transit managers were asked which of the following programs were being used: suggestions, incentives, labor-management committees, task forces, work teams, work redesign, and quality circles. They were also asked what positions (clerical, operator, mechanic, supervisor, or other) were covered by these programs, how long they had been used, whether employees were involved in planning or implementing programs, whether there was any written analysis or evaluation, and the main purpose or goal of the program.

One hundred and fifty-two properties answered the questionnaire--98 small properties (100 or fewer buses), 34 medium properties (101 to 500 buses), and 20 large properties (more than 500 buses). Over 350 programs, some described under "other programs," were identified by the respondents.

Table B-1 shows the percentage of properties, identified by size, with job enrichment and other quality of work life programs. Incentives are the most widely used, with 75 percent of the properties having incentive programs. Suggestion programs are used by 46 percent. Task forces are found in 34 percent of the properties, and labor-management committees were identified in 39 percent. Some labor-management committees (LMCs) involve only the leadership of both sides and appear to focus on issues of communications and improved labor relations. Other LMCs involve employees from all levels of the organization and focus on operations. The latter type appear in some ways to be similar to quality circles and task forces which act as problem solving groups. Programs of job redesign, work teams, and quality circles are used less frequently, 14, 12, and 8 percent respectively. Considerable interest in these approaches was expressed in the questionnaire responses. The percentages for all programs add up to more than 100 percent because a number of properties had more than one program.

Incentives, in addition to being the most numerous, have also been used for a longer period of time than the other techniques, an average of 5.8 years. Interestingly, the mode, or the year most commonly cited in relation to incentives, is one year. This apparent contradiction reflects the fact that many properties have long-standing incentive programs--17 reported that incentives have been used for 10 years or more--but many other properties are just starting to use incentives. Nineteen reported new incentive programs.

Table B-1  
PERCENT OF PROPERTIES WITH PROGRAMS, BY SIZE<sup>a/</sup>  
SURVEY RESULTS

	Incentives	Suggestion Box	LMC	Task Force	Job Redesign	Work Teams	Quality Circles	Number of Properties Responding
SMALL	69 (N=68)	41 (N=40)	45 (N=33)	25 (N=25)	11 (N=11)	10 (N=10)	6 (N=6)	98
MEDIUM	88 (N=30)	56 (N=19)	53 (N=18)	44 (N=15)	17.6 (N=6)	17.6 (N=6)	11.7 (N=4)	34
LARGE	85 (N=17)	55 (N=11)	45 (N=9)	60 (N=12)	20 (N=4)	15 (N=3)	15 (N=3)	20
TOTAL PROGRAMS	75 (N=115)	46 (N=70)	39 (N=60)	34 (N=52)	14 (N=21)	12 (N=19)	8 (N=13)	152

<sup>a/</sup>Totals over 100 percent, properties have multiple programs.

Suggestion programs have been used an average of 4.5 years; the same average as for labor-management committees. Work teams have an average of 3.2 years. Use of task forces averages 2.8 years, as does job redesign. Quality circles are the newest programs, with an average longevity of only 1.2 years. The past three years have shown a dramatic upturn in the number of programs of this sort used in urban mass transit. Of the 350 programs, 56 did not report a beginning date, but of the remaining 274, 56 percent were initiated within the last three years.

Most programs include several groups of employees. Suggestion programs, for example, typically involve all employees. As would be expected, operators are included in most programs. Seventy percent of the 350 programs include operators. Mechanics are included in 50 percent, supervisors in 39 percent, and clericals in 32 percent of the programs. Some respondents volunteered information about top management programs. From this, we identified that eight percent of the programs involve top managers.

When we look at programs targeted for one or two positions, rather than covering all employees, we find that 145 or 41 percent of all programs are directed toward operators. Mechanics are the focus of 77 programs (22 percent of all programs). Ten percent of the 350 programs are designed for supervisors and only three percent for clerical employees. Several respondents noted that their programs, especially job redesign, work teams, and quality circles, are experimental. Consequently, participation is limited to a small number of employees.

There are clear patterns of employee involvement in planning and implementing certain programs. The least involvement is found in relation to suggestion programs, incentive programs, and the very technical program, job redesign. More participation is found in labor-management committees, task forces, work teams, and, as would be expected, quality circles. Among the 13 properties reporting quality circles, 11 report employee involvement in planning and implementation.

Written analysis or evaluation of program results is rare. Of the 350 programs reported, only 43, or 12 percent, report evaluation of results. For some, of course, the programs are too new to expect measurable results; nevertheless, the absence of formal evaluation is disappointing to us.

The survey shows few differences in the type of programs used by small, medium, and large properties. As seen on Table 1, there are no dramatic differences in the percentage of properties with each type of program. Table 2 also demonstrates more similarities than differences. The average length of programs in large properties, for example, is 4.9 years, 4.3 for medium-sized properties, and 4.2 for small properties. Neither do differences appear in patterns of employee involvement. In large properties, employee participation in program planning or implementation occurs in 34 percent of the programs; in medium-sized properties, employees plan or implement 42 percent of the programs; and in small properties employees participate in 38 percent of the programs.

Minor differences are found in evaluation, with 17 percent of the large and 13 percent of the medium, but only 7 percent of the small properties reporting evaluations.

In sum, there appears to be a considerable number of individual programs, such as incentives, LMCs, and other activities, in all sizes of transit properties, and there is considerable employee involvement in planning and implementation of these programs. Yet, although there is a growing interest in the newer approaches to human resource management, there are few integrated, systematic efforts to apply quality of work life as an approach to organizational change.

## Public Administration Service 1497 Chain Bridge Road, McLean, Virginia 22101

## TRANSPORTATION RESEARCH BOARD

National Cooperative Transit Research and Development Program  
Project 33-2 Assessment of Job Enrichment Programs  
for the Transit Industry

## SURVEY

Organization Name \_\_\_\_\_

**Mailing Address** \_\_\_\_\_

1. How many people do you employ full time?  
100 or less \_\_\_\_\_  
101 to 1,000 \_\_\_\_\_  
1,001 to 5,000 \_\_\_\_\_  
Over 5,000 \_\_\_\_\_
2. How many buses do you have in your system? 100 or less \_\_\_\_\_ 100-500 \_\_\_\_\_ Over 500 \_\_\_\_\_
3. Do you have any rail service in your system? Yes \_\_\_\_\_ No \_\_\_\_\_
4. How many separate bargaining units are there in your system? \_\_\_\_\_
5. Please complete the chart on Page 2 for each of the programs, approaches, techniques in the left column.
6. From what sources do you find out about promising new techniques? (Name the sources)  
  
Professional Organization? \_\_\_\_\_  
Conferences? \_\_\_\_\_  
Unions? \_\_\_\_\_  
Consultants? \_\_\_\_\_  
Managers from other properties? \_\_\_\_\_  
Other? \_\_\_\_\_
7. Do you know of other properties which are using job enrichment techniques?  
Yes \_\_\_\_\_ No \_\_\_\_\_

If so, we would appreciate your giving us the following information about people we should contact for further information. Use reverse side for additional names.

Name of Organization \_\_\_\_\_  
 Type of Job Enrichment \_\_\_\_\_  
 Name & Title of Contact Person \_\_\_\_\_  
 Area Code & Telephone No. (      ) \_\_\_\_\_

8. We would also appreciate your including your name, position, and telephone number so we may contact you for further information.

Name \_\_\_\_\_  
Position \_\_\_\_\_  
Telephone \_\_\_\_\_  
Additional Comments \_\_\_\_\_

Please respond by December 21, 1982. A return envelope is enclosed for your convenience.

Check here if you want survey results

Check here if you want periodic reports \_\_\_\_\_

JOB ENRICHMENT SURVEY PUBLIC ADMINISTRATION SERVICE 1497 CHAIN BRIDGE ROAD McLEAN, VIRGINIA 22101	Check if used in your system. Note if you have similar program.	Year Introduced	Which groups of employees are involved, e.g., operator, mechanic, clerical, supervisor?	Check if employees involved in planning or setting up program.	Check if there has been any written analy- sis or evalua- tion of the program.	What is the main purpose or goal of the program?
A. Suggestion box or suggestion system where managers respond formally to suggestions.						
B. Incentive Programs: awards designed to reward certain behavior, e.g. attendance, safety.						
C. Labor-Management Committees: Regular meetings between union representatives and managers.						
D. Task Force or Committees: Group set up for one problem or task, involve employees or supervisors, disbanded upon solution or task completion.						
E. Work teams: Workers given responsibility as a unit to accomplish certain tasks.						
F. Job Redesign: Adding variety to the job or rotating through different assignments.						
G. Quality Circles: Problem solv- ing groups or committees that meet regularly and involve employees.						
H. Other: Describe your program in adjacent box.						

## APPENDIX C

### THREE TRANSIT SITES

#### SITE VISITS--OVERVIEW

The three transit sites, MTA at Flint, Michigan, VIA at San Antonio, Texas, and MTC at St. Paul, Minnesota, represent small (less than 100 buses), medium (100-500 buses), and large (more than 500 buses) properties. All sites are unionized: employees at MTA are represented by Teamsters State, County, and Municipal Workers (Local 214), employees at VIA are represented by Amalgamated Transit Union (ATU), Local 694, and employees at MTC are represented by ATU, Local 1005. All properties are governed by publicly appointed boards of directors. MTC is managed under contract with the ATE Management and Service Company, Inc.

At each site, project staff conducted interviews with managers, union officials, and employees; observed operations and program meetings; and collected assessments of the programs as prepared by the sites. Our focus was to gather information on process issues--how need was determined for a program, how programs were established and evaluated, who was involved, and what barriers were encountered.

The project team observed five types of programs on the sites which had as goals improving productivity and job satisfaction. These programs and the sites where they were found are as follows:

- Labor management committees--MTA and VIA.
- Task forces--MTC.
- Incentives--MTA and MTC.
- Quality circles--MTC.
- Suggestion committee--VIA.

The occupational positions included in these programs were operators and mechanics with supervisors and managers integrated into most program activities. One site involved clerical staff in its quality circles program. The questionnaire and telephone survey and literature review provided additional information concerning programs, techniques, and positions.

