

# 13

## Synthesis of Transit Practice

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# Use of Incentives to Attain Specified Performance Standards in Collective Bargaining for Mass Transit

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# Use of Incentives to Attain Specified Performance Standards in Collective Bargaining for Mass Transit



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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 Research Council 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 Technical Assistance, 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 Research Council 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 National Research Council, and administration and surveillance of the contract work are the responsibilities of the National Research Council 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.

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## **PREFACE**

A vast storehouse of information exists on nearly every subject of concern to the transit industry. Much of this information has resulted from both research and the successful application of solutions to the problems faced by practitioners in their daily work. Because previously there has been no systematic means for compiling such useful information and making it available to the entire transit community, the Urban Mass Transportation Administration of the U.S. Department of Transportation has, through the mechanism of the National Cooperative Transit Research & Development Program, authorized the Transportation Research Board to undertake a series of studies to search out and synthesize useful knowledge from all available sources and to prepare documented reports on current practices in the subject areas of concern.

This synthesis series reports on various practices, making specific recommendations where appropriate but without the detailed directions usually found in handbooks or design manuals. Nonetheless, these documents can serve similar purposes, for each is a compendium of the best knowledge available on measures found to be successful in resolving specific problems. The extent to which these reports are useful will be tempered by the user's knowledge and experience in the particular problem area.

## **FOREWORD**

*By Staff  
Transportation  
Research Board*

This synthesis will be of interest to transit administrators, union leaders, and others in the transit field who are concerned with the use of incentive pay plans for transit employees. Information is presented on the use of incentive pay plans in general and in the transit industry.

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Administrators, engineers, and researchers are continually faced with problems on which much information exists, either in the form of reports or in terms of undocumented experience and practice. Unfortunately, this information often is scattered and unevaluated, and, as a consequence, in seeking solutions, full information on what has been learned about a problem frequently is not assembled. Costly research findings may go unused, valuable experience may be overlooked, and full consideration may not be given to the available methods of solving or alleviating the problem. In an effort to correct this situation, NCTRP Project 60-1, carried out by the Transportation Research Board as the research agency, has the objective of reporting on common transit problems and synthesizing available information. The synthesis reports from this endeavor constitute an NCTRP publication series in which various forms of relevant information are assembled into single, concise documents pertaining to specific problems or sets of closely related problems.

Transit agencies have tried incentive pay plans to obtain improved performance by employees with varying degrees of success. This report of the Transportation Research

Board describes the conditions necessary for incentives to work, gives evaluation criteria, outlines the steps in designing and implementing an incentive plan, and gives detailed information on the plans used at two transit agencies.

To develop this synthesis in a comprehensive manner and to ensure inclusion of significant knowledge, the Board analyzed available information assembled from numerous sources, including a large number of public transportation agencies. A topic panel of experts in the subject area was established to guide the researcher in organizing and evaluating the collected data, and to review the final synthesis report.

This synthesis is an immediately useful document that records practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As the processes of advancement continue, new knowledge can be expected to be added to that now at hand.

## CONTENTS

1	SUMMARY
5	CHAPTER ONE INTRODUCTION AND BASIC CONCEPTS
	Scope: What This Report Does, and Does Not, Cover, 5
	Potential Benefits of Incentive Pay, 5
	Incentive Pay Plans and Employee Behavior, 6
	Effects of Incentive Pay Plans, 8
	Criteria for Evaluating Incentive Pay Plans, 9
	Chapter Conclusions, 11
12	CHAPTER TWO DEVELOPING INCENTIVE PAY PLANS
	Step One: Establish Incentive Pay Plan Goals and Objectives, 12
	Step Two: Design the Plan (The Process), 13
	Step Two Continued: Design the Plan (Characteristics), 15
	Step Three: Implement the Plan, 23
	Step Four: Evaluate the Effort, and Make Needed Revisions, 24
	Fitting the Pieces Together to Obtain Congruence, 25
	Chapter Conclusions, 28
29	CHAPTER THREE INCENTIVE PAY IN THE TRANSIT INDUSTRY
	Key Findings of the Chapter, 29
	Published Literature and Surveys, 29
	Prevalence of Incentive Pay in the Transit Industry, 30
	Characteristics of Systems with and without Incentive Plans, 30
	Selected Characteristics of Incentive Pay Plans, 32
	Examples of Transit Incentive Pay Plans, 34
	Processes and Structures for Design, Implementation, and Evaluation, 37
	Evaluations of Incentive Pay Plans, 39
	Factors Influencing the Success or Failure of Transit Incentives, 39
	Published Research on Transit Incentives: Conclusions, 40
42	CHAPTER FOUR TRANSIT INCENTIVE DESIGN AND IMPLEMENTATION
	Key Findings of the Chapter, 42
	Why Houston and Flint Were Selected, 43
	Case Study of Houston, 43
	Case Study of Flint, 47
55	CHAPTER FIVE INCENTIVE PAY: GENERAL THEORY AND TRANSIT EXPERIENCE
59	REFERENCES
62	APPENDIX INCENTIVE PAY PLAN QUESTIONNAIRE FOR HOUSTON AND FLINT



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Information on current practice was provided by many transit agencies. Their cooperation and assistance were most helpful. Appreciation is also given to Ms. Diane Wilson and Dr. Brendon Hemily.

# USE OF INCENTIVES TO ATTAIN SPECIFIED PERFORMANCE STANDARDS IN COLLECTIVE BARGAINING FOR MASS TRANSIT

## SUMMARY

Incentive pay for unionized transit employees is the main concern of this synthesis. Thus it primarily considers incentives that are the product of collective negotiations.

“Incentive pay plans” are plans under which the primary reward for above average performance is either money, such as bonuses or permanent pay raises, or something else of economic value, such as paid time off or merchandise. Of course, incentive pay plans can and often should provide recognition value as well as economic value. However, pay incentive rewards must have noticeable economic value, and may have recognition value as well.

The report covers a number of topics:

- Conditions necessary for incentives to change employee behavior
- Types of effects caused by incentive pay
- Criteria for evaluating incentives
- Steps in the design and implementation of incentive plans
- The published literature and surveys on transit incentive pay
- The processes involved in developing and implementing successful incentive programs for unionized transit employees
- The major concepts from general incentive theory as amplified by transit experience

Before an individual will be motivated to change his or her behavior for a promised economic reward, he or she must perceive that three things have an acceptably high probability of occurring:

- The behavior will result in achieving the performance objectives
- Achievement of the performance objectives will result in economic rewards
- The benefit of the economic rewards and other outcomes is worth the effort of the behavior

If any of these three are missing, then an incentive plan will not achieve its desired effect, but may cause a number of undesirable effects. A good deal of effort in incentive pay development is aimed at ensuring that these three elements are present.

The effects of incentive pay plans can be categorized into three types: intended effects, unintended effects, and net overall effects. When identifying the expected effects of an incentive plan, it is important to consider all three types. The harm caused by the unintended effects may outweigh the good caused by the intended effects, so the net overall effect of the incentive may be negative, even when the incentive itself is successful.

Eventually, the key effects need to be evaluated to determine whether or not the incentive pay plan as a whole is to be considered successful.

- Incentive plans should be evaluated both before and after implementation, using appropriate indicators of performance as criteria.
- Performance indicators can be quantitative or qualitative; be in dollars or other units; be absolute measures, relative measures, or ratios; or be any mixture of the preceding.
- The indicators should include measures of whether or not the plan attained the desired goals, and measures of the plan's impact on human resource and organizational goals and strategy.
- The indicators often should include diagnostic measures, to help explain the reasons for success or failure.

The specific criteria to be used for the evaluation of an incentive pay plan's effects will be unique for each case, because of differences in goals and in the conditions under which a plan operates. However, a number of general criteria that often will be applicable can be identified. General criteria for evaluating incentive pay plans are discussed in the text.

Developing effective incentive pay plans consists of four major steps. The first step is to decide what the organization wishes to accomplish with incentive pay plans; that is, to establish incentive pay plan goals and objectives.

The second step is to design the incentive pay plan. Key considerations here involve the process by which the plan is designed and the characteristics of the plan itself.

The third step is to implement the incentive pay plan; that is, to introduce and administer it. The plan's introduction should ensure that employees understand and trust the incentive pay plan, and know which behaviors will be rewarded by it. Administrative considerations include the role of union and employee participation, and administrative structures and processes.

The fourth step is to evaluate the success of the effort, and to make revisions in the steps were they are needed. Evaluations should occur on an ongoing periodic basis.

Finally, it is necessary to ascertain that the incentive pay plan is internally consistent, and that the plan is congruent with other parts of the organization and its environment.

The synthesis examines the use of incentive pay plans in the urban transit industry, based on published research and surveys. It identifies selected characteristics of transit incentives; provides examples of transit incentives; identifies the methods used to design, introduce, administer, and evaluate transit incentives, for a small number of cases; examines evaluations of transit incentive plans; and discusses the reasons advanced for success or failure of transit incentives.

A number of conclusions can be drawn from the published literature on incentives in the transit industry. First, a substantial amount of information is available about the presence, subjects, and characteristics of transit incentives. As of 1985, incentives were relatively common, although most had low reward levels and accounted for a small proportion of total compensation. They involved a variety of different subjects and characteristics. Often, differences among systems in the presence, subjects, and



characteristics of incentives were associated with differences in system size and union status.

Second, some of the types of incentives found in other industries may not be appropriate for transit, but transit is developing new types of incentive pay plans that are uniquely congruent with its strategies, organizations, and environment, rewarding improvement in indicators such as "on-time performance," "vehicle accidents," and "miles between roadcalls."

Third, very little information is available about transit incentive design and implementation processes, evaluations of outcomes, and identification of reasons for success or failure. However, the available information suggests that incentives can succeed in transit. Also, it confirms that pay incentives succeed or fail in transit for many of the same reasons that they succeed or fail in any other organization.

Therefore, it appears that the general requirements for success discussed in earlier chapters are valid for transit, and should be heeded by those wishing to establish successful transit incentive pay plans. In particular, no plan may work at some properties, certain types of plans may not work at many more, and sometimes unique types may be the most appropriate choice.

Chapter 4 presents the results of comprehensive case studies of incentive design and implementation at two transit systems. For the case on each system, the following format, which roughly parallels the four steps of effective incentive development through two cycles, is used:

- Goals of the Initial Plans
- Designing the Initial Plans
- Characteristics of the Initial Plans
- Implementing the Initial Plans
- Evaluating the Initial Plans
- Goals for the Revised Plans
- Designing the Revised Plans
- Characteristics of the Revised Plans
- Implementing the Revised Plans
- Evaluating the Revised Plans

Much general theory and many transit industry practices concerning incentive pay are covered in this synthesis. Some of the more important concepts include:

- If incentive pay plans are to succeed, management must be committed to them, and must be willing to devote substantial effort to their design and implementation.
- For an incentive pay plan to affect behavior in the desired ways, the workers must perceive that there is a relationship between the behavior and the reward, although the relationship does not have to be a certainty.
- A person will be motivated to exhibit the desired behavior only when the benefit exceeds the effort, according to his or her own individual valuation. In general, the higher the reward, the more of the desired behavior will be exhibited by the work force as a whole, because the benefit will exceed the effort for more people.
- Incentive pay plans will have unintended as well as intended effects, and unintended effects can influence the net benefit of the incentive.
- Incentive pay plans are best at attaining cost and productivity goals, but often are not effective for attaining goals involving employee commitment to the organization, employee competence, or congruence between worker and organizational goals.
- The motivation for cooperative performance caused by an incentive pay plan extends primarily to those within the performance unit.

- Trust is needed for any incentive pay plan to work, but the necessary level of trust is lower for some types of incentives than others.
- The information and audit systems must be capable of collecting, storing, retrieving, and verifying any performance indicator used.
- The workers and their unions must be willing to accept the concept of incentive payments, as well as the specific plans proposed. Although wholehearted acceptance is not necessary for success, complete rejection will normally lead to failure, even if management is able to force the plans into the labor agreement.
- Performance indicators should be easy to understand, and employees should be able to influence them.
- Workers are more likely to be motivated by incentive pay plans that they or their unions have helped to design.
- Communication efforts are needed for all incentive pay plans, both during their introduction and over the term of their existence.
- Incentive pay plans must be congruent with a variety of other factors, including formal organizational and environmental characteristics.
- The right incentive pay plan will succeed where important rewards can be given, rewards can be varied depending on performance, performance can be validly and inclusively measured, information can be provided that makes clear how rewards are given, trust is high, and employees accept the performance-based pay system.
- Incentive pay plans should not be used where: the trust level is low, performance must be measured subjectively, inclusive measures of performance cannot be developed, and the organization is large and performance cannot be measured at the individual or group level.