#### Observations from Site Visits

Some of the sites focused heavily on productivity improvement; at other properties, the focus is human resource development. It is

important to note, however, that both goals are implied, if not explicitly stated in all the programs. For example, a task force may have been established to study and recommend ways the property can reduce maintenance costs. Although the goal is an improvement in productivity, it is, at the same time, an exercise in employee development. Another example would be using a labor-management committee, employee suggestion committee, or special task force to advise management about route or schedule changes. The result here is an improvement in service to the public (a productivity/effectiveness issue) stemming from employee input in the decision-making process.

Management and union officials in each of the properties visited told of the importance of employee participation in the formulation of programs. Nearly all of the individuals interviewed stressed the need for employee involvement. Managers and union officials alike expressed the belief that the composition of the workforce was changing; that it was becoming younger, better educated, and more assertive. There was a recognition that tapping this human potential could be a valuable resource for the organization as well as rewarding to the participants. Yet the survey team found that each site had difficulties in actually implementing the concept of widespread employee participation.

The first thing one is struck by is the small number of employees actually participating in any of the programs designed to identify or solve organizational problems. Our estimate is that fewer than five percent were actual participants. On the other hand, the impact of decisions made by participants in these programs on the organizations and on other employees produce significant effects. For example, decisions concerning an absenteeism policy and incentive programs were reached. Acceptance of change initiated through the cooperative process appears very high. In addition, if we look at participation in events planned through these programs, the percentage increases dramatically; perhaps 80 to 90 percent of employees participate in sports and social events that are initiated by the employee participation process.

Second, there seems to be a long learning curve, especially in the absence of formal training, in the problem solving process. Hence considerable attention is given to problem identification rather than problem solution. Issues tend to be specific and routine, e.g., there is a low hanging branch near the stop at First and Lee Avenue, rather than generalized, e.g., how can we improve reporting procedures on low hanging branches?

A related consideration is that time in meetings is often spent on information sharing rather than on information seeking. Issues are raised to avoid surprises, rather than to gain information that could help in the planning process. Both of these approaches--problem identification and information sharing--are useful, but of even greater utility is joint problem solving.



In some situations dissemination can be a problem. Informing non-participants of the activities of the committee, task force, quality circle, etc., and soliciting their input is often neglected. All sites faced this problem; none were entirely successful in solving it. Various approaches that were used included posting minutes, posting pictures of participants, discussing results in the organization's magazine or newsletter, rotating membership, and providing training to all employees. Union leaders are key figures here, but even with their full support, the dissemination process is difficult.

The labor-management relationship was mature at all sites. This means that union and management leaders recognized that certain areas are appropriate for cooperative relationships, and in other areas adversarial relationships work best. Adversarial does not mean antagonistic--the parties do not hate each other, are not at war. Rather, union and management leaders recognize that they represent different interests--those of the organization, those of the union, and those of employees. Each recognizes the legitimacy of the other. The adversarial nature of the relationship at certain times, e.g., negotiations and grievance hearings, does not preclude cooperative relationships at other times, e.g., solving operational problems, providing legislative testimony.

In the sites the survey team visited, neither union officials nor management appeared fearful of losing power through the cooperative process. There appear to be several reasons for this confidence found on both sides. First, there was leadership stability in top management as well as the union in the sites visited. VIA most clearly exemplifies stability of top management and union leadership, but top management has been very stable at Flint, and top union very stable at MTC with slight changes in management personnel.

This stability has given leadership confidence in dealing with their own constituents. Union members have not accused their leaders of being co-opted and have consistently re-elected them. Teamsters Local 214 faces a representation election this month, but the quality of work life program at Flint is not an issue. Mid-level management has not always fully accepted of employee participation programs, but the survey team did not hear accusations of top management "selling out" to the union.

Finally, it seemed that the reason that neither managers nor union leaders feared giving up power was because they had built safeguards into the structure of the programs. In Flint, for example, any member of the labor management committee may veto any item by saying that the item is not "of mutual concern." No questions are asked, and the item is dropped. Although this safeguard is rarely used, it offers protection to both management and unions. Building in structural or procedural protections seems to reflect, again, the maturity of the relationship. The recognition that management and

unions can work together, and that they can protect their own interests prevails.

#### Evaluation of Programs

The assessment issue is particularly sticky for several reasons. One difficult issue is determining the appropriate time frame. A criteria for site selection was that "the programs have been established long enough to have achieved results (minimum one year)." Project staff now thinks that one year may not be enough to achieve and measure results. Quality Circles provide an illustration. Quality Circles are expensive to set up compared to other programs. The first activities of a circle may produce cost savings which can be documented but are not likely to offset the program set-up costs. One year is clearly too short a time frame to evaluate a quality circle program.

There are questions of what to evaluate, the process or the outcomes, e.g., the labor management committee or the results of committee action. Further, if program goals are productivity improvement and increased job satisfaction, cost/benefits must be calculated for both goals, and the positive impacts of improved morale should be considered along with greater efficiency and effectiveness.

A third problem regarding evaluation is the rapidly changing context in which these programs have been instituted. Not only is the transit industry undergoing change, so, too, is the economy. Someone in Flint, Michigan (where unemployment is over 20 percent) said, "merely having a job is satisfying here."

A fourth assessment issue is that of separating the effects of one program from another. Most jurisdictions saw the programs as intertwined. Could Quality Circles work at MTC without a labor management steering committee? Would incentives be effective at MTA without the activities of the 4Rs committee? Would the absence control programs have worked at VIA if unilaterally initiated by management? The programs were often started in conjunction with one another; relating system-wide results to one particular program would be extremely difficult.

There are a lot of judgments being made about these programs, and most of them are positive but hard data proving the judgments correct are not easy to find.

#### SITE ONE--FLINT, MICHIGAN

The Mass Transit Authority (MTA) provides transit services to the City of Flint, Michigan. MTA currently has 65 buses, with an

additional 10 on order, and has an annual operating budget of \$5.1 million. It began service as a public authority in 1971 after a nine month lapse in operations.

Flint's Mass Transportation Authority has 137 employees: 90 bus operators, including 12 who are part-time; 27 mechanics in four job classifications; and 23 in management, including 10 staff positions. The current union is Teamsters Local 214. Michigan has long granted bargaining rights to public employees and the legal framework of bargaining is widely accepted. The Teamsters won a representation election in 1979. The highest ranking local officer is Chief Steward.

The seven member Board of Directors which governs the MTA is an appointed body. One member is appointed by the Board of Education; one by the Mayor; and five, having staggered terms of office, are nominated by the Mayor and confirmed by the City Council.

The General Manager, the chief administrative officer, serves at the pleasure of the Board.

#### Background and History

During the 1970's, MTA management focused on introducing the latest in innovative hardware; adding a management information system, a sophisticated computer, and microfiche equipment.

However, the relationship between labor and management remained traditional and was adversarial in all aspects. This adversarial relationship had negative effects throughout the system. How could citizens believe they were getting the best public service when bus operators and management were quarreling in public?

During this same time period, quality of work life programs were making news in Michigan. General Motors and the United Auto Workers developed a quality of work life program that received national attention. One of the demonstration plants was in Flint. The Michigan Quality of Work Life Council, a nonprofit organization to encourage labor-management cooperation and employee participation programs, opened its doors in Detroit. The City of Troy, Michigan, began a quality of work life program as did the Ann Arbor Transit Authority.

In Flint, the union at the Mass Transportation Authority faced a representation election in December of 1979, just prior to the expiration of the contract. A new group, Teamsters State, County, and Municipal Workers, was chosen by the employees. The change in union leadership was seen by management as an opportunity to repair the labor-management relationship.

At the first negotiating session for a new contract, 45 minutes were set aside for both union and management to discuss their perceptions of their own rights and responsibilities and the rights and responsibilities of the other side. Discussions then turned to the economic viability of MTA and job security. Union and management reached consensus on these issues and began to look for mechanisms to carry out the agreements. The mechanisms are reflected in letters of understanding incorporated into the contract and covering a number of quality of work life programs.

The Assistant General Manager conducted negotiations for management. The Teamsters President from Detroit and the local union leader, Chief Steward, represented labor. The General Manager, although not directly involved, gave his full support.

Most of the programs were developed by managers, who believed that it was management's responsibility to initiate change. Negotiations did not modify the general outline of the programs management proposed, but did polish and ensure that labor's interests were reflected in the outcome.

#### Flint's Quality of Work Life Program

The MTA-Teamsters contract establishes a number of innovative programs which are seen by participants as integral parts of a whole and which are called "Quality of Work Life" (QWL). The incentives program, for example, is considered unworkable without the trust established in the labor-management committee. The reader should be aware that the authors do some disservice to the total fabric and philosophy of Flint's efforts by separating the programs for descriptive purposes.

With that caution in mind, the programs of special note are incentives and labor-management committees. Incentives for attendance and safety cover all unionized employees in bus operations and maintenance (90 and 27 employees respectively). The three labor-management committees--one in operations, one in maintenance, one overarching committee--represent unionized employees and management. Staff members are committee members, but they represent management rather than a separate entity.

Training for "quality of work life" is considered the main vehicle for instituting the cooperative philosophy that prevails at MTA. The training is conducted by the Assistant General Manager who maintains a maximum class size of 14. Each class, consisting of operators, mechanics, and staff, has eight one-hour sessions over an eight-week period. Participation is voluntary and although attendance is taken there is no overt pressure to attend. Participants may make up missed sessions with a subsequent group. Certificates are awarded to those who complete all eight sessions.

The sessions cover the philosophy of QWL, labor-management committees, and the problems faced by union, management, and employees who become involved in labor-management committees.

The goal is for all employees to go through the training. About 50 percent have participated, and classes are ongoing.

One other aspect of the labor contract and the QWL program deserves mention. It is a new approach to discipline and is important as a component of the overall quality of work life approach. Management has the right to withhold discipline at its discretion for any one violation. "Evaluations," both positive and negative, are given the employee and a copy placed in the personnel file. Supervisors review the file on a monthly basis and may discipline for a pattern of negative evaluations accumulated over the preceding six-month period. However, any one infraction does not automatically trigger a particular disciplinary action. Management has more flexibility, and the union retains the right to grieve on inconsistency. The total number of disciplinary actions is down, and the philosophy of dealing with the individual is supported.

#### Incentives for Attendance

Goals. Incentives for attendance are included in the labor contract. These incentives are available to all unionized employees, i.e., operators and mechanics. The goal is very straightforward, to reduce unexcused absences and late arrivals.