In some circumstances relating pay to performance can be beneficial to transit employees, transit organizations, and the public. Under the right conditions an incentive plan can better meet worker needs, thereby improving the employees' quality of work life. Additionally, if the plan is properly designed, employee behaviors that result in higher pay should also result in improved organizational performance. Thus, appropriate pay incentive plans can be beneficial for both the workers and the transit system, and hence for public welfare as well.

## INTRODUCTION AND BASIC CONCEPTS

Expanded availability and use of mass transit can help to achieve goals such as efficient transportation for commuters, relief from automobile congestion, mobility for the one-fifth of urban households without cars, energy conservation, and pollution abatement. However, it is becoming increasingly difficult for transit systems to obtain the revenues necessary to keep service at present levels, let alone to expand it. If transit is to supply the needed service, therefore, it must do so with improvements in performance (1).

Performance improvements often can be accomplished by better utilization of human resources. Although workers are important to any organization, they are especially so for transit. Labor costs account for three-quarters of the industry's operating expenses. Moreover, to most people the vehicle operators *are* the transit system; therefore strengths or weaknesses of the operators are often seen as strengths and weaknesses of the entire transit organization. In short, transit's employees can greatly help (or hinder) organizational efficiency and effectiveness. Thus, a system's performance often can be improved through changes in its human resource policies and practices.

One human resource utilization technique with potential for improving system performance is to more closely relate worker compensation to performance. That is, pay employees more for better performance. If done in appropriate circumstances, incentive pay can improve both organizational performance and employee satisfaction.

### SCOPE: WHAT THIS REPORT DOES, AND DOES NOT, COVER

Incentive pay for unionized transit employees is the main concern of this synthesis. Thus the report primarily considers pay incentive plans that are the product of collective negotiations, or that could be bargained over if either party wished to do so. As used in this report, such incentives are defined as follows:

- *Incentive pay plans* are plans under which above-average performance is rewarded with either money, such as bonuses or permanent pay raises, or with something else of economic value, such as paid time off or merchandise.

Of course, incentive pay plans can and often should provide recognition value as well as economic value. However, pay incentives are those where the reward has noticeable economic value, and may have recognition value as well. Recognition incentives are those where the reward has mainly recognition value, such as plaques, shoulder patches, or certificates of merit.

This synthesis looks at a wide variety of incentive pay plans. It is unlikely that all will be applicable to a given transit agency. Thus, one must determine which incentives, if any, are appropriate for a specific agency at a particular time.

This synthesis is concerned with unionized employees, although much of the theory is also applicable to unorganized workers. In the transit industry, most of the eligible workers are represented by unions at most agencies, except for the very smallest systems.

This report does not cover recognition incentive plans in any depth. Also, it does not cover plans that result in reduced pay or other punishments for below-average performance, nor does it cover cases where unionized employees must bid for the work against outside contractors. Although recognition incentives, punishment incentives, and bidding do provide motivation for improved performance, the theory and practice of each often differs from that of incentive pay for superior performance.

### POTENTIAL BENEFITS OF INCENTIVE PAY

It is widely believed in the United States that performance-based pay can be used to improve an organization's performance (2). This is so for several reasons. First, pay is a powerful motivator. How people are paid can affect their turnover, absenteeism, productivity, and quality of work (3), all of which can influence an organization's performance. For example, the literature indicates that pay incentives are by far the most effective way of increasing productivity. Thus Locke's review (4) of research on productivity reported that pay incentives resulted in a median productivity increase of 30 percent, goal setting resulted in an 18 percent increase, job enrichment in a 17 percent increase, and participation in a 0.5 percent increase.

Second, pay is a large part of total costs in most organizations. Thus, if a "better return" can be earned from payments for human assets, the impact on financial results can be substantial.

Third, pay is often a major source of employee dissatisfaction (5). Problems in the compensation area can affect all aspects of the human resource system (2), and hence organizational performance. If pay systems can be designed to better satisfy workers, as pay-for-performance plans should, then some of the barriers to efficient and effective performance in other aspects of the human resource system will be removed.

Fourth, pay is visible and tangible. Therefore the pay system sends strong messages to employees, management, governmental officials, and the public. Even incentive plans with insignificant direct costs or benefits can create positive perceptions of an organization's efficiency, effectiveness, and equity.



Moreover, properly designed incentive pay plans should be directly beneficial to an organization's employees. Indeed, the closer linking of pay and performance is a commonly discussed method for improving the quality of work life (6-8).

Of course, improperly designed or administered incentive plans, or incentive pay applied in inappropriate cases, can do much more harm than good (2, 8). For example, many of the piecework systems that were popular in times past had negative features from both worker and management perspectives (9), and often would be counterproductive in the 1980s.

Thus, in some circumstances, relating pay to performance can be beneficial to the employees and the organization. Under the right conditions an incentive plan can better meet worker needs, thereby improving the employees' quality of work life. Furthermore, if the plan is properly designed, employee behaviors that result in higher pay should also result in improved organizational performance.

### INCENTIVE PAY PLANS AND EMPLOYEE BEHAVIOR

The first requirement for a successful incentive pay plan is that it must encourage workers to change their behavior in desired ways. The following brief description of motivation theory that seems most applicable to incentive pay plans is based on information found in Refs. 3, 5, 8, 10-16.

#### Key Concepts

- For an incentive pay plan to affect behavior, employees must believe that there is a relationship between the behavior and reward.
- It is not necessary for the behavior to result in the reward with absolute certainty, but the higher the probability that the behavior will result in the reward, the higher will be the motivation to exhibit the behavior.
- The relationship between behavior and reward depends on the relationships between behavior and performance, and between performance and reward. That is, Behavior → Performance Objectives → Reward. This implies that the behavior-reward relationship can be strengthened by improving either or both of the intermediate relationships, and that if either of the intermediate relationships is absent then so will be the behavior-reward relationship.
- The behavior-performance relationship is affected by the ability of the individual involved and task characteristics. The performance-reward relationship is affected by the organization's ability to correctly measure performance, and to pay the reward if and only if the performance objectives are met.
- All of the preceding relationships are based on the individual's perception of reality. Therefore the strength of the relationships can be increased by changing inaccurate perceptions or by changing reality.
- In constructing an employee's benefit/effort ratio, the "benefit" of behavior is the net utility of the expected economic reward and other outcomes. The "effort" is the "disutility" of the behavior.

- An individual will be motivated to exhibit the new behavior only when the benefit exceeds the effort; that is, when his or her benefit/effort ratio is greater than one.
- The benefit/effort ratio can usually be increased by increasing the size or the certainty of the economic reward.
- Although each employee will value a given amount of reward and behavior differently, in general the higher the reward, the more of the desired behavior will be exhibited by the work force.

### The Behavior-Performance-Reward Relationship

Before an individual will be motivated to change his or her behavior for a promised economic reward, he or she must perceive that three things have an acceptably high probability of occurring:

- The behavior will result in achieving the performance objectives,
- Achievement of the performance objectives will result in economic rewards, and
- The benefit of the economic rewards and other outcomes is worth the effort of the behavior.

These relationships can be diagrammed as shown in Figure 1.

Note that the probability that the behavior will result in an economic reward is the product of two probabilities: (1) the probability that the behavior will result in meeting the performance objectives, and (2) the probability that achieving the performance objectives will result in being rewarded.

### The Link between Behavior and Performance Objectives

The probability that an individual's behavior will result in attaining the desired performance objectives depends on a number of factors, including:

- the individual's own skills, knowledge, and ability; and
- the task characteristics.

Clearly, the more able the individual, the more likely that the desired performance can be achieved. Characteristics of the task also matter. For example, the probability of successfully meeting the performance objectives decreases if: the standards are set too high given the task involved; the organization does not supply the needed information, authority, tools, and other support needed; successful performance depends on other individuals who are not willing or able to do what is necessary; and so on.

### The Link between Performance Objectives and Economic Reward

The probability that achieving the desired performance objectives will result in the promised reward also depends on a number of factors, including:

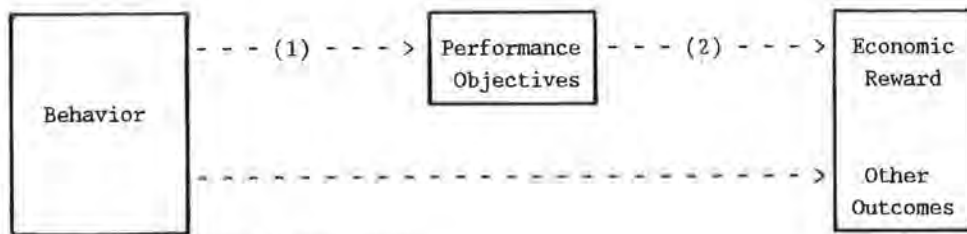


FIGURE 1 Elements of incentive pay plan motivation.

- the organization's ability to correctly measure the performance, and
- the organization's willingness and ability to pay what was promised.

Even if the individual achieves the desired level of performance, it is still necessary for those performance results to be measured validly and reliably. For example, if individuals are to be rewarded for "improvements in attitude," but they believe that even if improvements do occur the changes will not be recognized, then they will not try to meet the performance objective.

Also, the individuals must trust the organization to pay what has been promised if *and only if* the performance objectives have been achieved. Of course, the workers must trust the organization to pay when the agreed-to performance objectives have clearly been met to everyone's satisfaction. This normally will not be a problem when the agreement is written into a labor contract, but could be a problem if individuals do not trust the organization to live up to its commitments and also have no method for enforcing agreements.

More likely to be of concern is the requirement that individuals must trust the organization *not* to pay the performance reward when the objectives have not been met. In incentive pay plans where individual performance is measured subjectively, such as in many merit pay plans, it is common both within transit (16) and in industry in general (17) to give everyone a "merit" increase regardless of actual performance. If employees perceive that everyone will be given the performance reward whether or not they change their behavior, then they will not be motivated by the incentive to change their behavior.

#### The Relationship between Behavior and Economic Reward

Although the relationship between behavior and reward does not have to be certain, the individual does have to believe that it has a reasonably high probability of occurring. As already noted, the more certain the links between behavior and attainment of performance objectives, and between attainment of performance objectives and the reward, the higher the probability that the behavior will be rewarded.

Moreover, the higher the probability that the behavior will be rewarded, the more likely that a given reward level will be enough to motivate the desired behavior. For example, a reward of  $x$  dollars might be enough to motivate the desired behavior if an individual perceives that the behavior will result in the reward with a 90 percent probability. If, however, an individual perceives that the behavior will result in the reward with only

a 40 percent probability, then it usually will take a larger reward of  $(x + y)$  dollars to motivate the desired behavior. If the probability that the behavior will result in the reward becomes very low, then no amount of money may be enough to motivate the desired behavior. The effect of a given probability on an individual's motivation will of course vary from person to person.

In summary, the higher the perceived probability that a given amount of behavior will result in a reward, the lower the reward has to be in order to motivate the behavior. Note that it is the individual's perceptions that matter, and these perceptions may or may not reflect reality.