Structure and Procedures. The program is planned to provide an escalating incentive during the year. For each calendar month, the employee with no unexcused absence or tardiness receives 10 cents per hour actually worked, payable by the 15th of the following month. Those with three successive months without unexcused absence receive an additional 10 cents per hour worked for the three month period. This quarterly bonus is paid by the 15th of the month following the end of the quarter. A 15 cent per hour worked bonus is awarded those with no unexcused absence or lateness throughout the year.

The annual bonus and the fourth quarter bonus (as well as the safety bonus described below) are presented at a banquet, planned by employees and paid for by MTA, held each December. Top dollar last year went to two bus operators who each received over \$1,200. In 1982, almost all hourly employees received a bonus check of some amount.

Impacts. In the first three months of the incentive program there were 130 unexcused absences. In the most recent three-month period for which comparable records are available (July-September, 1982), there were 36 unexcused absences. (See Table C-1.)

Table C-1

#### MASS TRANSPORTATION AUTHORITY DATA ON UNEXCUSED ABSENCE

	<u>Operations</u>	<u>Maintenance</u>	<u>Quarterly Total</u>	<u>FY Total</u>
July-September, 1980 (base period)	121	9	130	
October-December, 1980	75	10	85	
January-March, 1981	48	4	52	
April-June, 1981	64	19 <sup>a/</sup>	83	
July-September, 1981	33	5	38	
Total FY 81	220	38		258
October-December, 1981	21	4	25	
January-March, 1982	24	5	29	
April-June, 1982	17	2	19	
July-September, 1982	30	6	36	
Total FY 82	92	17		109

<sup>a/</sup> Involves primarily four employees.

Late arrivals show a similar trend. From July to September, 1980, 61 late arrivals were recorded; from July to September, 1982, only 18 late arrivals were recorded. (See Table C-2.)

As would be expected, improved attendance has had a positive impact on overtime usage. Overtime as a percentage of total man hours declined from 14.9 percent in July, 1980, to 4.8 percent in September, 1982.

The percentage of extra board employees as compared to total employees has also declined, from 30.1 percent in June, 1980, to 9.3 percent in September, 1982.

The union leadership emphasizes two points concerning the attendance incentives. First, the incentives were evaluated vis-a-vis other trade-offs during negotiations. A cost of living adjustment (COLA) was relinquished and the union recognized that overtime would be reduced. What made these palatable was an increased base wage rate that was offered by management along with the incentives. Without the increased wage rate, it is unlikely that incentives would have been accepted as a trade-off for cost of living and the expectation of reduced overtime. Overall earnings have increased, according to the union, even without COLA and with reductions in overtime.

Second, assurances were given by management that reductions in personnel would be by attrition. Those extra board drivers who were no longer needed were absorbed into the system as regular drivers.

Potential Barriers. Unions are likely to oppose an incentive program unless they expect the total financial package to be better than the previous wage package. Further, unions are not likely to accept programs that will reduce personnel unless there is a guarantee that reductions will be accomplished by attrition. These two potential barriers were avoided in Flint.

Another potential barrier, avoided in Flint, is the failure to keep precise records. An established computer system, as well as the small number of employees, made the hourly incentive program easy to administer. A property that does not have adequate information and payroll procedures would be wise to upgrade those procedures before instituting monetary incentives based on attendance.

According to management, the benefits of the system outweigh the costs but the costs/benefits ratio of the attendance program has not been quantified and systematically analyzed.

#### Safety Incentives

Goals. Safety incentives are also found in the MTA-Teamsters' contract and are available to all unionized employees. The purpose of

Table C-2  
MASS TRANSPORTATION AUTHORITY  
DATA ON LATE ARRIVALS

	<u>Operations</u>	<u>Maintenance</u>	<u>Quarterly Total</u>	<u>FY Total</u>
July-September, 1980 (base period)	45	16	61	
October-December, 1980	16	5	21	
January-March, 1981	21	2	23	
April-June, 1981	21	5	26	
July-September, 1981	22	0	22	
Total FY 81	80	12		92
October-December, 1981	18	4	22	
January-March, 1982	8	1	9	
April-June, 1982	9	3	12	
July-September, 1982	14	4	18	
Total FY 82	49	12		61

the incentives is to reduce accidents, improve safety for the employees, and reduce accident-related costs.

Structure and Procedures. As with attendance, safety incentives are escalating rewards. The monthly bonus is five cents per work hour where at least 120 hours are worked without an avoidable accident. Each quarter, an additional five cents per work hour without an avoidable accident is available to those who accumulated three months with a perfect record on avoidable accidents. Another five cents per work hour is added if the quarter was accident free, i.e., the operator has neither an avoidable nor a non-avoidable accident.

Each year that the employee qualified for all 12 months' basic safety incentive, i.e., no avoidable accidents, an additional five cents per work hour is added to that already paid in the monthly and quarterly bonus. Finally, five cents is added per work hour for a year without any accident, avoidable or non-avoidable. Decisions on whether an accident is avoidable or non-avoidable are made by the supervisor.

For the rare cases when this decision is appealed, an Accident Review Committee, made up of a safety expert from West Michigan University, the City of Flint (Police Accident Division), and Genesee County Police, is available. For incentive pay, decisions of the committee are final. For other purposes, e.g., discipline, the decision is grievable.

Incentives are most effective when awarded in close proximity to the behavior, and in Flint, all monthly incentive awards are paid by the 15th of the month following the period for which the incentive was gained.

Impacts. Accidents have declined during the period of the contract. Between October, 1980, and September, 1981, there were 121 accidents. In the next fiscal year, there were 98 accidents. Management attributes the decline to the incentive program.

Potential Barriers. Considerable time must be spent in record keeping and a computerized system appears necessary for all but the smallest properties. Flint's computerized record keeping system was in place prior to the initiation of safety incentives.

A high level of distrust between labor and management would preclude the effectiveness of safety incentives. If decisions of the Accident Review Committee were not accepted as being fair, it is unlikely that these incentives would be a motivator since the awarding of incentive pay could be seen as based on factors other than one's safety record. Both managers and union leaders in Flint note that the trust built up in the labor-management committees has made both the attendance and safety incentives more effective.

## Labor-Management Committees

Goals. Labor-Management Committees (LMCs) are designed to open communication between management and the union, build trust, provide a forum for solving organizational problems, improve morale, and recognize superior performance. The committees are charged to explain and encourage participation in the incentive programs and in LMC sponsored activities.

Structure and Procedures. There are three labor-management committees at MTA. One is in bus operations; one is in maintenance; and one is a system-wide committee called the 4Rs Committee. All committees meet on a monthly basis, and chairmanship rotates between management and union. Openness of discussion is encouraged by the fact that the contract specifies that no discipline or grievance may come as a result of activities within the labor-management committees.

The committees in operations and maintenance each have six members--three union and three management. Because many problems cut across both departments, membership includes one union and one manager from the other department. Thus, the membership of the maintenance LMC consists of two union members from maintenance and one from bus operations. Management is represented by one person from maintenance, one from bus operations, and one from the purchasing department. The union members are chosen by the union leadership from volunteers. There is no fixed term for committee membership.

The agenda for these two committees is developed from suggestions submitted in writing by any employee on a form available for that purpose. The agenda is circulated in advance of the meeting. No active grievances may be submitted for discussion. When an agenda item is introduced at the meeting, any member may say that he or she does not consider the item to be of "mutual interest," that is, it is a management issue or a union issue and should not be taken up in the joint committee. In that case the employee making the original suggestion is informed that the committee did not take up the item.

Frequently agenda items are continued over from one meeting to the next as committee members (usually the managers) collect the information necessary to come to consensus on the issue. Written records are kept of the requests for information and the responses that were given. Although motions are offered and voted upon, decisions are rarely offered for a vote until it is clear that consensus has been reached. Once a decision is reached it is recorded on a form and becomes part of the official record.

At any time during the process, until a vote is taken, any member may break off the discussion by saying that the issue is not of mutual concern. No pressure is brought to bear on the person who makes this statement, and that person does not have to explain the

reason for vetoing the issue. Committee members, however, emphasize that this rarely occurs.

Implementation of decisions is handled by management. The contract language is clear on this issue: "The implementation of the decisions . . . are necessarily constrained by operating budgets, however, management is committed to provide necessary resources for implementation and administration of the programs the LMCs promulgate."

Both managers and union leaders stress that decisions, once made by either the bus operations committee or the maintenance committee will be carried out. If there are budgetary constraints, the issue is timing, not whether the decision will be implemented.

Note that there are three forms associated with each item of discussion--the original suggestion, requests for information, and the decision. A staff assistant to the Assistant General Manager tracks all these and keeps a central record. She also keeps a central record of all minutes and sees that the minutes are posted. This elaborate record keeping process is time consuming, but it ensures that no suggestion is lost and that everyone who makes a written suggestion hears back about the resolution of that issue.

The 4Rs committee deals with employee rights, responsibility, recognition, and reward. This committee is made up of five management and four union members. On the management side, the positions of Assistant General Manager, Superintendent of Bus Operations, Superintendent of Maintenance, Director of Personnel, and Director of Marketing are designated participants. On the union side, the Chief Steward (highest local office) and Secretary-Treasurer are represented. Two other union members are chosen from among volunteers. Recently there have been efforts to broaden participation, and as a result, one union member who had been on both the maintenance LMC and the 4Rs gave up her position on the maintenance committee.

The 4Rs committee has an annual budget of \$10,000. The money is usually allocated for social and sporting events.

This committee has the responsibility, as was mentioned above, of promoting employee responsibility, rights, recognition, and reward. To determine what needs to be done in these areas, the committee reviews the annual employee attitude survey. The same questionnaire is used each year so the committee can compare results with previous years to target areas that have changed or need improvement. Committee members have become more sophisticated in interpreting the results of this survey, and they recognize the survey's utility and weaknesses. The results are seen as a guide to problem areas, and decisions on what programs to initiate or continue are to some degree influenced by the survey.

The 4Rs committee is also responsible for oversight of the bus operations and maintenance LMCs. If those committees are not meeting regularly, are stuck on a problem, are concerned over implementation of a decision, or have other procedural problems, the 4Rs committee is to act as a troubleshooter and may intervene. In the past this rarely happened, in part because there were no formal channels for communication between these groups. Recently the staff assistant who tracks the written record of the bus operations and maintenance committees was given the responsibility of bringing problems that she noticed to the attention of the 4Rs committee.