#### The Benefit/Effort Ratio and Individual Behavior

Even if an individual believes that he or she will be rewarded for some behavior, it is also necessary that he or she believes that the benefit exceeds the added effort. Although the major component of the benefit should be the economic reward, other outcomes of the new behaviors or performance can affect the benefit's value to the worker (Figure 1). These "other outcomes" can range from positive factors, such as recognition from others and feelings of self-worth for a job well done, to negative factors such as social sanctions from those who are threatened by another's superior performance. For example, in piecework situations there sometimes are informal norms established among the workers, and anyone who performs above the norm is subjected to strong social pressures. Thus, defining the terms:

- *Benefit* is the sum of the utilities of the expected economic reward and other outcomes (with "utility" being defined as the value of an outcome to the person involved)
- *Effort* is the disutility of the new behavior

In general, the higher the economic reward, the higher will be the benefit. This is so because most people prefer more money to less. Thus for some economic reward level, the new benefit will exceed the new effort, and at that point a worker will be motivated to change his or her behavior. That is, the motivation to behave in the new way so as to obtain the reward will occur when the individual perceives that the

$$\text{Benefit} > \text{Effort}$$

or, in other words, where the individual perceives that the ratio

$$\text{Benefit/Effort} > 1.$$

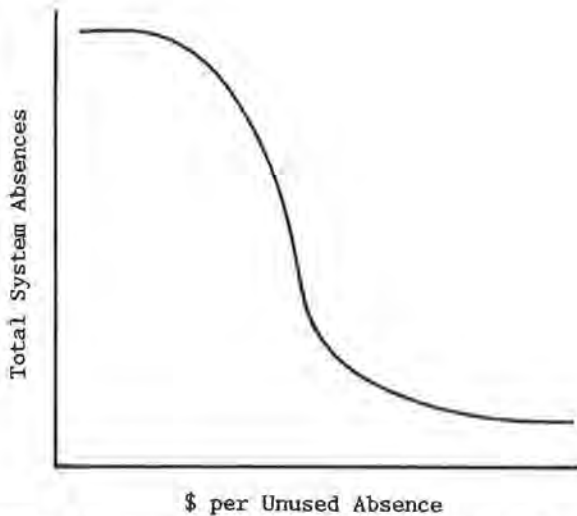


FIGURE 2 Relationship between payment for unused absences and number of absences.

Because the new behavior will not result in the desired benefit with certainty, as discussed earlier, the benefit is an expected rather than a certain value. Also, note that the benefit/effort ratio is not based on dollars, but on utilities.

#### The Benefit/Effort Ratio and Work-Force Behavior

Attitudes about the attractiveness of the reward and the effort required by the new behavior will differ by individual. Some people will value a given amount of money much more highly than others, and likewise some will value a given amount of effort expended or time sacrificed more highly than others. Thus, the reward level where the benefit exceeds the effort will differ by individual, with some people being willing to change their behavior for less reward than others. For the work force as a whole, the "supply" of the new behavior generally will increase as the expected reward for the new behavior grows.

Assume, for example, that the desired performance is to decrease absences. If individuals are paid \$2 for each unused day of sick leave, total system absences will not likely decrease. If they are paid \$20 per unused day, absences probably will decrease somewhat. If they are paid \$200, absences will likely decrease substantially. A graph of the expected relationship might be plotted as shown in Figure 2. Note the shape of the curve: total system absences decline very slowly at low reward levels, decline more rapidly for intermediate reward levels, then again decline very slowly at high reward levels. This is likely to occur because few people will respond to very low rewards, and at the highest reward levels, few people are left who will be motivated by the additional money. Although the shape of the curve may differ, the illustrated shape has often been found to occur in practice, and has theoretical justifications as well (18).

#### EFFECTS OF INCENTIVE PAY PLANS

In identifying the effects on the organization of the employee behaviors caused by the incentive pay plan, it is helpful to

consider the different types of effects, hierarchies of effects, and path diagrams of effects.

#### Key Concepts

- Most incentive pay plans will have both intended and unintended effects.
- In some cases the total impact of an incentive pay plan may be negative because the harm caused by the unintended effects outweighs the good caused by the intended effects.
- It is often helpful to identify intermediate effects, or bridging variables; this ensures that there is a logical relationship between input and intended outcome, makes it easier to identify reasons for failure, and identifies potential proxy measures for the intended outcome.
- Path diagram models can help to identify the relationships among all of the effects, and hence can clarify the process and outcomes.
- The chances of identifying all important effects, and hence the chance of avoiding failure, improve if the union and management approach incentive pay plan issues with problem-solving attitudes. The resultant sharing of information will be more likely to uncover all effects.

#### Types of Effects

The effects of incentive pay plans can be categorized into three types: intended effects, unintended effects, and net overall effects.

- *Intended Effects*: the desired proximate results of the incentive pay plan.
- *Unintended Effects*: the anticipated and unanticipated by-products of the incentive pay plan, good and bad.
- *Net Overall Effects*: the net impact of the intended and unintended effects on the organization as a whole.

As an example, assume that the collective bargaining agreement allows employees to sell back their unused sick leave to the system for \$70 per day. Intended effects of this incentive would probably include a decline in the annual absences per employee, and a decrease in the number of extra-board operators employed. An unintended effect might be that operators come to work when they are really ill and under medication, thus spreading the disease and increasing the likelihood of having an accident. The net overall effect on such system-wide variables as total cost might therefore be either positive or negative, depending on the relative impacts of the intended and unintended effects.

#### Hierarchy of Effects

For any program, there usually will be a series of effects, starting with the input and ending with the outcome. To reach some desired end, certain subgoals have to be achieved. For example, assume that the desired effect of the aforementioned



unused sick leave buy-back is to decrease total labor costs. To achieve this end the following sequence of effects must occur:

1. operators must use less sick leave;
2. as a result, the number of extra operators needed must decrease;
3. as a result, the number of extra operators employed must decrease;
4. as a result, the cost of the extraboard must decrease;
5. the decrease in extraboard cost must be more than the incentive's cost; and
6. as a result, total labor costs decrease.

If any one of these intermediate effects, or bridging variables, is not present, then the desired outcome will not occur. Thus, in examining the reasons for a program's success or failure, it is helpful to identify these intermediate effects as well as the final desired outcome.

Indeed, in many cases it may be impossible to detect the program's effect at the broadest level, because so many other factors are also influencing this level. Thus the effect of the sick leave buy-back on total labor costs may be statistically undetectable because so many other factors are concurrently affecting total labor costs. In such cases, it is even more important to identify the lower-level effects because a lower-level effect may be used as a proxy for what is occurring at the higher levels.

#### Path Diagrams of Effects

Finally, the effect hierarchies can be combined for both intended and unintended effects into one path diagram showing the entire process from input to output. Such a model helps those involved to understand more fully the reasons for a given program's success or failure, and to identify effects that should be investigated. For example, a partial path diagram of the sick leave buy-back plan is shown in Figure 3.

#### CRITERIA FOR EVALUATING INCENTIVE PAY PLANS

Eventually, the key effects need to be evaluated to determine whether or not the incentive pay plan as a whole is to be considered successful. Important concepts concerning such evaluations are listed next.

#### Key Concepts

- Incentive plans should be evaluated both before and after implementation, using appropriate indicators of performance as criteria.
- Performance indicators can be quantitative or qualitative; be in dollars or other units; be absolute measures, relative measures, or ratios; or be any mixture of the preceding.
- The indicators should include measures of whether or not the plan attained the desired goals, and measures of the plan's impact on human resource and organizational goals and strategy.

- The indicators often should include diagnostic measures, to help explain the reasons for success or failure.

#### General Criteria

The specific criteria to be used for the evaluation of an incentive pay plan's effects will be unique for each case, because of differences in goals and in the conditions under which a plan operates. However, a number of general criteria that often will be applicable can be identified. More specific operational criteria can be developed for a particular plan from the relevant general criteria. Potential general criteria for evaluating incentive pay plans, which overlap somewhat, include:

- Does the incentive pay plan attain the goals and objectives established for it?
- Does the incentive pay plan help to attain or is it at least consistent with human resource goals concerning employee competence, employee commitment to the organization, congruence between employee goals and organizational goals, employee costs, and the desired system of union-management relations?
  - Does the incentive pay plan help to attain the organization's master goals and strategy, or is it at least consistent with them?
  - What is the incentive pay plan's impact on net operating income, and on relevant revenue, cost, productivity, and other performance indicators?
- Are the incentive pay plan's structure and processes internally consistent?
  - Is the incentive pay plan congruent with formal organizational structures and processes, with the organizational climate, and with worker, union and other environmental characteristics?

These criteria are discussed at relevant points in the following chapters. However, a few general comments are appropriate here. First, the incentive pay plan should be evaluated with appropriate criteria both before and after implementation. That is, the criteria should be established during the incentive pay plan design phase, and the incentive pay plan's expected performance forecast before the plan is adopted. If the plan is not expected to meet the necessary standards during the optimistic period before implementation, it certainly should not be implemented unless it is changed in ways that will meet the criteria. It is also necessary to evaluate the plan after experience with it, so that it can be changed or eliminated if necessary.

Second, indicators used in the evaluation can be: (a) quantitative or qualitative; (b) in terms of dollars, or of in terms of some other unit such as "number of absences" or "miles between roadcalls;" (c) absolute measures, ratios, before-after differences, or level relative to some other organization; or (d) any mixture of the preceding as the situation warrants.

One criterion often used is benefit to cost. When used in benefit/cost analysis, the terms usually are defined as follows.

- *Benefits* include the net value in dollars of all effects of the program.
- *Costs* include the dollar value of all direct and indirect program expenses.
- *Benefit/cost* is a ratio indicating the net return of the program to the organization. The program provides benefits equal



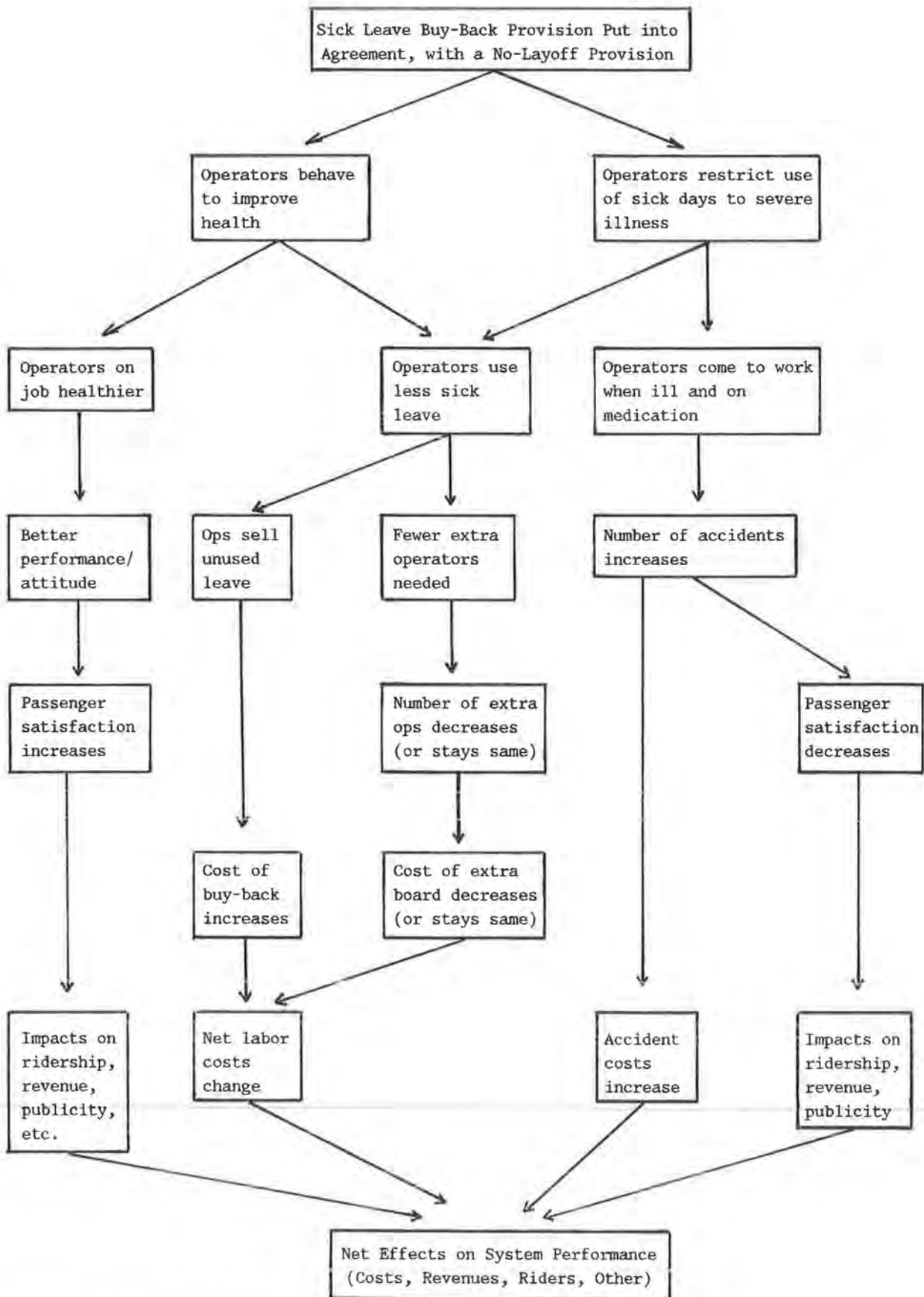


FIGURE 3 Partial path diagram of the effects of an incentive pay plan.

to its cost when benefit/cost = 1, benefits less than its cost when benefit/cost < 1, and benefits greater than its cost when benefit/cost > 1.