Impacts. Impacts of the LMCs may be seen in changes in decision-making patterns, changes in attitudes, and increases in participation in activities beyond scheduled work time. Decision-making has changed in that responsibility for certain kinds of decisions has been pushed downward in the organization. Decisions that impact the day-to-day work that is accomplished by employees are made at lower levels in the organization than was the case before the LMCs. For example, bus operations and maintenance committees routinely make decisions on new equipment. Members solicit input from other employees, talk with purchasing, learn about federal or other regulations, and consider cost. Decisions have resulted in new external mirrors on buses, schedule racks on buses, new safety goggles for maintenance, and new hoses for air-powered equipment, among others. Current projects include consideration of mobile tool carts and changes in maintenance lock-up procedures.

Changes in attitude are difficult to assess scientifically, but most persons interviewed said there had been positive changes since the LMCs had been initiated. One union official stated, "In 1977 there was a feeling as thick as a fog when you entered a room (with management). Now people don't mind talking about problems, and the attitude is 'someone will find a way to resolve this.'"

Grievances have averaged 50 per year over the past three years; arbitration, six cases per year. Union officials believe this is a reduction from the period prior to LMCs. Also, there has been a shift in arbitrations. In the 1977-79 period, 15 cases were taken to arbitration, and the union lost 12 of them. Recently the union has taken fewer cases to arbitration, but won a high percentage.

Participants in the Quality of Work Life Training Program were quite open in their discussions of attitudes at MTA. Some felt there had been dramatic changes, others, citing a history of distrust, held to a "wait and see" posture. Their willingness to vent anger and feelings of distrust to a top management official, however, was in itself, some indication of openness.

Some MTA managers and union members suggested that the high unemployment rate in Flint could be a reason for the improved attitudes and job satisfaction at MTA. Having a job in Flint is

satisfying. This factor simply points to the difficulty of isolating causal factors of change in any organization.

Participation in events scheduled by the labor-management committees, usually the 4Rs committee, is estimated to be 90 percent of all employees. At the first annual awards banquet, only 20 non-management employees attended. Last December, just over 100 (of 117) non-management employees attended.

The 4Rs committee has sponsored numerous sports events, and MTA has a softball team, bowling league, exercise class, and is planning golf for the summer. Other social events include a summer picnic, dinner dance, and local rodeo.

Both the social events and sports have helped increase communication and trust between union and management. The fact that the 4Rs gets credit for planning these events has helped to institutionalize the LMC concept.

Potential Barriers. Over and over, one barrier was mentioned--time. It takes time, both on the job and off, to plan and participate in LMC activities. Managers in particular mentioned the amount of time required off the job to plan and participate in activities.

A second way in which time is a barrier is the slowness of change. Ingrained attitudes are not easily overcome, and leaders on both sides recognized this ("we've got to expect two to three years for the changes to take hold"), but nevertheless mentioned some impatience with the slowness of change.

Another barrier is middle-management resistance to change. The LMCs provide direct access from the bottom to the top of the organization. Mid-management is included in the structure, but still is not, in some cases, fully accepting of the openness of communication that can bypass them.

Another potential barrier is dissatisfaction among management staff. They may want some forum to discuss their job-related problems. The LMC structure is designed to air problems of bus operators and mechanics, not secretaries, accountants, or other staff members. One member of the 4Rs committee suggested that the needs of these people have to be considered if they aren't to become jealous of the other labor-management committees. Others felt that regular management staff meetings took care of this problem. If the perceived lack of a forum for management staff becomes a major issue, it could become a barrier to progress for the other committees.

## Summary and Conclusions

The quality of work life programs at MTA are the exemplification of a philosophy. The philosophy holds to the importance of individual contributions to the organization, the obligation of the organization to promote human resource development, and the value of labor management and cooperation.

Several vehicles have been used to institutionalize this philosophy at MTA. These include legal underpinnings found in the contract language, training classes to promote understanding of the philosophy, and labor-management committees to make the philosophy more concrete in day-to-day application.

There is still much to be accomplished before the QWL philosophy is fully accepted at all levels in the organization, but the planning and commitment, the recognition of the need for patience, and the maturity of understanding that cooperation does not mean setting aside differences of interest suggest that QWL has a good chance of accomplishing its goals in Flint.

## SITE TWO--VIA METROPOLITAN TRANSIT

VIA Metropolitan Transit, located in San Antonio, Texas, serves a metro area of 14 jurisdictions with a population of 988,800. Its annual operating budget is \$34,911,671, and it operates 456 buses, 25 paratransit vans, and 20 new "trolleys" (streetcars) which are to be delivered in 1983 for use in the historic downtown area.

VIA has 950 employees, with 98 percent of the hourly employees being represented by the Amalgamated Transit Union (ATU), Local 694.

San Antonio was served by a city bus system until 1978. At that time the electorate of several surrounding jurisdictions voted in a referendum for a regional transit system. The city system became the core of the new VIA, retaining both management and employees, but dramatically increasing its service requirements.

VIA is governed by a Board of Directors who are appointed by the 14 jurisdictions in the regional system. The General Manager, who runs the day-to-day operations, is hired and fired by the Board.

Texas is a "right-to-work" state, and the legal standing of the union is weak. The written document outlining the responsibilities of labor and management is a "working agreement." State law allows the granting of dues check-off, and ATU does have check-off. Because of its history as a private sector union, ATU is somewhat stronger than the unions representing other public employees.

## Background and History

Labor relations were not amicable in San Antonio in the early and mid-1970s. There were five strikes, the fifth, in 1974, of 23 days duration. The current union President came to office just before the 1974 strike. The current Assistant General Manager was Chief of Operations. Informal discussions began between these two men who had both worked at the city property since the early 1960s.

In 1978, at the time of the regional transit referendum, the city system had about 600 employees and 277 buses, with 121 on order. The service area was to be increased 87 percent by March, 1979. Although the new agency could have requested a delay in implementation of regional service, everyone seemed to think the challenge could be met.

Management developed plans for implementing the new system and, following discussions with the union President, decided to rely on overtime for its current employees while entering a crash program of hiring and training new operators and mechanics. For about nine months, employees volunteered for six and seven day workweeks and long workdays. No one was required to work overtime. During this time period, all runs were operating fully throughout the region.

The smooth transition could not have been accomplished, according to both sides, without a sound working relationship between ATU and VIA top management.

It is interesting to note that about this same time a labor-management committee (LMC) was being set up in the City of San Antonio with the American Federation of State, County, and Municipal Employees (AFSCME) employees. The labor representative on that committee was a friend of the ATU President and later became a VIA Board Member.

The informal discussions between management and labor had established a working relationship during the period of expansion. The ATU President said of that time, "I found I could approach management and get results." A more formal labor management committee with specific membership and meeting times evolved, in part because transit union leadership learned more about San Antonio's LMC, and because management recognized the benefits of open communication and sought to eliminate the history of antagonism that had produced so many strikes. The union President, in office since 1974, was one of the moving forces behind increased cooperation between labor and management. On the management side, the Assistant General Manager took the lead with the support of the General Manager.

## Overview of VIA's Programs and Philosophy

Two main programs which evolved emphasize productivity and increased job satisfaction. These are a top level labor management committee and an Operators' Suggestion Committee. The LMC covers all unionized employees and the Suggestion Committee, all operators.

There are a number of other regular meetings and programs at VIA that deserve mention, but will not be detailed. These include social and sporting events originally planned by the Community Relations Department (but now handled by independent committees) in which there are high levels of participation by management and hourly employees. These functions were mentioned several times as being important to "mixing" management and union, "cutting down barriers," and encouraging understanding.

The General Manager holds an open meeting for all management staff approximately once a month. At these informal sessions, he addresses items that were placed in suggestion boxes provided for management staff, answers questions, and discusses upcoming plans.

Management task forces that pull together 10 to 12 people from different departments are used to solve particular problems that have impact throughout the system. Extension of a route might involve Marketing and Operational Planning, for example. The task forces study the issues, gather information, suggest solutions and then disband.

Formal monthly meetings of all supervisors and dispatchers were begun in December, 1982. Driving instructors also attend the sessions, which are chaired by the Chief Dispatcher. Upcoming public events in the City and their affects on VIA, procedural and route changes, special supervisor project reports and areas for improvement are discussed at the meetings.

Station foremen are now also meeting with the Chief Station Foreman on a monthly basis to address their own problems and make suggestions for improvement.

Finally, it is important to mention the prevailing philosophy at VIA. There is a strong emphasis on hard work and "an honest eight hours." This is not meant in a punitive sense, although there are clearly defined disciplinary actions for either hourly employees or managers who do not fulfill the expected requirements. Managers are not reluctant to fire individuals who do not measure up, and a number of those taken on in the expansion period (both hourly and management) were later let go.

Selection procedures are rigid. References for all applicants are carefully checked. Interviews are held by the personnel and hiring departments. It is not easy to get a job at VIA.



The third noticeable component of the management philosophy is the pride in longevity. It is not uncommon to hear phrases such as "he is a career man," referring to a driver with approximately 10 years of service, or "he's settled in" which refers to about five years on the job. Of the 14 top managers, only three come from outside. The current Director of Transportation and the union President were hired within the same two week period--19 years ago. The stability of top management and of union leadership has been a boon to the spirit of cooperation.

#### Labor-Management Committee

Goals. The goals of the Labor-Management Committee are open communication, early identification of problems, and provision of a forum for union members to address concerns to management. The committee does not address grievances or other contractual issues, although it may act as the negotiating committee during bargaining.

Structure and Procedures. The LMC meets monthly, has a prepared agenda, and written minutes. Membership on the union side is stable--the President and 10 member Executive Board, elected by union members. On the management side, the Manager of Operations, Director of Transportation, Chief Dispatcher, and Chief Station Foreman are regular attendees. Other management members attend as items on the agenda reflect concerns in their area.

The agenda is developed from suggestions during the "New Business" part of the previous meeting, input from union members, and announcements that managers want communicated throughout the organization. Typical agenda items are safety questions, proposed route changes, and interdepartmental problems between operations and maintenance. The design of the new streetcar was a recent agenda item with the union emphasizing concerns it had over safety.

Impacts. The committee provides for regular exchange of information and early identification of problems. Every agenda item receives follow-up. On the streetcar, for example, management responded by inviting the union President to visit the factory and drive the first completed car. After reporting his experiences to the ATU Executive Board, the union suggested a number of design changes which have been incorporated in the street car.