Note that the employee benefit/effort ratio discussed earlier is not based on dollars, but the organizational benefit/cost ratio usually is. In practice, it is often extremely difficult to validly reduce all benefits into dollar terms. If dollar benefits are not placed on all major program effects, or if the dollar benefits used are inaccurate, then the ratio is not a valid measure of a program's net return (19). Also, ratios in general can be very tricky to work with, although often they are necessary (20).

Third, the set of criteria chosen should usually include indicators measuring whether or not the incentive pay plan accomplishes the goals set for it, and what its impact is on human resource and organizational goals and strategy. That is, for a plan to be considered successful it should not only accomplish its own goals, but also should assist in achieving, or least not interfere with, higher level goals and strategy.

Fourth, the criteria chosen should often include diagnostic measures. Such criteria include indicators of the incentive plan's internal consistency, and its congruence with the larger organization and environment of which it is a part. Such questions are especially important during the design phase, to help avoid potential failure. They also are usually relevant in post-implementation reviews, to explain and improve the plan's effectiveness.

#### CHAPTER CONCLUSIONS

Well-designed and administered incentive pay plans can improve organizational performance in many cases. However, many incentive plans fail in practice because they are poorly designed, poorly administered, or applied in inappropriate circumstances. Thus, transit agencies should only install incentive pay plans after carefully considering their usefulness for the particular situation involved.

## DEVELOPING INCENTIVE PAY PLANS

Developing effective incentive pay plans consists of four major steps, as illustrated in Figure 4.

The first step is to decide what the organization wishes to accomplish with incentive pay plans; that is, to establish incentive pay plan goals and objectives.

The second step is to design the incentive pay plan. Key considerations here involve the process by which the plan is designed and the characteristics of the plan itself.

The third step is to implement the incentive pay plan; that is, to introduce and administer it. The plan's introduction should ensure that employees understand and trust the incentive pay plan, and know which behaviors will be rewarded by it. Administrative considerations include the role of union and employee participation, and administrative structures and processes.

The fourth step is to evaluate the success of the effort, and to make revisions in the steps where they are needed. Evaluations should occur on an ongoing, periodic basis. If an evaluation indicates that revisions are needed, then one would return to the first step needing revisions, make the necessary changes, and then again proceed down the chart.

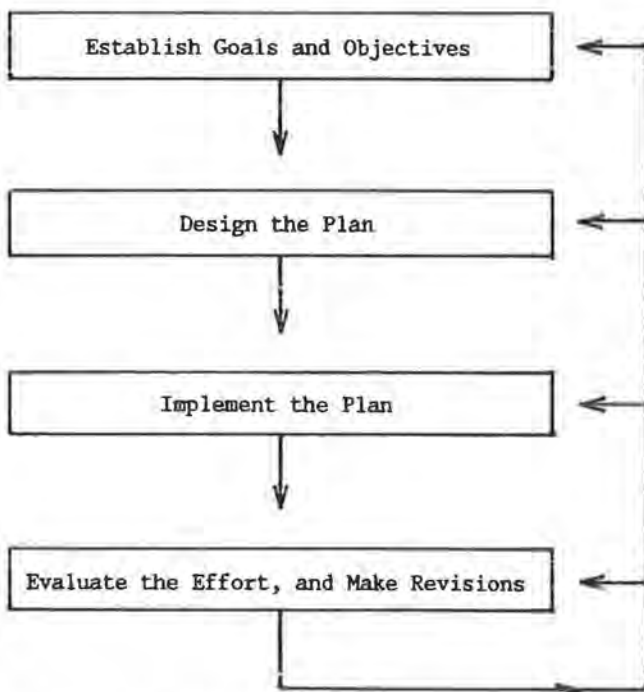


FIGURE 4 Steps in incentive pay plan development.

Important for all of these steps is the concept of fit. For the plan to succeed, the choices made in each step must be congruent with each other, as well as with other aspects of the organization and environment.

The information in this chapter is based on research and experience about incentives from all types of public and private organizations. Although most knowledge about incentive pay is based on practical experience from individual cases, not on rigorous empirical research (3, 5, 21), the information herein generally will be true for transit agencies.

### STEP ONE: ESTABLISH INCENTIVE PAY PLAN GOALS AND OBJECTIVES

The first step in developing incentive pay plans is to decide what the organization wishes to accomplish with them.

#### Key Concepts

- Goals are broad general statements of what one wishes to accomplish; objectives are specific statements of what is to be accomplished, with quantitative levels and time frames clearly specified.
- Usually there will be several alternative methods for achieving a goal; incentives should be used only if they are the best alternative.
- The goals and objectives established for an incentive plan should help achieve the system's overall goals and human resource goals, or at least should not be inconsistent with them.
- One should consider both the intended and unintended effects of an incentive on all organizational goals.
- Pay incentives tend to be best for attaining cost and productivity goals, but often are not effective for attaining employee commitment, competence, or congruence goals.

#### Goals

It is helpful to first develop goals; that is, broad general statements of what one wishes to accomplish with the incentive pay plan (22, 23). For example, one goal might be to decrease operator labor cost per vehicle mile, while concurrently providing that no operators will be laid off. It is important to start with broad general statements so that the overall concept of what is desired is clearly understood.

Incentive pay plan goals normally should be ones that help achieve the system's master goals and strategy, or at least should

not be inconsistent with them. For example, assume that an agency's master strategy calls for building rider loyalty through the use of friendly operators who take time to help passengers when needed. An incentive pay plan that should help would be one that gives all operators a bonus whenever a quarterly passenger-opinion survey shows improved attitudes toward drivers. On the other hand, consider an incentive pay plan with the goal of increasing on-time performance, to be accomplished by paying individual monthly bonuses only to those operators who have improved on their previous month's on-time percentage. This incentive pay plan probably would discourage drivers from helping passengers, and therefore would be inconsistent with the system's master strategy. (This is not to say that helpful operators will always improve passenger loyalty more than on-time service. But if it has been determined that helpful drivers are the most important criteria in a given case, then establishing an incentive pay plan that rewards only on-time performance would be inappropriate.)

### Objectives

Using incentive pay plan goals as a basis, one should develop objectives, which are precise and measurable statements of what is desired (22–24). Objectives should be:

- Supportive of incentive pay plan goals (and consistent with the system's master strategy and goals)
- Reasonably attainable
- Clear, concise, and unambiguous
- Measurable in terms of amount and time frame

For example, the objectives of an attendance incentive program might be to reduce the cost of the extraboard by 10 percent during the first year of the contract, while maintaining a no-layoff policy, such that the savings generated will be twice the cost of the program. These objectives are consistent with the goal of reducing labor costs while ensuring that no currently employed operator's position will be worsened because of it. They are clear and measurable in terms of amount and time. Depending on such factors as the operator turnover rate and work rule restrictions, they may or may not be reasonably attainable.

By stating incentive pay plan objectives as outlined, it is easier to determine beforehand precisely what is needed for success, and thus avoid establishing a program that is clearly destined for failure. Returning to the attendance incentive example, if realistic estimates indicate that the savings generated will be less than the total amount of payments for attendance incentives, then the proposal can be dropped from further consideration. If the objectives had been stated in less precise terms, the problem might not have been obvious until the program had been implemented.

### Other Considerations

Several additional points are worthy of consideration. First, the discussion in Chapter 1 about the effects of incentive pay, and the criteria for evaluating incentive plans, is applicable to the development of goals and objectives.

Second, an incentive pay plan may be only one of several ways for attaining a goal. All possible ways of achieving the goal should be considered, and an incentive pay plan should be used only when it is the "best" of the competing proposals.

Third, although the intended effects of an incentive pay plan might help obtain a desired goal/objective, its unintended effects might hurt the attainment of other goals. Thus it is important to consider the intended and unintended effects of incentive pay plans on all of the system's goals and strategy in order to ascertain that more total good than harm will be done. For example, if employees are competing against each other for individual performance bonuses, performance goals may be met at the expense of cooperation goals.

Fourth, incentive pay plans tend to be best at attaining cost and productivity goals, but often are not effective for attaining goals involving employee commitment to the organization, employee competence, or congruence between worker goals and organizational goals (2). One possible exception would be plans using significant employee participation; it seems that an effective plan not only would decrease costs and increase productivity, but also should increase employee commitment and congruence.

Much more could be said, but a more comprehensive discussion of goals and objectives is beyond the scope of this paper. For excellent descriptions of how to set goals and objectives for transit systems, see Refs. 22–24. Formulating strategy, goals, and objectives at a more general and theoretical level is covered in Refs. 25–30. Meyer (28) deals specifically with transit. The following sections indicate what types of goals are best accomplished by various incentive pay plan characteristics. It is assumed that the goals and objectives already have been established, and the user is trying to develop incentive pay plans that best achieve these goals and objectives.

## STEP TWO: DESIGN THE PLAN (THE PROCESS)

Recall that the design of an incentive pay plan involves both the process by which the plan is designed and the characteristics of the plan itself. This section looks at the process, and the next section examines the various structural characteristics of incentive pay plans. The primary process issue addressed in this section is the extent to which employees and their unions should be involved in incentive pay plan design.

### Key Concepts

- Workers are more likely to be motivated by incentive pay plans that they (or their unions) have helped to design.
- Plans designed through integrative bargaining are more likely to result in desired employee behavior than plans designed through distributive bargaining.
  - Integrative bargaining is most important for designing plans using comprehensive performance indicators, in situations where the likelihood of unanticipated effects is high, and where success will require a variety of behaviors that cannot be identified in advance.
  - Integrative bargaining is less important for plans using specific objective performance indicators, where success requires



only a few very specific behaviors, and where the potential for unforeseen effects and behaviors is low.

- If a plan is to be designed through an integrative and participative approach, then the design process should probably occur outside of the regular contract negotiations.
- The type of bargaining used in the design process should normally be the same as that found in the general union-management relationship.

### The Value of Worker/Union Participation

In general, the more that the workers are involved in the design process, the higher the likelihood that the incentive pay plan will elicit the desired behaviors (2, 5, 16, 31–33). The relationship between the structure and process, emphasizing the importance of employee input, is well stated by Beer et al. (2, p. 126):

The traditional emphasis of managers and compensation specialists seems to be that if the right system can be developed, it will solve most problems. We do not think this is a plausible assumption—there is no single right answer or objective solution to what or how someone should be rewarded. What people will accept, be motivated by, or perceive as fair is highly subjective. . . . Communication, participation, and trust can have an important effect on people's perceptions of pay, the meaning they attach to a new pay system, and their response to that system. In short, *the process may be as important as the system*, and it should be taken into account when the system is designed and administered.

In unionized organizations, normally the employee representative must by law be consulted concerning compensation structures. But, as Henderson (31, pp. 134–136) points out, it is often better to maximize rather than minimize union involvement.

Although it may be slower and initially may cause extra problems for the compensation manager, a wise approach is to include union representation at every step in the process of building a compensation system. . . . If a program is to be truly workable, it must be understood and accepted. In a union[ized] shop, this means union approval. Union hostility and opposition can destroy the best system. . . . *Active* union involvement from the beginning stage of development through implementation can only have a positive effect on improving acceptance of a compensation system. The development of a good compensation system requires the use of the best judgment of all members of an organization, including union as well as non-union members.

Although there has been little rigorous empirical research on the impact of employee involvement, at least one field experiment indicates that employee participation in incentive pay plan design can make the difference between success and failure (34, 35). In this experiment, identical incentive plans to improve attendance were installed in several similar work groups, whereby bonuses were provided when attendance improved. Although the plan was the same for all groups, some of the groups had been responsible for its design. The plan succeeded in those groups that had helped design it, and failed in those upon which it was imposed. A number of other studies (5, 6, 16, 36–38) also indicate that employee participation in the design process can improve the effectiveness of incentive pay plans.

Lawler (5) identifies possible reasons why employees are more likely to be motivated by incentive pay plans that they have helped to design:

- they have more information about the plan
- they are more committed to it
- they have more control over what happens
- they have more trust in the system
- their involvement has led to a higher-quality plan

In sum, when employee representatives are involved in designing incentive plans, it is more likely that the plans will be successful in motivating the employees. Many of the concepts concerning employee behavior and incentive plans, discussed in Chapter 1, are applicable here.

### Distributive, Mixed, and Integrative Bargaining

When the employees are unionized, as they are assumed to be in this study, then any incentive plan would have to be at least acceptable enough to be included in the labor agreement. However, incentive pay plan negotiations can be:

- distributive [whatever I gain, you lose],
- integrative [we both can gain], or
- mixed [we both gain, but bargain over our shares of the gains].

(These terms come from Ref. 39; see also Refs. 40 and 41.) In the distributive bargaining case, an incentive pay plan might be agreed to by the parties as part of a package of trade-offs. In the integrative bargaining case, it would be the result of a joint problem-solving exercise to find a mutually beneficial solution. Broadly, the terms “distributive” and “adversarial” mean the same thing, as do the terms “integrative” and “cooperative.”

Although there is no known research concerning it, it would seem that incentive pay plans designed through integrative bargaining would be more likely to elicit the desired employee behaviors, might be more expensive, but might have a higher benefit-to-cost ratio. Integrative bargaining probably is most needed for plans using comprehensive or complex performance indicators, in situations where the potential for side effects and unintended effects are high, and when success requires a variety of individual and cooperative behaviors. One example of such a situation would be cost savings plans, such as Scanlon Plan operations.

Although it might still be beneficial, integrative bargaining probably is less critical for plans using objective indicators that are not comprehensive, when success requires only relatively straightforward and easy-to-define individual performance behaviors, and when the potential for side-effects and unintended effects is low. Examples of such situations might be individual attendance, safety, or suggestion incentives.

Finally, there is no rigorous research on the types of group decision-making processes that work best for designing incentive pay plans (5). However, if integrative bargaining is to be used, it would seem that some of the approaches found effective in labor-management cooperation efforts would be applicable (6, 42–44). Participative approaches to incentive pay plan design

are likely to take a good deal of time (5); therefore, design during regular contract negotiations often would not be optimal.

### Other Considerations

A few other points about the process of designing incentive pay plans in unionized situations are pertinent. First, guarantees may have to be given that the incentives will create no layoffs or loss of earnings (6, 16, 21, 33, 43, 44). Second, to receive the desired degree of cooperation, the party wishing the incentive pay plan may have to make concessions greater than it considers necessary or fair (45, 46). (For further discussion, see Refs. 32, 33, 45-49.)

Two caveats need to be made. First, the level of employee involvement in incentive pay plan design should match the level of employee/union involvement in other aspects of the labor-management relationship. A full participative and integrative approach to incentive pay plan design is not likely to work at an agency with a traditional autocratic relationship with its employees. Either the general relationship or the design process can be changed, but they must be the same. This issue is discussed further in the last section of this chapter.

Second, however good it sounds, a fully integrative (that is, cooperative) labor-management relationship is often not possible. Completely integrative bargaining seems workable in theory, but it seldom is seen in practice. Given an imperfect world, therefore, those involved may want to move toward a more integrative relationship, but they should make their decisions based on the reality of the present.

These two caveats apply not only to incentive pay plan design, but also to incentive pay plan implementation, discussed later in this chapter.

### STEP TWO CONTINUED: DESIGN THE PLAN (CHARACTERISTICS)

The second step in developing incentive pay plans also involves making choices about the various characteristics of the plans. These characteristics are based on a model developed by Lawler (5) and include the:

- performance aggregation unit
- payout formula
- performance plan coverage and structure
- performance indicators
- period over which performance is measured
- value (and type) of the reward
- frequency of the receipt of the reward
- duration of the reward

Many of the conclusions presented in this section are logical extensions of the concepts presented in Chapter 1 concerning employee behavior and the effects of incentive pay plans.

### Key Concepts

- The specific characteristics chosen for a plan should be those that will encourage the employee behaviors needed to achieve the plan's objectives.

- The motivation for individual performance caused by incentive pay plans increases as the performance aggregation unit becomes smaller, and when the payout formula is based on individual performance.

- The motivation for cooperative performance caused by incentive pay plans extends primarily to those within the performance aggregation unit, and increases as the performance aggregation unit becomes smaller.

- Some worker-management trust is necessary for any incentive plan to work. But, the level of trust needed is lower for some types of plans than others. Thus even when the existing level of trust will not support some sets of plan characteristics, it may support other sets. In general, less trust is needed for large performance units, with payout formulas that give equal amounts to all, and with objective performance indicators.

- The information and audit systems must be capable of collecting, storing, retrieving, and verifying any indicator used. Their capabilities should be considered in choosing the other characteristics of a plan.

- It usually is not wise to force union or employee acceptance of an incentive pay plan that they strongly oppose, even when management strength makes it possible to do so. Strong employee or union opposition probably means that the covered employees will not trust the plan enough to modify their behavior, or may modify their behavior in destructive ways. Unions usually are more likely to willingly accept plans that aggregate performance at the system-wide level, that pay out equally to all, and that are based on objective performance indicators. Their willingness to adopt incentive pay plans usually will increase when it can be shown that rewards above what would otherwise be possible are available with an incentive pay plan.

- Performance indicators should be related to incentive pay plan goals, should measure all activities necessary for success, should be influenceable by covered employees, and should be easy to understand. In general, indicators that score high on some of the preceding criteria will score low on others; therefore compromises may be necessary.

- The time spans over which performance is measured should be chosen with regard to the need for feedback, any natural cycles, and the nature of the time frame needed to achieve incentive pay plan objectives.

- The reward should be large enough and frequent enough to elicit the desired behavior; if the cost of such rewards is larger than the benefit to the organization, then the incentive pay plan should be dropped.

### The Objectives-Behavior-Characteristics Relationship

Before attempting to make decisions about the characteristics of incentive pay plans, one should identify the employee behaviors that will be necessary to accomplish the plans' objectives. Once this process is accomplished, one can choose the incentive pay plan characteristics that are most likely to result in the necessary behaviors and hence the desired outcomes. Thus, much of this section is concerned with the types of employee behavior growing out of different characteristic choices.

TABLE 1  
ACCIDENT AND MILEAGE DATA FOR TINY TRANSIT  
SYSTEM

Garage and Driver	Chargeable Accidents	Vehicle Miles	Chargeable Accidents per 1000 Vehicle Miles		
			Indiv.	Garage	System
Garage A					
Driver 1	1	20,000	0.05		
Driver 2	0	15,000	0.00		
Driver 3	3	17,000	0.18		
Total	4	52,000		0.08	
Garage B					
Driver 4	5	30,000	0.17		
Driver 5	0	10,000	0.00		
Driver 6	2	15,000	0.13		
Driver 7	2	16,000	0.13		
Total	9	71,000		0.13	
Garage C					
Driver 8	1	10,000	0.10		
Driver 9	1	10,000	0.10		
Driver 10	1	10,000	0.10		
Total	3	30,000		0.10	
System Total	16	153,000			0.10

#### Performance Unit, Payout Formula, and Coverage/Structure

The first three characteristics are closely interrelated because decisions about each often affect the others and because the same considerations are important for making choices about them all. The choices available for each of the three are covered next, followed by an examination of the factors to consider when making the choices.

#### Performance Aggregation Unit

The "performance aggregation unit" (or performance unit) is the group of people whose performance is collectively measured. To give a few of the possibilities, performance can be summarized:

- separately for each individual
- by work group
- by department
- for the entire organization

For example, assume that Tiny Transit System uses the performance indicator "Chargeable Accidents per Thousand Vehicle Miles." The agency has 10 operators and 3 garages (Table 1).

If the performance aggregation unit is the individual, then there are 10 measures of performance, one for each person, ranging from 0.00 to 0.18 chargeable accidents per thousand vehicle miles. If the performance aggregation unit is the garage, then there are three measures of performance, one for each garage: 0.08, 0.10 and 0.13 chargeable accidents per thousand vehicle miles. If the performance aggregation unit is the orga-

nization, then there is one measure of performance, 0.10 accidents per thousand vehicle miles.

Many indicators can be aggregated for almost any desired performance unit, as for example the preceding accident data. Some indicators, however, can reasonably be used only for certain performance aggregation units. For example, the operating ratio typically would be used only when the performance aggregation unit is the entire organization, or a semiautonomous division. It would not be reasonable to try to calculate an individual operating ratio for each employee, or for each functional department (such as transportation, maintenance, and administration). Thus those making decisions about the performance aggregation units and performance indicators need to consider the fit between them.

#### Payout Formulas

When performance is aggregated for a group or larger unit, then the share of the reward that each individual within the unit should receive still must be determined. The method for allocating a unit's performance earnings among individuals in the unit is called the "payout formula." Some of the payout formula options include:

- Equal amount to each individual
- Equal amount per hour worked to each individual
- Equal percentage of earnings to each individual
- Amount based on the performance of each individual

The first three options do not consider individual performance, and pay all individuals in the unit "equally." The last payout formula option does base the individual's reward on his or her relative performance. Therefore it actually represents a two-stage performance aggregation. First, performance is measured for the large unit to determine total funds available. Second, it is measured for each individual to determine each person's share of the unit's total funds.

For example, assume that Tiny Transit System has decided that performance aggregation will be at the garage level, and that based on its unit accident rate of 0.08, Garage A has received \$900. If each individual receives an equal amount under the payout formula, then Drivers 1, 2, and 3 each receive \$300. If, however, the payout formula is to be based on individual performance, some measure of individual performance must be adopted. Assume that each driver is assigned performance points, and a driver's share of the unit pool is equal to his or her percentage of the unit's performance points. If Driver 1 receives 8 points, Driver 2 receives 10 points, and Driver 3 receives 2 points, with a total of  $8 + 10 + 2 = 20$  points allocated, then the rewards are:

$$\begin{aligned} \text{Driver 1} &= \$900 \times (8/20) = \$360 \\ \text{Driver 2} &= \$900 \times (10/20) = \$450 \\ \text{Driver 3} &= \$900 \times (2/20) = \$90 \end{aligned}$$

In the preceding case, the performance points probably would be based on some measure of safe driving but conceivably could be based on any desired type of individual performance.



### *Performance Plan Coverage/Structure*

Finally, there is the issue of how many different performance plans should be established (structure), and what occupations should be included in each (coverage). For example, everyone in the organization can be included under one plan; or all unionized employees can be included under one plan; or different performance plans can be established for each functional unit such as one for transportation, one for maintenance, and one for administration.

Moreover, employees can be covered simultaneously by several plans. For example, one might be covered by one plan involving short-run and another involving long-run results. Or, one might be covered by safety, attendance, and suggestion plans.

Also, when there are two or more plans they may all involve one performance unit level, or may involve several levels. For example, if an organization has three plans, with the performance aggregation unit being the individual for all three, then only one performance unit level is involved. On the other hand, workers might be covered by one plan based on individual attendance, and by another based on the system's operating ratio; this structure involves two performance unit levels (individual and organizational).

### *Considerations in Making Choices*

Thus, three interrelated decisions must be made: (a) What performance aggregation units should be chosen? (b) What payout formula should be used to apportion rewards to individuals within a unit? and (c) What should be the performance plan coverage/structure? Factors that should be considered include (2, 5, 8, 31, 32):

- Importance of individual performance
- Importance of cooperative performance
- Level of trust
- Information system capabilities
- Union attitudes

"Individual performance" involves each person working to affect his or her individual contribution and "cooperative performance" involves each person working with others to affect the performance unit's contribution. To illustrate with a basketball team, making baskets is an example of individual performance, and passing to others so they can shoot is an example of cooperative performance. Both activities affect the unit's performance, but each does so in a different way.

### *Improving Individual Performance*

Motivation for individual performance usually increases as the level of the performance aggregation unit decreases (2, 5). Thus the strongest encouragement for individual performance is aggregation at the individual level, and the weakest is aggregation at the organizational level. This is so because the smaller the unit the more impact an individual can have on a performance outcome. For example, one can influence his or her own accident rate much more than one can influence the whole

transportation department's accident rate. Thus it would be expected that the motivation to decrease accidents would usually be greater when performance is aggregated at the individual level.

In some cases, however, aggregation at the group level might provide maximum motivation. This situation would occur where some individuals in the group were not motivated by the additional money but perform because of social pressure put on them by other group members when the reward is based on group performance.