One of the major accomplishments of the labor-management committee is a written policy on attendance. Attendance is not part of the working agreement, and the policy was not in writing. Confusion over the policy among new employees and concern over consistency in application led the union to press for a written policy. This was accomplished after discussions in the labor-management committee.

The policy, defining lateness and other unexcused absences, calls for record keeping on each hourly employee for a running 365 day period. (May 11, 1982 record drops out as May 11, 1983 is added.) After three, six, and nine unexcused absences the employee is counseled by his or her supervisor and a report is sent to the union President who also talks with the employee. The tenth absence within a one-year period results in automatic termination.

The policy, in writing for approximately two years, has had positive impacts on "miss outs" (see Figure C-1) and overtime (see Figure C-2). The increase in 1983 overtime is explained by the decrease in active operators (see Figure C-3). The decrease in overtime in 1982 from 1981 is particularly striking when considering Figure 3 which demonstrates the decrease in active operators.

Although no one has documented dollar savings to come out of these meetings, both managers and union leaders stressed their utility. Hundreds of operational problems ranging from the lack of rest room facilities for women operators to procedures for writing up maintenance problems have been dealt with in the LMC.

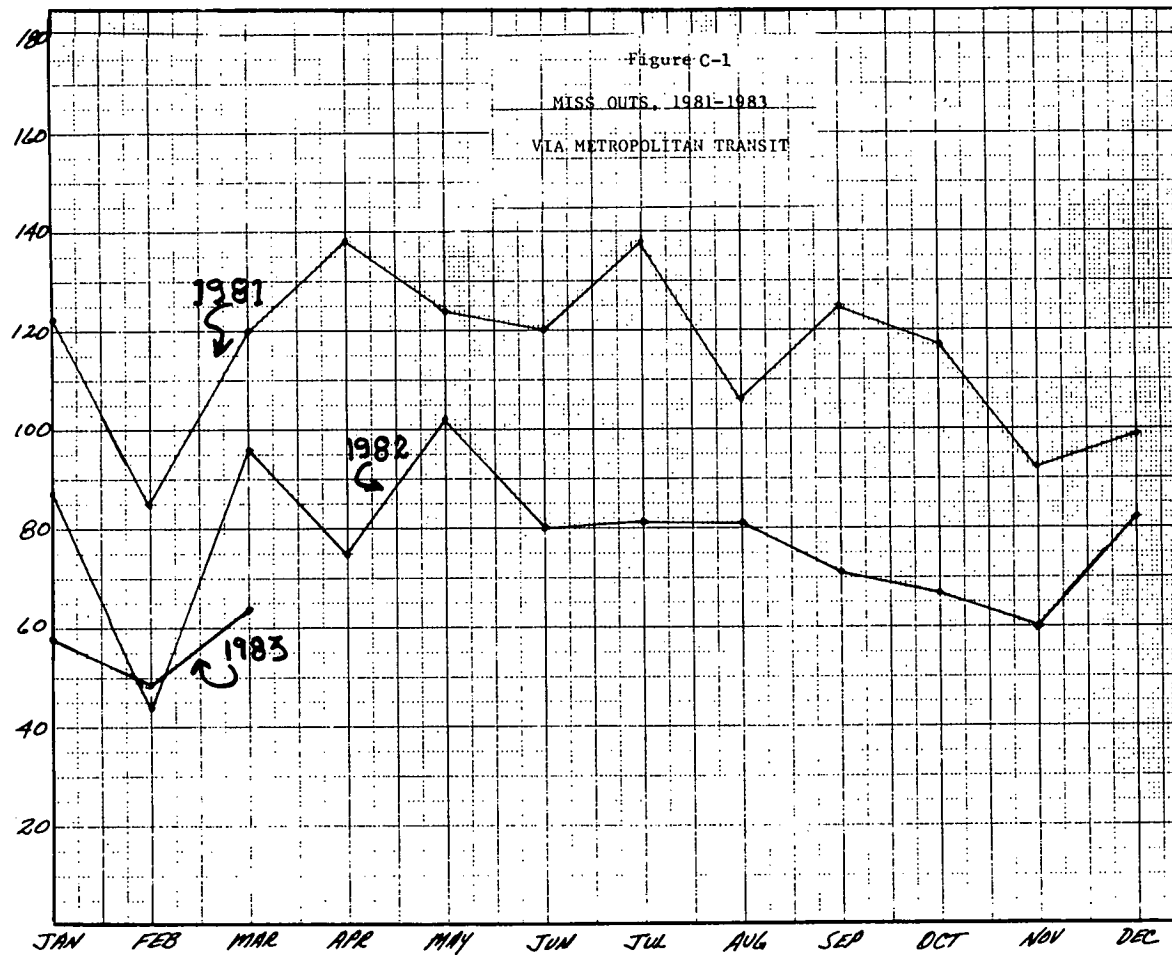
Potential Barriers. The open communication between labor and top management may create some problems for midlevel managers. "They may not like us talking," a top manager said, implying that supervisors may fear being overruled.

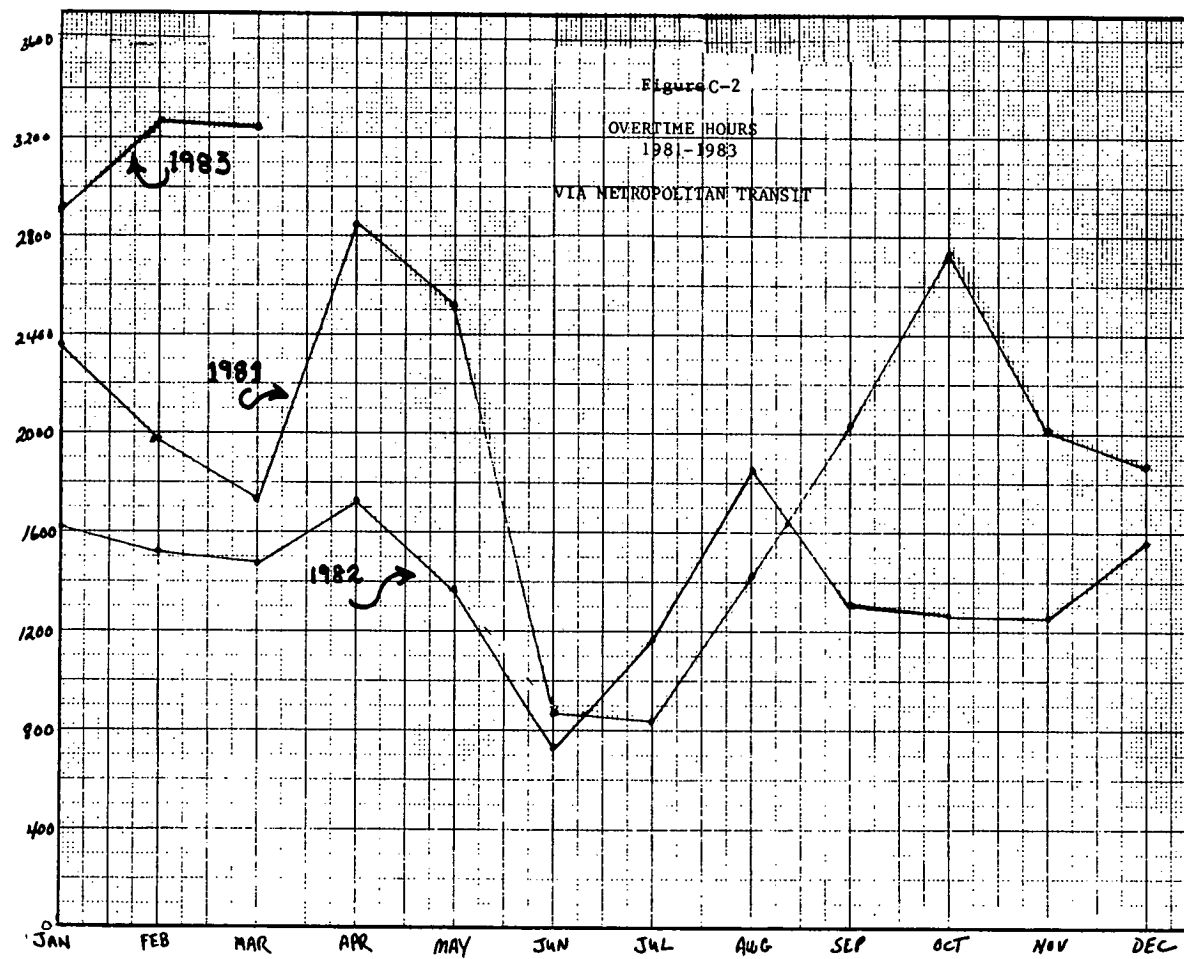
Another potential barrier to success of an LMC that was discussed, but does not seem to apply at VIA, is that the cooperative relationship could pose political problems within the union. The union presidency is an elected position, and if the members do not see the benefits of cooperation, they may turn against the leadership.