When the performance aggregation unit is larger than one person, motivation for individual performance is greater when the payout formula is based on an individual's performance within the group than when the payout formula calls for some form of equal payments to all group members (5). For example, assume that the total amount of money available for distribution is based on the aggregated accident rate of all operators. An individual's motivation to decrease accidents would be greater if one's share of the total depended on his or her own accident rate rather than if all operators received an equal share of the funds. The reason for this is that although an individual's impact on the aggregated indicator is the same in both cases, there is a stronger perceived relationship between behavior and reward when the payout formula is based on a person's own performance.

In summary, the motivation for individual performance is directly related to the amount of influence the individual feels he or she has over the performance outcome and the reward. The strongest motivation usually occurs when the performance aggregation unit is at the individual level; the next strongest motivation occurs when the aggregation unit is a group and payout is based on individual performance. The weakest motivation for individual performance would be present when the performance aggregation unit is the entire organization and the payout is equal to all individuals in the unit. Thus, as the importance of individual performance increases, the smaller should be the performance aggregation units and the more important it is that payout formulas are based on individual performance.

### *Improving Cooperation*

In general, an incentive pay plan will motivate workers in the same performance aggregation unit to cooperate with each other. Such cooperation can improve the unit's performance and, therefore, the rewards of all those within it (2, 5, 8). However, a worker's motivation to cooperate with others in the performance unit usually decreases as the performance unit level increases because his or her behavior makes less difference on the performance of larger units. Cooperative behavior within the performance aggregation unit also probably is higher when the payout formula is not based on individual performance.

Take for example a situation where one has the choice of aggregating performance for each individual, for each garage (there are several garages), or for the system as a whole. Also, the payout formula may be based on individual performance, or each person in the unit may get an equal share. Table 2 shows illustrative hypothetical impacts of an incentive pay plan on a worker's relative motivation for cooperative performance. Consider the case of Jane Doe, an employee in one of the garages.



TABLE 2  
RELATIVE MOTIVATION FOR COOPERATIVE  
PERFORMANCE CAUSED BY INCENTIVE PAY

Option	Performance Aggregation Unit	Payout Formula	Motivation <sup>a</sup> to Cooperate With Others in Same	
			Garage	System
1	Individual	-	1	1
2	Garage	Individual	4	1
3	Garage	Equal to all	5	1
4	System	Individual	2	2
5	System	Equal to all	3	3

<sup>a</sup>The higher the number, the higher the motivation to cooperate. The values are illustrative only.

If performance is aggregated for each worker (option 1), then Jane has little motivation from the incentive pay plan to cooperate with others. She is rewarded by the incentive pay plan only for her individual performance; therefore the garage or system performance does not matter to her. If the performance unit is by garage (options 2 and 3), then Jane is motivated to cooperate with others in her garage, but still is not motivated to cooperate with others outside of her garage. This is true because garage performance influences her reward, but system performance does not. If the performance unit is the entire system (options 4 and 5), then Jane is motivated to cooperate with everyone in the system, whether or not they are in her garage. Because she can have more impact on the smaller unit's results, Jane's motivation to cooperate is higher when the performance unit is the garage than when it is the system.

When the performance unit's payout formula is based on individual performance (options 2 and 4), then Jane's motivation to cooperate is lower than when everyone in her unit receives an equal amount (option 3 and 5), except in the unlikely case that the individual performance indicators are measures of cooperation. The lower cooperation numbers for individual performance payouts occur because cooperative behavior sometimes reduces individual performance; one would expect workers in the unit to be motivated to cooperate only as long as doing so did not hurt their own performance. If each person receives an equal share of the reward, then they would be motivated to cooperate to improve the unit's performance without regard to their own performance.

The performance plan coverage and structure can also affect the motivation to cooperate. If cooperation is important to obtain certain organizational objectives, then the coverage/structure usually should be such that the groups of people who need to cooperate are in the same rather than different plans. Consider, for example, roadcalls. Both mechanics and operators can influence the performance indicator of roadcalls per vehicle mile, mechanics by the quality of diagnostics and repairs, and operators by the quality of their reporting of potential problems. If the performance plan structure is by department, with maintenance and transportation under separate plans, then generally the operator performance plan would not include roadcalls as a performance measure. Thus they would have little motivation to cooperate with mechanics by complete reporting of potential problems. If, however, all mechanics and operators are in the

same plan, then roadcalls would be a reasonable performance indicator to use. Additionally, the motivation to cooperate to decrease roadcalls would certainly increase.

In summary, as cooperation becomes more important for obtaining certain organizational objectives, there is a strong need to include in the performance unit all those who should cooperate, and to use a payout formula that is not based on individual performance.

It is often the case that performance units, payout formulas, and plan coverage/structures that increase the motivation for cooperation are those that decrease the motivation for individual performance. Thus trade-offs sometimes have to be made, depending on the relative importance of cooperative and individual performance for the particular situation involved. Sometimes, happily, improving cooperation also improves the ability of individuals to perform, as in the preceding roadcall example. When this occurs, it is possible to increase the motivation for both individual and cooperative performance.

#### *The Role of Trust*

Also important is the degree of trust that the workers have in the performance unit, payout formula, and plan coverage/structure (2, 3, 5, 8, 16, 21, 32, 33, 48). If the level of trust in these elements is not reasonably high, the employees will perceive that there is no relationship between effort and reward, and hence the incentive pay plan will not change performance. For example, trust of supervisors often is necessary if one wishes to use aggregation levels and payout formulas based on individual performance, because individual performance often is judged or influenced by supervisors. Trust of the organization would be necessary for higher aggregation levels.

#### *The Role of the Information System*

The next factor influencing decisions about performance unit, payout formulas, and plan coverage/structures is the information system (5). As with the level of trust, the information system is really more of a constraint on what is possible than a factor to be optimized. The performance unit levels used must have good measures available; that is, the information system must be able to collect, store, and retrieve reliable values for the indicators. Likewise, payout formulas also must consider the ability of the information system to provide reliable data for any variables in the formula. In short, if the information system cannot produce valid and reliable indicators at a given aggregation level, or for a given payout formula, then these indicators should not be used, nor should a performance plan coverage/structure be established requiring their use. Both the reality and people's perception of reality are important here; not only must the information system truly be adequate to the task, but people must believe that it is adequate.

#### *The Influence of Union Attitudes*

The fifth and final factor is union attitudes (2, 5, 32, 33, 48, 50). In general, workers organized into unions have historically opposed incentive systems, especially those that pit workers

against one another. By and large, this is also true for the unions most commonly representing transit employees. However, larger performance aggregation units, fewer separate plans dividing union members, and payout formulas that are not based on individual performance are more likely to be willingly accepted because they offer the opportunity for all workers to benefit mutually. The willingness of workers and their unions to accept incentive plans will increase with their trust in management. Moreover, as the union-management relationship improves, worker and union trust in management is also likely to increase.

#### *Summary of Unit/Payout/Coverage/Structure Considerations*

Factors favoring lower aggregation levels, more separate plans, and individual-based payout formulas are cases where tasks are not interdependent, motivation for individual performance is most important, and worker and union trust in management is high. Higher aggregation levels, fewer separate plans, and nonindividual-based payout formulas often are better when tasks are interdependent, individual performance is less important than cooperation, and trust is lower. In all cases, the information system must be able to provide needed information.

When motivation for both individual performance and cooperation are important, and the other factors are favorable, performance can be aggregated on several levels and/or payouts made based on combination formula. For example, one might determine a performance bonus pool based on organizational performance, but distribute it to individuals based on their individual performance (51, 52). Or, one might pay out equal rewards to all individuals based on company performance and at the same time pay out additional rewards to each individual based on their own performance.

#### **Indicators of Performance**

The next characteristic to be considered is the indicator to be used to measure performance. Each situation is unique; therefore specific indicators must be chosen to fit the case at hand. However, general principles for choosing indicators can be developed. This section classifies indicators according to their comprehensiveness, illustrates them with measures used in transit in 1985, and discusses general principles for indicator choice.

#### *Indicator Comprehensiveness*

One helpful way of classifying indicators is according to how comprehensive they are (53, 54); that is, according to how many different things can influence their value. One such scheme categorizes indicators as shown in Table 3.

As the table shows, indicators measuring one specific behavior or attitude are the least comprehensive, followed by indicators measuring a set of specific behaviors and attitudes. Neither is much used in transit. The next most comprehensive indicators measure one specific result, such as number of accidents or number of absences. Broader still are indicators measuring a set of specific results, such as number of accidents, number of

**TABLE 3**  
**DEGREE OF INDICATOR COMPREHENSIVENESS**

Indicator Measures	Example	Performance Unit	Degree of Comprehensiveness
One specific behavior or attitude	Courtesy	Individual	Least Comprehensive
Set of specific behaviors or attitudes	Courtesy & motivation	Individual	
One specific result	Number of accidents	Individual Group/dept. System	
Set of specific results	Numbers of accidents & absences	Individual Group/dept. System	
Overall general individual performance	Best employee	Individual	
One second-level result	Labor costs	Group/dept. System	
Set of second-level results	Labor costs & productivity	Group/dept. System	
Net overall results	Net income or operating ratio	System	Most Comprehensive

absences, and number of disciplinary notices. The next two broadest indicators measure a second level result and a set of second-level results. Second level results include such things as fare revenue, labor costs, passenger trips, and physical productivity such as vehicle miles per employee. Finally, the most comprehensive indicators measure total system results, and include such things as net income, and the operating ratio (which is operating revenue divided by operating expenses). Whether or not one agrees with these particular operational definitions of comprehensiveness, the important point is that indicators can range from very specific to very comprehensive measures of performance.

#### *Illustrative Performance Indicators*

As of 1985, transit employee performance indicators are relatively few (55). The most common relate to attendance, with frequent indicators being:

- Number of absences
- Number of unexcused absences
- Number of miss-outs

All three of these indicators represent performance unit aggregation at the individual level, and indicator comprehensiveness at the one-specific-result level.

A second common type of indicator measures accidents, with frequent indicators being:

- Number of chargeable accidents

- Number of avoidable accidents
- Number of on-the-job injuries

The first two apply to vehicle operators, and the third is normally applied to non-operators. As with absences, all of these aggregate performance at the individual level and represent one specific result. At several agencies the indicator "accidents per 100,000 revenue miles" is used, which still represents one specific result, but the level of performance unit aggregation is the entire system.

Other than the preceding accident and attendance indicators, the only other frequently used indicator is "accepted suggestions," with each accepted suggestion meriting some reward. Beyond these, there are no widely used performance indicators in the transit industry. However, several other measures are used by a few agencies, all representing performance aggregation units at the system-wide level. They include:

- Vehicle miles per roadcall
- On-time performance percentage
- Passenger trips
- Passenger revenue
- Operating ratio

In terms of indicator comprehensiveness, the first two each involve one specific result, the next two each involve second-level results (although passenger revenue is more comprehensive than passenger trips), and the last involves total system results.

#### *Principles for Choosing Performance Indicators*

Some principles for choosing performance indicators include (2, 13, 20, 56-59):

- Indicator values should be related to employee performance.
  - Indicators should be easy to understand.
  - Indicators should be trusted.
  - Indicators should be congruent with information system and audit capabilities.
  - Indicators should relate to incentive pay plan goals and objectives, should be consistent with organizational strategy and goals, and should measure all key factors needed for success.

#### *Indicator Values Should Be Related to Employee Performance*

If an incentive is to motivate, the covered employees have to believe that their behavior can influence the performance indicator's value. Some indicators often are inappropriate because the involved employees have too little influence over them or because outside factors have an overwhelming influence. For example, mechanics have little influence over the system's chargeable accident rate, and fare revenue is so strongly influenced by outside factors that employee impact is negated much of the time.

Also, employee influence generally decreases as indicators become more comprehensive. For example, employee influence is greatest over specific results such as absenteeism rates, is less for second-level results such as employee hours per vehicle hour,

and is least for measures of total-system success such as the operating ratio.

A second aspect of the influence issue is that the indicator should be equally controllable by each covered employee. For example, accident potential and traffic congestion sometimes differ significantly for different routes; thus individual performance indicators, such as total accidents or percentage of on-time performance, may differ sharply for individuals identical in all ways except their routes. In such circumstances, the indicator may be perceived as unfair, and may cause a number of undesirable side effects. Thus where substantial differences in controllability exist, the measures usually should be adapted to equalize rewards for equal input performance, or should not be used.

In conclusion, the indicators considered should be those over which the covered employees can exercise a reasonable degree of influence. Obviously, the more influence the better if everything else is equal; but usually other considerations will dictate the use of an indicator that is not completely under the control of the employees in the plan. However, an indicator over which the employees perceive they have very limited influence should seldom be used, because it simply will not motivate any changes in behavior.