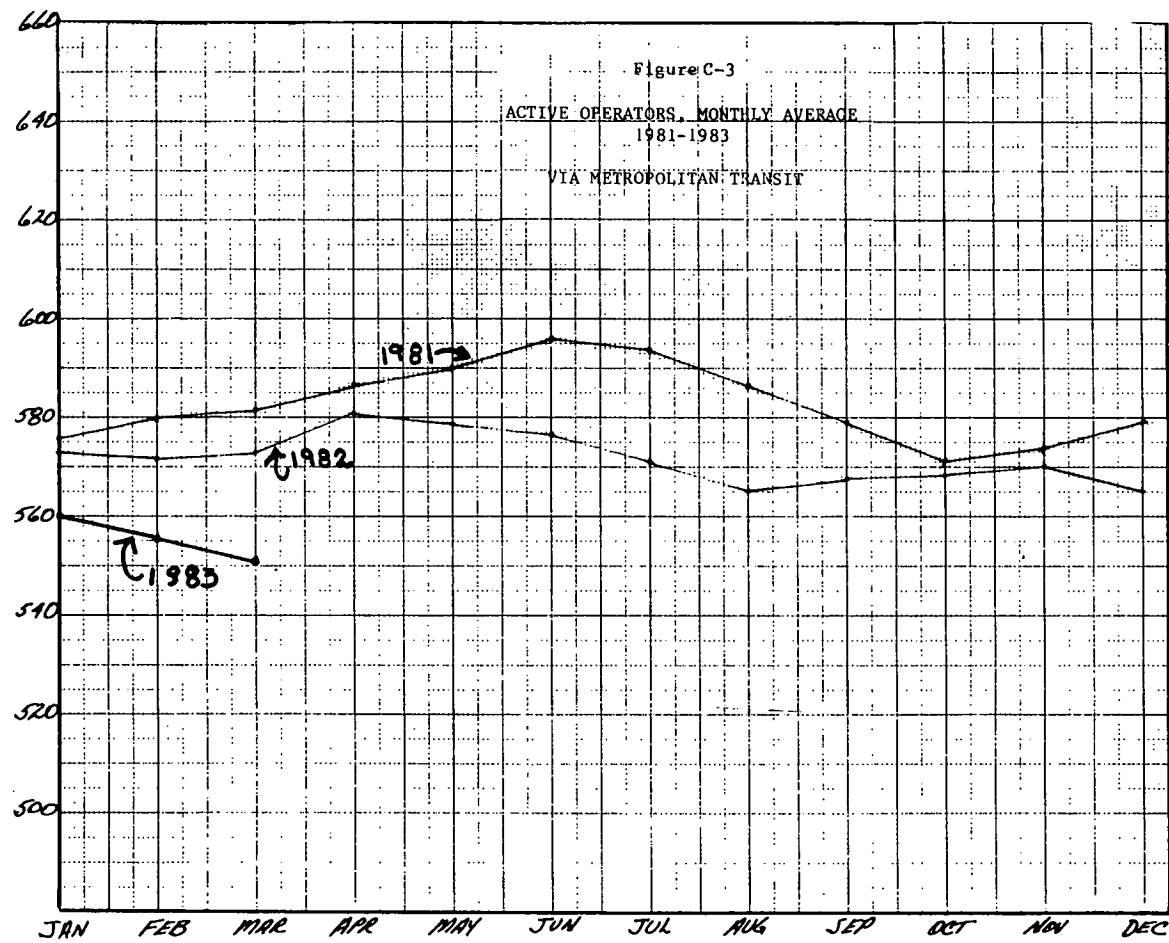
#### Operators' Suggestion Committee

Goals. The goals of this committee are similar to the goals of the labor management committee: to increase communication between different levels of the organization and to provide a regular forum for input from employees on the problems facing the property.

Structure and Procedures. The Operators' Suggestion Committee grew out of an older safety committee. "Nothing was coming out of it," therefore the union President and Assistant General Manager decided topics of discussion should be broadened. At first only drivers and managers from Operations attended. But the drivers raised questions about areas other than operations, and it seemed cumbersome to track down the information and, after a month's delay, report back. Consequently, the manager responsible for functions which appear on the agenda attends the meeting.







Regular membership on the committee includes the Chief Dispatcher, Assistant Manager of Maintenance, Managers of Safety, Marketing, Operational Planning, and 10 regular and extra board drivers (chosen by management on the basis of a good record). Each operator has a one year term, and the terms are staggered. Rotating membership allows more drivers to be exposed to the issues that concern the property as a whole and provides managers with a diversity of viewpoints.

The operators are seen as the "eyes" of the company. Committee members are responsible for soliciting input from other operators for discussion at the meetings. They also report on problems identified by their clients, the public. At a recent meeting, one operator reported that many passengers on a particular route had complained that the schedule made them five minutes late for work. The last stop on this particular run was a large factory. The Manager of Operational Planning responded that he would contact the factory manager and attempt to explain the situation, modify the schedule, or, preferably, have the firm allow a five minute "flex" on either end of the shift.

Impacts. As cost reduction is not the stated goal of the Operators' Committee, management has not attempted to collect cost/benefit data on the implemented suggestions. Yet all those involved agree that there has been progress on the stated goals of increased communication and early identification of problems. No one considers disbanding the committee.

Potential Barriers. One barrier to the greatest utilization of the Operators' Suggestion Committee is the lack of awareness by drivers who have not been on the committee. These drivers, as one committee member said, "don't realize the results from this committee." There is no formal way to communicate the results, although the committee itself is beginning to deal with this issue. This, it may be added, is a barrier not limited to VIA; it is a common problem.

The absence of a similar committee to allow mechanics a voice in making suggestions could be a barrier if jealousies developed between the two departments. This does not appear to be a problem in VIA for several reasons. All maintenance work is done in one location with mostly daytime shifts, thus, interdepartmental communication is easier than among the drivers. Secondly, there are two union stewards in the Maintenance area and none in Operations. The stewards provide channels of communication and problem identification not available in Operations.

A third potential barrier is the use of the committee exclusively to identify problems. Committee members are not expected to help seek solutions as is the case, for example, in Quality Circles programs. The potential problem here is that members may find problem

identification boring, although this is alleviated by the rotating membership on the committee. A more negative possibility is the development of an irresponsible attitude--whatever we identify, they have to take care of. It's not our problem once we identify it. While this is not a problem at VIA, it is a potential problem that others should be aware of.

#### Summary and Conclusions

Like the MTA at Flint, Michigan, VIA has a well defined philosophy. The philosophy includes a strong commitment to public service, an emphasis on and pride in hard work, pride in the accomplishments of the organization, and a recognition of the importance of the contributions of the workforce to the accomplishment of goals. The fact that many top managers came "up from the ranks" contributes to the feelings of unity at VIA.

The philosophy is carried out at VIA by careful selection procedures, stress on in-house promotions, and labor management cooperation. The positive relations between union and management have paid off for both sides--management is rewarded by a smoothly working organization that has been strike free (after a period of high labor unrest), has a low rate of grievances and arbitrations, and low turnover after the initial six month period. The union is rewarded by more influence and stability than would be expected in a right-to-work state and a greater ability to provide benefits to its members. Employees gain through job security in an industry under financial strain and through the ability to influence management in issues of concern to them in the daily work environment.

Here too, one notes that both labor and management stress that there are differences in their interests. The legal battles that the property and the union are engaged in over the Fair Labor Standards Act is a notable example. Yet they do not allow these differences to predominate and damage positive relationships in other areas where cooperation can bring benefits to both. The maturity of this relationship is one of the keys to success.

#### SITE THREE--MINNEAPOLIS - ST. PAUL

The Metropolitan Transit Commission (MTC) serves the transit needs of the Minneapolis-St. Paul metropolitan area. The MTC maintains and operates a fleet of approximately 1,126 buses. Its 1983 operating budget is \$94.5 million. Of this amount, approximately 40 percent is derived from property taxes, 40 percent from fare box, 10 percent from the federal government, 5 percent from state revenue, and 5 percent from social fares.

It employs approximately 2,303 employees grouped into the following categories: 1,290 full-time drivers, 129 part-time drivers, 401 mechanics, 39 security personnel, and 444 administrative and supervisory staff. The labor force is highly unionized, has a three-year contract, and is represented by the Amalgamated Transit Union, Local 1005. Supervisors are not included in the union.

The MTC is governed by a Commission whose members are appointed by the Governor of the state. The Commission in turn appoints a Chief Administrator who runs the day-to-day operations of the agency. The Administrator is assisted by two Assistant Chief Administrators, one in charge of administration and the other in charge of transit operations. The Administrator and Assistant Chief Administrators are ATE Management and Service Company, Inc. (ATE) employees. There are two other ATE employees--one in charge of development and research, the second in charge of the equipment maintenance division.

The current organizational configuration represents a new management structure for MTC. Prior to February, 1982, the MTC was headed by a Chief Administrative Officer, a direct hire employee, who supervised an ATE General Manager in Charge of Operations. Upon the retirement of the Chief Administrative Officer, the positions of Chief Administrative Officer and General Manager were combined into a single position called Chief Administrator. (At the time of the site visit, plans were being made for another reorganization within MTC.)

#### Background and History

The period between the mid-70s and the early 80s was marked by considerable change for the Metropolitan Transit Commission. It was a period initially marked by dramatic growth which quickly changed to one of decreasing activity and dwindling resources. The MTC reached a peak ridership of 93.8 million passengers in 1979 only to decline to an annual ridership of 81.6 million by 1983. Similarly the MTC work force peaked with 2,459 employees in 1980 and has declined to a level of 2,303 employees in 1983. MTC has not hired a bus driver since the fall of 1981.

Also, it was during this period that MTC undertook a multi-year facilities and fleet modernization program that represented the largest single capital investment program in Twin Cities transit history.

As mentioned previously, the Commission directed a major staff reorganization, a key element of which was the consolidation of the Chief Administrator and General Manager positions under the ATE contract. In addition, the Commission itself undertook a significant reorganization of its committee structure and meeting schedule in order to streamline its operations.

In 1980 the MTC implemented a number of management reforms aimed at improving its service delivery performance, increasing service reliability, reducing accidents and absenteeism, and improving the cost-effectiveness of its services. These management reforms included the following actions:

- The implementation of a comprehensive performance measurement program that provides detailed data on key financial management and operational functions.
- An emphasis on improving the quality and effectiveness of transit services, particularly in the area of service reliability.
- The installation of a computerized run cutting and scheduling system (RUCUS).
- The installation of computerized management information systems.
- The development and installation of standardized policies and procedures to reduce absenteeism among operations personnel.

It was also during this period that the burden of financing transit services in the Twin Cities area began to fall more heavily upon local revenue sources, including the property tax. The Commission was experiencing declines in federal subsidies. At the same time, the state legislature began to assume a more active role in financing transit services and became more active in establishing legislative controls on MTC.

Although the programs implemented during this period sought improvements, not all of the changes were considered positive. It was during the late 70s and early 80s that MTC began to experience problems related to its work force and service delivery. Management believed morale problems were related to the fact that grievances were on the increase, absenteeism was increasing, and MTC was experiencing problems in getting its fleet on the street.

As a large proportion of employees reached retirement age, the complexion of the work force began to change. For example, a large percentage of the work force currently employed at the MTC has less than 10 years of experience with the agency. Management believed that today's current work force was better educated and that many of the workers were from two-income families, thus reducing the dependency on monetary rewards. It was within this environment that the top management of MTC decided to take a comprehensive approach in managing its human resource programs. The emphasis on human resource development began in the fall of 1981.

## MTC's Human Resource Development Program

MTC's human resource development program has had the full support of top management, although much of the design and implementation work has been carried out by the agency's training unit. Union officials did not participate in the initial planning of the program but became involved soon afterward.

MTC began its comprehensive effort in the management and development of human resources by hiring a consulting firm to assist it with the design of its human resource program. The purpose of the program was to improve both the quality of work life and work performance at MTC. Other than these broadly stated aims, the program does not have clearly stated objectives. The consultants began their work by conducting an attitude survey of MTC employees. Approximately 20 percent of the agency's employees were surveyed through a three-tiered approach which included a written survey questionnaire, a series of small group meetings, and extensive individual interviews.

Based upon the survey findings, the consultants recommended a human resource development program which consisted of the following three components: training, worker participation, and incentives.

The training component was recommended for all levels of MTC management and included such topics as interpersonal relationships, communication, motivation, problem solving, and managing in a unionized environment.

With respect to worker participation, the consultants recommended implementation of quality circles and adoption of issue analysis techniques. Issue Analysis is a copyrighted process developed by Dr. Michael Moore, a consultant with Anthony J. Julianio and Associates. This firm performed the needs assessment which formed the basis of MTC's human resources development activities. Issue Analysis calls for the establishing of a permanent, streamlined organization structure paralleling the existing structure at the MTC. This Issue Analysis Team would function to enhance total organization input/involvement on any issues which are judged to have agency-wide impact. Senior management would rely on the IA team to provide them with an accurate pulse of the employees' attitudes towards, knowledge of, and interest in the many and varied issues affecting them. The IA process would also ensure that employees would be better appraised of senior management's activities and intentions:

The consultants also recommended that MTC adopt agency-wide recognition and incentive programs aimed at improving attendance and job performance. They recommended that employees be involved in the development of incentive programs.

With a visible, strong commitment from management and the availability of federal funding (particularly for training), MTC

adopted many of the recommendations of the consultant. Issue Analysis was not adopted at this time, because of limited staffing resources. Except for a program recognizing employees who quarterly attain Perfect Attendance, agency-wide performance incentives were not implemented because of the difficulty of finding equitable agency-wide performance standards. And, although not specifically recommended by the consultants, MTC adopted task forces as a technique for addressing both agency-wide and department specific issues. The worker participation task forces and incentive programs are discussed in more detail below.

### Quality Circle Program

Goals. The implied purpose for instituting a Quality Circle (QC) program is to provide employee input into issues and concerns that affect their immediate work unit. The structured format allows them to choose a specific problem they wish to address and make recommendations to management on how to correct the problem.

Structure and Procedures. The Quality Circle at MTC began in April, 1982, with the formation of a Steering Committee made up of six top union and management people. The committee decided to pilot the program with six quality circles in Maintenance; three at the major overhaul base, (one each in engine overhaul, building maintenance and stores), and three in administration (two in the finance division and one for secretaries). After extensive training in problem solving techniques, teamwork, communication skills and quality circle procedures, the circles began work in June. All three have made formal recommendations on solutions to the problems they studied which have been accepted by management.

The MTC Steering Committee developed the following guidelines for its program which are quite similar to the International Association of Quality Circles guidelines. The following is taken verbatim from the minutes of one of the early steering committee meetings.

"Who should be in a Quality Circle? Anyone who wants to be involved. Initially 3 QCs will be established at the Overhaul Base, each having a maximum of 10 members. The term of QC membership will be determined after the QC has been active for six months. If more people volunteer than can be accommodated, membership shall be selected by lot.

Who should be the QC leader? Initially the Foreman or Supervisor. Leadership may change periodically; the new leader will be selected from the QC by the QC members. Any starting circle should have a foreman as a member up to a maximum of one year.

What matters are not to be considered in a QC?  
Contract issues, discrimination of any kind; race, religion, national origin or sex, personality traits. Any issue that is currently under the federal, state, or local units of government.

How are recommendations submitted to management for consideration? The QC will make a management presentation to the management related to the particular problem. All recommendations must be submitted in writing and should contain a statement of the problem encountered, alternative recommendations considered, the final recommendation together with rationale and specific implementation steps. In addition, a member of the QC may be selected to provide additional verbal information or a physical demonstration of the recommendation.

The committee decided that the written recommendation may be informal and need not be typed.

How will management respond to QC recommendations?  
All replies by management to QC recommendations will be in writing. The manager will meet with the QC for explanation of the decision or to discuss in more detail the recommendation made. All management personnel must respond as soon as possible. If response cannot be made within 10 business days, a memorandum will be sent to the QC advising the date the decision will be made."

Meetings are held for one hour each week and written minutes are prepared.

Impacts. Although it is difficult at this point to determine the cost-benefit ratio of the program, one example will be given of potential payoff. The engine overhaul circle, the "Knuckle Busters", came up with an initial list of 24 "problem" issues. It focused on the need for proper and modern repair equipment including the potential repair of cast iron parts. This question was broadened to "premature engine failure due to inadequate engine building equipment." The QC researched other transit properties, and did an in-depth diagnostic check on the buses that were currently 'down' at MTC because of engine failure. Was the problem machines, manpower, materials, or methods? The circle decided to focus on the need for proper tools. The analysis then included contacting equipment companies, vocational technical instructors, and other mechanics at MTC. When the management presentation was given in December, 1982, an extensive tool list, improved training and new record keeping procedures were recommended. To quote from that presentation:

"Knuckle Busters quality circle proposes the following solutions. The first is the acquisition of elemental engine building tools and the second is the training necessary in order to reduce our first year engine failure rate and thereby reduce overall engine building costs. A list of tools, their cost, and an explanation of what they do and why we need them is contained in other sections of this proposal. We anticipate that these tools and training will also aid us in improving our productivity, and help the MTC to maintain high standards, service, and reliability to the public it serves."

The costs of implementing the recommendations were the time of the circle members, the money to be spent on new tools (approximately \$27,000), and training costs. The circle estimated that the payback period would be nine months. The benefits will continue to accrue to the MTC in improved engine performance.

The other circles did not select projects that were as complicated or that required as much research, but their recommendations were also accepted by management.

The intangible benefits should also continue to accrue: increased communication between employees and managers; the use of problem solving techniques on the job; improved morale; and the knowledge that employees are valuable sources of information.

Potential Barriers. The barriers to a successful quality circle program are often the suspicions of both the union and management that their prerogatives might be usurped. Peer pressure from co-workers can also be a problem if they are not kept informed of circle progress or if they resent the time "off the job" that circle members spend in the meetings. A more significant issue is the need to integrate the circle activities with the chain of command. If supervisors and line managers are not kept informed or used as a resource by the circles, they will not be likely to "buy in" to the program.

#### Task Forces

Although the MTC decided not to implement "issue analysis" groups as the consultant had recommended, they do make extensive use of task forces and committees to work on specific problems or ongoing functions that need coordination.

Goals. The overall goals are implied to be the improvement of the way the property operates by involving the employees in the decision-making process.



Structure and Organization. The task forces and committees at MTC vary in structure depending on the problem to be addressed. They may function quite informally. They may be formally appointed, meet on a scheduled basis, and keep minutes of their proceedings.

A partial inventory of the task forces includes:

- Driver Recognition Committee.
- Performance Review Committee.
- Nonunion Incentives Task Force.
- Light Duty Compensation Committee.
- Attendance Recognition Committee.
- How to spend vending machine resources.
- Rodeo/Wrench-o-Rama development committees.
- Revenues Task Force
- Lay-off Task Force.
- Fare policy implementation.
- Motivation Research Implementation Committee.
- Strategic Planning Task Force.
- Data Processing Implementations Committee.
- Inventory Control Study Committee.

One of the more formal task forces is the Driver Recognition Committee. It is composed of five top managers, one union representative, and five drivers picked by the managers of each garage. It meets periodically and is chaired by a member of the Department of Human Resources.

Impacts. As a result of the Driver Recognition Committee's work, a new incentive program which combines both attendance and performance criteria was established in 1982. As will be discussed in more detail in the next section of this report, the results have been significant in terms of reductions in absenteeism.

While the work of other task forces and committees may not have had such a large impact on the work of MTC, they are seen as being an important and ongoing element in the worker participation philosophy under which the property functions.

Potential Barriers. There appear to be few potential barriers to the use of task forces or work teams. The composition of task force membership should be carefully considered in order to assure the participation of knowledgeable and affected employees. The actions taken by task forces should be communicated to other members of the agency work force, otherwise the work of task forces will go unrecognized. Finally, the time spent in meetings by task force members represent costs to the agency.

#### Incentives

Goals. The goals of MTC's incentive programs are aimed at reducing accidents, improving attendance, and increasing job satisfaction.

Structure and Procedures. The entire incentive process is administered by the Human Resources Department to ensure basic agency-wide equity among the various plans. An inventory of MTC's incentive program (i.e., eligible employees, form of award, and estimated cost) is described in Figure C-4 developed by MTC.

Among the most significant of these programs is the Distinguished Driver Recognition and Awards program. This program provides for annual awards to drivers with records that meet certain performance standards. There are several levels of awards that can be achieved by drivers. These awards are described below.

In order for a driver to achieve Meritorious Driver, he/she must have:

1. No more than three sick occurrences during the program year.
2. No more than two chargeable requests off during the year as defined in the Driver Absenteeism Policy.
3. No more than 15 days of time away from work due to sick occurrences and requests off combined.
4. Zero "no shows" during the year.
5. No more than one "scratch" during the year.
6. Zero chargeable accidents during the year.
7. No more than two non-chargeable accidents during the year.
8. No more than one chargeable passenger complaint during the year.

Figure C-4

INVENTORY OF MTC INCENTIVE PROGRAMS<sup>a/</sup>

Program Name	Elig. Employees (#) ----- Estim. # of Achievers	Program Length	Cash Award	Cash Equivalent	Recognition Letter/Certif.	Other	Yearly Cost Per Potential Employee	Estimated Total Yearly Cost
1. Service Awards	all employees except drivers (911) ----- 167	5 year	-	pin--\$2.35	card	supervisory recognition	\$0.43	\$392
2. Perfect Attendance (trial basis)	all employees (2310) ----- 400	5 mos.	-	gift--\$12	letter	supervisory recognition	\$2.16	\$5,000
3. Transportation Information Center (TIC) Team Awards	TIC reps (33) ----- 1 team (8 empl)	3 x yr.	-	\$20 gift selection	letter	cake & coffee, trophy	\$30.00	\$1,000
4. TIC Head Operator Program	TIC operators	monthly	-	-	included on CRT daily bulletin	time off phones to to assist TIC supervisor	-	-
5. Drivers Quarterly Attendance Recognition	all drivers (1399)	quarterly by garage	-	-	Posted in garage	coffee & donuts	\$1.79	\$2,500
6. Driver Commendations	all drivers (1399)	monthly	-	-	included in driver's jacket	-	-	-

<sup>a/</sup> The information on this chart was provided by the Metropolitan Transit Commission.