#### *Indicators Should Be Easy to Understand*

In attempts to measure all important behaviors, it is possible to develop extremely complex indicators. Consider for example the following index constructed to measure each individual's performance:

$$\text{Performance} = [(\text{accidents})/(\text{on-time \%}) + (\text{individual's misses})/(\text{all misses})] \times [(\text{system labor costs})/(\text{system fare revenues})]$$

This indicator may cover all bases, but it is unlikely that most people would know how to act to maximize their rating.

A similar problem can occur when comprehensive indicators are used. If, for example, performance is measured by total labor costs, it will be very difficult for employees to identify all of the behaviors that will affect this indicator. Thus if either complex indexes or comprehensive indicators are used, a substantial amount of training and communication will be necessary if performance is to be affected.

In conclusion, the more complex or comprehensive an indicator, the more difficult it is to identify behaviors affecting it, and hence the more important training and communication become. In those cases where everything else is equal, the simplest indicator available should be chosen.

#### *Indicators Should Be Trusted*

If covered employees do not have sufficient trust in the indicators chosen they will not modify their behavior, and therefore performance will not be affected. In general, the values of objective indicators are less subject to arbitrary determination than are the values of subjective indicators. Thus as employee trust in management decreases, performance indicators should be more objective (5). In other words, the higher the level of



trust in the evaluator, the higher the feasible level of subjectivity in the indicator used. Of course trust has to be reasonably high for any measure to work. But, where trust is very high, completely subjective measures could be used; where trust is somewhat lower, objective measures involving judgment (such as "excused absences") could be used; where trust is lower still, objective measures not involving judgment (such as "all absences regardless of reason") could be used. Even objective measures are subject to manipulation, of course; if one party or both believe that such manipulation might occur, then either a more trusted collection/storage/retrieval method or better auditing procedures need to be established.

#### *Indicators Should Consider Information and Audit Systems*

The capability of an agency's information system is a constraint on the measures that are possibilities for use. As discussed earlier, unless valid and reliable data on an indicator can be collected, stored, and retrieved at a reasonable cost, then that indicator should not be used. Not previously discussed are the audit needs. In some cases it may be possible for the employees or management to manipulate the data, and it sometimes may be beneficial to one group to do so. For example, assume that performance is to be partly measured by passenger trips, and that passengers are counted by the operators. It would be unfair to both the operators and management to assume that operators would never be tempted to inflate the ridership figures. Thus, in many such cases it would be preferable if frequent unanticipated audits were taken. In any case, it is important that both the employees and management are satisfied with the correctness of the data, and this may sometimes involve auditing.

#### *Indicators Should Relate to Strategy, Goals, and Objectives*

The indicators chosen should be ones that help to attain incentive pay plan goals and objectives. Thus if one wishes to lower the absenteeism rate, appropriate indicators might deal with the number of absences, however if one is most interested in decreasing misses, then the numbers of misses or the miss-out rate would be more appropriate measures to use.

The underlying motivation for the program should also be considered. The reason why one wishes to lower the absenteeism rate, for example, is often to decrease total labor costs by decreasing the cost of the extraboard. The performance indicator chosen still may relate to absenteeism. However, in evaluating the potential for success of the program, one would want to examine its expected effects on absenteeism, extraboard costs, and total labor costs.

Moreover, all intended, unintended, and net overall effects of a potential performance indicator should be considered when choosing indicators. For example, if one of the indicators measures on-time performance of buses, then bus drivers may be less willing to wait at transfer points for other buses that are late. If buses do not run very frequently, then the passengers on the late bus who needed to transfer will go from being a little late to being very late. Thus improvement of the average on-time performance of buses may drastically decrease the av-

erage on-time percentage of passengers, or perhaps make some passengers extremely late in order to make the other passengers slightly less late. Of course, these particular effects may or may not occur at a given agency. However, they illustrate the importance of ascertaining that the intended effects actually achieve the goals and objectives of the incentive pay plan, and that the net overall effects are consistent with and forward achievement of the system's overall goals and strategy. Also, when identifying the effects, one should consider the impact of the performance indicator on individual behavior, cooperative behavior, and behavior toward the transit organization.

Along the same line, it is vital that the indicator or indicators chosen consider all activities essential for success of the program (2, 5, 13, 20, 57, 59). As Beer et al. (2) argue,

Failure to include all activities that are important for effectiveness can lead to disfunction consequences. Because pay is an effective motivator, singling out one measure of performance for financial reward leads employees to give that measure disproportionate attention at the expense of other facets of the job that may also affect short- and long-term performance.

For example, Scott and Deadrick (16, p. 43) note that at transit agencies,

Vehicle maintenance workers may concentrate on getting the vehicles back on the road at the expense of quality work if their performance evaluation is based on the number of jobs completed rather than on the quality of work performed.

When "success" does require multiple results, one can sometimes include all key results in the performance measures in three different ways, which can be used independently or in combination.

- Use comprehensive indicators, and/or
- Use subjective indicators, and/or
- Use multiple indicators that are specific and objective.

Each of these options has strengths and weaknesses.

Generally, the more comprehensive the measure the more likely it is to include all activities needed for success. Therefore, a comprehensive indicator (such as total labor costs) is more likely to encompass all key activities than a specific indicator (such as number of accidents). But, as already discussed, the more comprehensive a measure the more other factors will affect it, thus decreasing the amount of employee control over it. Therefore, when comprehensive measures are used they must be broad enough to include all key behaviors while, at the same time, not being so broad that employees perceive that they have too little influence over them.

A second approach is to use subjective measures, especially broad subjective measures. For example, a supervisor could evaluate an employee as "outstanding," "above average," "average," and so on. These terms could refer to performance in general, or to performance in a particular area. In either case, all factors deemed important for success can be taken into consideration, without having to specify them in advance and without having to give them specific weighting. Thus the flexibility to meet the situation at hand is increased. On the other hand, the use of subjective measures makes the assumption that the evaluators are able to make valid and reliable judgments, and



that the employees trust the evaluations. Although these conditions may be met in some situations, it would appear that typically they are not (17). Thus increasingly subjective measures can be used to increase the generality of the performance indicator, but only to the point where evaluator reliability and validity (and employee trust in evaluator reliability and validity) are high enough to make the subjective indicator workable.

The third approach is to use multiple specific objective indicators. In some cases only one or two indicators can measure all the results essential for success. Where this is so, specific indicators are the best choice because they avoid the substantial problems of the other two choices. However, when the number of key results is large, or when the key results are difficult to specifically define, then the approach is not appropriate.

#### *Summary of Performance Indicator Considerations*

In conclusion, the indicators chosen must relate to the agency's strategy, goals, and objectives. But they also must be controllable, understandable, trusted, and fit with the agency's information system and audit capabilities. Unfortunately, there are no indicators that do best in all of these areas; generally the better an indicator accomplishes one of the goals, the worse it accomplishes another. Some indicators do poorly in all areas and these of course should be discarded. For the others, trade-offs need to be made, and the ones that optimize all of the aforementioned criteria for a given situation are those that should be chosen.

#### **Period of Performance**

The next incentive pay plan characteristic is the length of time for which a performance level must be maintained before a reward is earned, or in other words, the "period of performance." Choices vary from an hour to a year or longer.

Although it is most common to define one specific length of time for the period of performance, other options are sometimes appropriate. Thus, sometimes the performance period is variable. For example, if an employee may "sell" accrued sick leave over 20 days to the system, then the time it takes to accumulate the excess days will depend on how frequently the employee uses sick leave. Thus the time taken before any reward may be claimed will vary by employee.

Also, sometimes multiple performance periods are established. For example, a system might give \$100 for each month with no absences, an additional \$100 for each quarter with no absences, and an additional \$100 for a year with no absences.

The choice of performance periods is an important one, in that too short a period can result in too much focus on immediate goals to the detriment of long-term needs, whereas too long a period can cause the plan to be less motivating because of the remote connection between pay and performance (5). Thus, performance periods should be chosen with regard to the need for feedback, any natural cycles, and the length of time needed to achieve incentive plan objectives.

#### **Value, Frequency, and Duration of Reward**

The three final incentive pay plan characteristics, which are somewhat related, involve the value of the reward, the frequency

of its receipt, and its duration. The reward has to be large enough to make the effort of the improved behavior worth the benefit for the covered employee. This benefit/effort ratio depends both on the reward and on effort required to improve performance, and will vary from individual to individual. However, unless many of the workers believe that the potential reward is large enough to outweigh the added effort, then the incentive pay plan should be changed or dropped. Too low a payment will only convince the employees that the management is not willing to pay them what they are worth, and will not affect their behavior in a positive way. When overall job performance is being rewarded, Lawler (5) suggests that at least a three percent average change is needed for the typical person to notice the difference, although some individuals will end up getting a lot more and others a lot less. As Lawler (5, p. 89) summarizes:

Perhaps the best rule of thumb for organizations to operate with is that unless, on a regular basis, performance-based pay awards average at least 3 percent of base salary, then the program probably is not worth its administrative time.

Smaller amounts would be expected to motivate behavior for limited areas of performance, such as attendance. That is, the benefit/effort ratio will be high enough to motivate behavior with a smaller benefit because the effort is also smaller. But, in all cases, the increment must have a certain quantum of size to be "noticeable" and thereby be of motivational value. This size probably will vary by agency, but can be estimated for a given case, and revised based on trial and error. Also recall that the benefit/effort ratio does not have to be high enough to motivate all employees. It must be high enough, however, to result in enough employees changing behavior to make the benefit worth the cost for management.

The type of reward may be something other than money, although in this study only reward types with economic value are considered. Thus, paid time off and other rewards with clear economic value may be substituted for money when they are of more value to the employees. But the same principles apply: any incentive must be large enough to be noticeable, and must have an acceptable average benefit/effort ratio, to be of motivational value.

Related to the value issue is the frequency of payout. For example, given that a certain amount is to be paid for the year, it can be divided into equal payments for each pay period or for each quarter, or given in one annual payment, to note several possibilities. Three primary alternatives are possible. First, the reward for one performance period may be paid in one lump sum at the end of the period. For example, if a reward is paid for each month of perfect attendance, then the reward for each month would be paid just after the month was over. Second, the reward for one performance period may be spread over multiple payments. For example, if a reward is paid for a year of perfect attendance, it might be paid in four quarterly installments in the year following the performance period. Third, the rewards for multiple performance periods may be paid in one lump sum at the end of the last period. For example, if a reward is paid for each month of perfect attendance, then the total amount due for a year might be paid at the end of the year.

If the total value of the reward is relatively modest, then it usually makes sense to pay the money out at less frequent intervals, so that the difference will be more noticeable. Also,

if the reward is a temporary rather than a permanent increase in the base rate, paying the money out at some interval other than every pay period will make it less likely that workers will come to depend on it, and perhaps blame the organization for the adjustments they have to make when the extra money stops. Also, motivation may be improved if the reward is paid shortly after the period in which it is earned. Because the previous statements provide somewhat contradictory advice, it is necessary to decide what factors are the most relevant for the particular case at hand in designing the payout frequency.

The final issue is whether the reward should be a temporary bonus or added to the base salary; that is, will its duration be temporary or permanent? In general, bonuses tend to be more motivating in terms of both individual and cooperative behavior, but, not surprisingly, they are less acceptable to employees (5). From the employees' viewpoint, the stability of a base-rate increase makes base-rate increases more desirable. Thus, although bonuses generally are better motivators of behavior at a point in time, in some circumstances they may actually decrease the employees' overall satisfaction with the reward system. However, bonuses are often more acceptable to management, because they do not freeze high costs into the agreement regardless of future circumstances. Thus, in choosing between them, the strengths and weaknesses of bonuses versus base rate increases should be carefully examined in light of the particular situation at hand.

#### Putting Incentive Plan Choices into Categories

Table 4 categorizes some of the choices available for the various characteristics of incentive pay plans. Putting the choices for each characteristic into categories illustrates the general types of choices available for each characteristic. Only a few of the potential ways of categorizing choices are illustrated, but these are used later when looking at transit incentive plans.

#### STEP THREE: IMPLEMENT THE PLAN

The third step in effective incentive pay plan development is to implement the plan with appropriate introduction and administration structures and processes.