Figure C-4 (continued)

Program Name	Elig. Employees (#)	Program Length	Cash Award	Cash Equivalent	Recognition Letter/Certif.	Other	Yearly Cost Per	Estimated
	Estim. # of Achievers						Potential Employee	Total Yearly Cost
7. Monthly Safe Driving Award	F.T. drivers (1328)	monthly drawing 4 per garage	\$10.00 per driver	-	-	names posted in garage	\$1.81	\$2,400
8. Annual Safe Driving Awards	F.T. drivers (1328)	yearly	-	pin-\$2.35 watch—\$114.50 (for 25th only)				\$2,115
1 - 9 years	835 approximate achievers	yearly	-	pin--\$2.35	card	supervisory		
10 - 19 years								
20 - 24 years	65 approximate achievers	yearly	-	pin--\$235	card	banquet	banquet--\$1,800 watches--\$800 plaques--\$233	
25+ years		yearly	-	pin--\$2.35	letter, plaque \$33.25	banquet		\$4,948
9. <u>ROADEO</u> Transportation	F.T. drivers (1328)	yearly	1st-\$500 (or trip) 2nd-\$200 3rd-\$100 others—\$50	belt buckle & patch-\$7.40 (1st time participants)	certificate trophy/plaque (finalists)	banquet (finalist), winner is sent to nat'l rodeo	banquet--\$1,080 bonds--\$2,150 trophy/plaques--\$615 belt buckle--\$125 certificate--\$390 all other exp--\$3,856	
							\$6.19	\$8,215

Figure C-4 (continued)

Program Name	Elig. Employees (#)	Program Length	Cash Award	Cash Equivalent	Recognition Letter/Certif.	Other	Yearly Cost Per Potential Employee	Estimated Total Yearly Cost
	Estim. # of Achievers							
10. <u>ROADEO</u> Maintenance Skills Competition (Wrench-o-Rama)	all mechanics (385)	yearly	1st-\$500 2nd-\$200 3rd-\$100 others-\$50		certificate trophy/plaque (finalists)	banquet		banquet--\$720 bonds--\$2,300 certificate \$150 trophy--\$512 all other exp--\$300 \$10.34 \$3,982
11. Distinguished Driver Recognition Program	F.T. drivers (1328) ----- 140	yearly					\$22.03	\$32,500
12. Meritorious Driver Recognition Program	F.T. drivers (1328) ----- 140	yearly						
13. Cost Savings Program	All employees (2310)	ongoing		lunch with manager (tentative)	certificate	possible involvement in implementation of idea		
14. Mechanics Road-call Recognition								\$1,000
15. Mechanics Safety Drawing								\$1,200

9. Zero written warnings or suspensions during the year.

Each year a driver achieves the above criteria he/she will be given the following:

1. A \$50 gift certificate.
2. A Meritorious Driver certificate.
3. Recognition at the annual Driver Recognition Day ceremony at each garage.
4. Recognition in the On The Line employee newsletter.
5. Name listed on the Meritorious Driver Honor Roll poster at each group.

In order to achieve Distinguished Driver Status, he/she must have:

1. No more than two sick occurrences during the year.
2. No more than one chargeable request off (as defined in the Driver Absenteeism Policy) during the year.
3. No more than 10 days away from work due to sick occurrences and the requests off combined.
4. Zero "no shows" during the year.
5. Zero "scratches" during the year.
6. Zero chargeable accidents during the year.
7. No more than one non-chargeable accident during the year.
8. Zero chargeable passenger complaints during the year.
9. Zero written warnings or suspensions during the year.

Each year a driver achieves the above criteria he/she will be given the following:

1. A gold lapel badge listing the year earned.
2. Eight hours of paid time off.
3. A \$50 gift certificate.

4. Recognition at the annual Driver Recognition Day at each garage.
5. Recognition in the On The Line employee newsletter.
6. Name listed on the Meritorious Driver Honor Roll posted at each garage.

Additional awards are available to those drivers who achieve Distinguished Driver Status on a multi-year basis.

Impacts. In the first six months of this program, 40 percent of the drivers remain eligible for the Distinguished Driver Award and 10 percent Meritorious Award. In addition, this program along with the new, clearly stated attendance policy upon which it is based have resulted in sharply decreased absenteeism. Driver absenteeism due to unscheduled sickness and workers compensation averaged 6.1 percent during 1982, representing a 28.2 percent decline from the 1981 average of 8.5 percent. Other types of absences monitored by this policy also declined in the past year: lateness, no-show, and requests off have improved by 22.2 percent.

The popularity of the Driver Recognition Program will lead to the development of a similar program for nondrivers.

#### Summary and Conclusions

MTC's human resource development program appears to have been well planned. It has had the support of top management and was bolstered somewhat by the availability of federal funding. Although the union has participated in the design of specific programs, the extent to which the union participated in the design of the overall program was limited. The overall plan was essentially initiated and supported by MTC management.

In the fall of 1983 the MTC will conduct a formalized evaluation of the impact on employee attitude of the varied human resources development activities. This follow-up study will be conducted by the independent consultant who performed the initial needs assessment in the fall of 1981. In addition, follow-up evaluations and specific human resource programs are continuously being conducted by the MTC's human resources division. Although MTC has adopted an extensive set of agency-wide performance indicators, none of these are specifically tied to the human resource development program. It is felt by the MTC, however, that the performance indicators used do, at least partially, reflect employee attitudes towards their jobs which will be periodically monitored.

The program does not have a written set of goals. MTC has placed agency-wide emphasis on productivity and performance from the

period 1979 to 1983. The human resource development program, however, seems to have purposely avoided stating these goals.

The program is new and there have been implementation delays. There have been management and staff changes that have caused some of these delays. Several of the program components were started simultaneously, causing the usual burdens that arise when trying to do too much too soon.

Given its short life span it is not possible to draw firm conclusions regarding the overall success or progress of the program. Clearly, however, the potential of the program deserves continued observation.

As an exercise in a 1982 management training program, MTC managers were asked to compile an inventory of "positive management actions" either in place or planned at MTC. These were categorized in terms of the "needs or desires" expressed by MTC employees in the Human Resource Development survey. This list, which follows, shows the variety of programs used. It is an impressive beginning.

Figure C-5  
POSITIVE MANAGEMENT ACTIONS

<u>Employees identified a need/desire for:</u>	<u>Processes/Programs Meeting Employees' Expressed Needs:</u>
1. Encouraging of Suggestions	<ul style="list-style-type: none"> <li>● Cost-savings committee</li> <li>● Service Planning garage visits</li> <li>● HRD survey</li> <li>● Division staff meetings</li> </ul>
2. Participation in Decision-Making	<ul style="list-style-type: none"> <li>● Quality Circles</li> <li>● Issue Analysis Team</li> <li>● Task Forces: <ul style="list-style-type: none"> <li>-Performance Review Committee</li> <li>-Nonunion Incentives Task Force</li> <li>-Light Duty Compensation Committee</li> <li>-How to spend vending machine resources</li> <li>-Roadeo/Wrench-o-Rama development Committees</li> <li>-Revenues Task Force</li> <li>-Lay-off Task Force</li> <li>-Fare policy implementation</li> <li>-Motivation Research Implementation Committee</li> <li>-Strategic Planning Task Force</li> <li>-DP Implementations Committees</li> <li>-Inventory Control Study Committee</li> </ul> </li> </ul>

### 3. Top/Down Communication

### 4. Informing of Changes

### 5. Feedback on Performance

### 6. Fair Treatment of Employees

### 7. Opportunities for Better Jobs

### 8. Long-Term Employee Recognition

- Project Management Boards
- Brainstorm/problem-solving/goal-setting sessions; e.g., Technical Problem Solving Group in Maintenance, Metro Mobility, Weekly Maintenance-Purchasing Meetings, Meetings between Directors and Asst. Chief Administrator

- Staff Meetings
- Chief Administrator's Newsletter
- On the Line
- Weekly circulating files in Transit Development

- Counseling protected classes
- Performance Reviews
- Performance Indicators
- Positive discipline of drivers
- Absenteeism policy
- Employee Assistance Program

- Management training
- Light duty compensation program
- Performance review training
- Maintenance skills training
- Defensive Driving School
- Welding, inspection & electrical training
- City of Lakes driving school
- Educational Assistance program
- Driver's Trip Sheet Training & Motivation

- Driver Recognition & Reward Program (Sr. Dr. & Master Dr.)
- TIC Recognition Program
- Wrench-o-Rama
- Bus Roadeo
- Safety Awards
- Driver Absenteeism Quarterly Winners
- Clerk Recognition & Reward Program
- On The Line
- Absenteeism Awards by Garage—coffee & doughnuts
- Trade-out tickets
- Athletic programs

**THE TRANSPORTATION RESEARCH BOARD** is an agency of the National Research Council, which serves the National Academy of Sciences and the National Academy of Engineering. The Board's purpose is to stimulate research concerning the nature and performance of transportation systems, to disseminate information that the research produces, and to encourage the application of appropriate research findings. The Board's program is carried out by more than 270 committees, task forces, and panels composed of more than 3,300 administrators, engineers, social scientists, attorneys, educators, and others concerned with transportation; they serve without compensation. The program is supported by state transportation and highway departments, the modal administrations of the U.S. Department of Transportation, the Association of American Railroads, the National Highway Traffic Safety Administration, and other organizations and individuals interested in the development of transportation.

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The National Academy of Sciences was established in 1863 by Act of Congress as a private, nonprofit, self-governing membership corporation for the furtherance of science and technology, required to advise the Federal Government upon request within its fields of competence. Under its corporate charter the Academy established the National Research Council in 1916, the National Academy of Engineering in 1964, and the Institute of Medicine in 1970.

**TRANSPORTATION RESEARCH BOARD**

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