#### Key Concepts

- Well-planned communication efforts are helpful for all incentive pay plans, both during their introduction and over the term of their existence.
- Communication is especially important during the introduction of a new incentive pay plan.
- The more complex a plan becomes, the more important communication and training concerning it become.
- The need for union/worker participation is greater when a plan uses comprehensive performance indicators and when performance aggregation is at a high level.
- Administrative structures and processes should become more comprehensive as the need for union/worker participation increases.

TABLE 4

#### SELECTED CHOICES FOR INCENTIVE PAY PLAN CHARACTERISTICS

Characteristic	Choice Categories
Performance unit	Individual, or group/department, or organization
Payout formula	Individual performance, or "equal" to all in group
Plan structure	Number of plans. If more than one plan: all plans at one performance unit level, or plans at multiple performance unit levels
Plan coverage	Occupation(s) involved
Performance indicator comprehensiveness	From "one specific behavior or attitude," to "net overall results"
Performance indicator	Objective or subjective objectivity
Performance period	Length of time, or variable, or multiple periods
Reward value	Dollars
Reward type	Money, time, other economic, or combination
Reward frequency	One payment at end of each performance period, or multiple payments for one performance period, or one payment for multiple performance periods
Reward duration	Temporary, or permanent

#### Communication

If an incentive pay plan is to cause the desired modifications in behavior, then the covered workers must have a clear understanding of the plan. Beer et al. (2, pp. 148-149) state,

Pay systems can be made more effective by more and better communication about their intent. What behaviors and attitudes does management expect employees to exhibit. . . . Communication about intent can prevent employees from overfocusing on certain goals or behaviors to the exclusion of others, a frequent by-product of pay-for-performance systems.

As incentive pay plans become more complex, it becomes increasingly difficult for employees to determine what behaviors most influence performance results. Therefore, as incentive plans become more complex, the need for communication and training increases. In general, plans become more complex with increases in the number of plans, the level of the performance aggregation unit, the comprehensiveness or complexity of performance indicators, and the time span of performance. Thus clear communication and information are important for all incentive pay plans, but the amount needed should be less for simple incentives

(such as those rewarding individual improvements in attendance) than for incentives involving system-wide results.

Communication and training are most important when a new plan is first introduced. The introductory program should include communication that provides for (60, pp. 540–544):

- relieving anxiety promptly,
- identifying areas where modifications in individual and group behavior are needed, and
- giving positive reinforcement to desired behavior.

Ongoing communication during the life of a plan is also recommended, especially for complex incentive pay plans. The perceived relationship between performance and rewards can be more firmly established by communicating these results to the employees (2, 5, 16). In general, the only thing that often is not made public is the performance reward that each individual receives; but, the average and range of rewards should be communicated (5). Of course, if the data show that there is no relationship between performance and reward, then publicizing the rewards will make this evident to the employees. But if there is no relationship, the plan should be discontinued or modified.

#### Union and Employee Participation

Union and employee participation during the introduction and over the life of incentive pay plans often is desirable. During the introduction it often would seem better for the union and management to jointly communicate with and train employees about the plan. This is true for two reasons. First, the plan has been jointly agreed to by the parties, so in a sense both “own” it, and therefore both have the right and responsibility to explain it to the workers. Second, in unionized situations the employees typically trust their union representatives more than they trust management, therefore if union representatives are involved in introducing the plan, the employees are more likely to trust it, and subsequently be motivated by it.

If an incentive pay plan is based on individual performance, and uses performance measures that are objective but not comprehensive (as is true for many accident and attendance plans), then there is little need for employee or union participation after the plan has been introduced. One exception is when the measures are objective but do involve some judgment, such as “excused” absences or “avoidable” accidents. In these cases, some appeal procedure through a joint union-management process is needed. The process could be to use the normal grievance procedure, but a special appeal procedure could be established.

The degree of employee participation should grow with increases in the performance aggregation unit level and the comprehensiveness of the performance indicators. Particularly for plans based on general results for the entire organization, such as cost-saving and profit-sharing plans, many of the ideas should come from the employees. Thus the success of such plans is directly related to employee involvement and participation. This also implies that such plans require an integrative attitudinal relationship between the management and the union and employees (16, 21, 45, 46, 50).

#### Administrative Structure and Processes

The presence and scope of permanent organizational structures and processes to administer an incentive pay plan should vary based on the plan’s characteristics. In general, the greater the amount of ongoing participation from workers that is required for plan success, the more important and comprehensive should be the administrative structure, and the more important is an integrative bargaining relationship. Thus plans based on objective indicators for individual performance, such as most accident plans, normally need only to provide for the periodic reporting of results. Plans based on indicators requiring judgment would need to establish a permanent structure and process for appeals. Plans requiring ongoing intensive employee involvement for maximum success should establish detailed and specific procedures and group structures for ensuring that such involvement continues. The exact structures and processes would depend on the situation, but possibilities include such things as task forces, quality circles, and labor-management committees (for a discussion of how these can be used in a transit environment, see Refs. 6, 42–44). All of these methods require an integrative bargaining relationship to work effectively.

Finally, incentive pay plan choices are limited to those that can be supported by the organization’s information and audit systems. Thus the administrative structure should provide for ongoing collection, storage, retrieval, and verification of the information needed by the plan (61).

#### STEP FOUR: EVALUATE THE EFFORT, AND MAKE NEEDED REVISIONS

The final step in developing effective incentive pay plans is to evaluate the effort and make the necessary revisions.

#### Key Concepts

- Because of the many uncertainties involved, incentive plans may not accomplish their objectives, or employees may behave in undesirable ways. Also, over time, even initially successful plans may become ineffective.
- Therefore, procedures for ongoing periodic evaluation should be established, both during the life of the labor agreement and at its renewal.
- If the plan was designed with union and employee cooperation, then they should also be involved in the evaluation process.
- The evaluation should determine whether the plan has accomplished its objectives and has assisted, or at least not hurt, the accomplishment of broader human resource and system goals. The evaluation also should consider the contributions of the plan’s goals and objectives, design process, characteristics, and implementation to its success or failure.

#### Evaluation Procedures

Because there are so many uncertainties involved, a newly installed incentive pay plan may not accomplish its intended objectives. Employees may trust the plan less than anticipated



or they may believe that the added effort is not worth the benefit, and therefore not exhibit the desired behaviors. Even when employees behave as anticipated, unforeseen managerial behavior or organizational constraints may result in the system not being able to profit from employee actions. Also, unexpected changes in the environment may occur, and these may change the costs or benefits of a plan. In short, when new plans are introduced, there usually will be unanticipated effects, and anticipated effects often will be at different levels than expected. Even when a new plan works basically as intended, it may need fine-tuning.

Over time, even incentive plans that were initially successful often become unsuccessful. Sometimes this occurs because most of the possible improvements have been made. Other times plans degenerate simply because they have been around too long (9, 32, 33). Finally, there may have been changes in the environment since the plan was introduced, or changes in the organizational strategy that make the old plan inappropriate.

Therefore, procedures for the periodic and ongoing evaluation of incentive pay plans, and indeed of the whole reward system, should be established. Such evaluations should occur both during the life of the labor agreement, and when planning for the agreement's renegotiation.

Given that employee support is essential for the success of incentive plans, it would seem wise to include union participation in the evaluation process (32). This is true especially for plans requiring substantial cooperation, unanticipated behaviors, and an integrative relationship. Although the timing of revisions in a plan may be restricted by the labor agreement, it may be possible to allow for changes during the term of the agreement when these are mutually acceptable.

Criteria to use for the evaluations should of course include the goals and objectives established for the plan. But further, the evaluation should consider the role of each step in the process of plan development. When the plan has not been 100 percent successful, each step in the plan's development should be evaluated to determine what needs to be done to improve the outcomes. Thus goals and objectives, the design process, the plan characteristics, and the implementation process all should be reexamined. Also, the effects of the plan on the system's human resource and system goals should be considered. Relevant here is the discussion in Chapter 1 concerning employee behavior, the various types of effects of incentive pay plans, and criteria for plan evaluation.

#### **FITTING THE PIECES TOGETHER TO OBTAIN CONGRUENCE**

For an incentive pay plan to be effective all of its characteristics and processes must fit with each other, as well as with other parts of the organization. That is, all organizational systems must be congruent. This section presents some of the more important fits that should be achieved.

#### **Key Concepts**

- To be effective, incentive pay plans must be congruent with a variety of other factors. The incentive pay plan characteristics, design process, and implementation effort each must be inter-

nally congruent, and also must fit with each other. The incentive pay plan must fit with the rest of the reward system, with other formal organizational characteristics, with the organizational climate, with the external environment, and with worker and union characteristics.

- If one general statement can be made about congruence, it would be that there is no one best way. The critical thing is that the elements chosen must fit well with each other. In some cases no incentive pay plan would be congruent with other organizational elements; then no incentive pay plan should be adopted unless the other elements are changed.

#### **Congruence**

There has been a great deal written about congruence, much of it relevant to the case of incentive pay plans. (See, for example, Refs. 2, 5, 62-74). Some of these authors have applied the knowledge directly to compensation systems (2, 5, 16). Although there has been a good deal of theoretical development concerning the congruence issue, there has been little empirical research concerning it (5, 63). However, a number of sound, normative statements can be made.

Many of the specific fits that are necessary have been discussed at various points earlier in this chapter. Because congruence is critical for success, however, the more general fits that are needed are brought together and summarized in this section. The general fit issues include congruence among:

- The characteristics of the incentive pay plan
- The plan characteristics, design process, and implementation effort
- The plan and the formal organization characteristics
- The plan and the organizational climate
- The plan, and worker and union characteristics

#### **Fit among the Characteristics of an Incentive Pay Plan**

Most of the critical fits between the various characteristics of incentive pay plans are discussed earlier in this chapter. Here, therefore, the combinations of characteristics often found in merit pay plans, suggestion plans, cost savings plans, and individual bonus plans are examined. Identification of commonly found sets of elements may shed light on some of the combinations that have seemed to fit well together in practice. (For an excellent discussion of each of these plans, including objectives, descriptions, research, and strengths and weaknesses, see Ref. 21.)

The incentive pay plan characteristics most commonly found in each type of plan, for nonmanagerial employees, have been identified in Table 5, although frequent variations occur. Merit pay, suggestion systems, and individual bonuses all center on improving/rewarding individual performance. Thus the performance unit is usually the individual, and payout formulas are based on individual performance. Being individual based means that there usually have to be more plans to account for differences in occupations. Indeed, in merit plans, which generally do not include unionized workers, there may even be differences in the criteria applied to each person. Performance



TABLE 5  
COMPARISON OF THE CHARACTERISTICS OF COMMON INCENTIVE PAY PLANS

Characteristics	Merit Pay	Suggestion	Individual Bonus	Cost Savings
Performance unit	Individual	Individual	Individual	Organization
Payout formula	Individual performance	Individual performance	Individual performance	"Equal" shares
Structure/coverage	Different by occupation	All workers	Different by occupation	All workers
Indicator comprehensiveness	Behavior/specific results	2nd-level results	Specific results	2nd-level results
Indicator objectivity	Subjective	Objective	Varies	Objective
Performance period	Year	Variable	Day to year	Year
Reward value	Varies	Percent of savings	Amount per "unit"	Percent of savings
Reward type	Money	Money	Money	Money
Reward frequency	Multiple payments for one performance period	One payment per performance	One payment per performance period	One payment per performance period
Reward duration	Permanent	Temporary	Temporary	Temporary

time period is more a reflection on the natural cycles of the performance indicators being used rather than differences by type of plan. Reward size is usually related to the performance indicator, so the better the performance indicator, the higher the reward. Although it is not universal, merit pay tends to be permanent, with an equal amount being added to each paycheck. The other three plans usually are bonuses and are given in one lump sum. Although these sets of elements seem to have fit well together in practice, they do not represent the only or even necessarily the best fits. Other combinations might be much more effective in a specific situation.

#### Fit of Plan Characteristics, Design Process, and Implementation

These congruences include the fit between the plan's characteristics, its design process, and its implementation. The necessary congruences already have been spelled out in some detail earlier in the chapter, so here again the common sets are summarized by type of incentive plan.

To be successful, cost-sharing plans need high employee participation and an integrative bargaining relationship during their design, implementation, and evaluation processes. High quantity and quality levels of communication are critical, and relatively elaborate administrative structures and processes must be established.

For most individual bonus plans, suggestion systems, and nonmanagerial merit plans, it has been typical to have low levels of employee participation during the design, implementation, and evaluation processes, little communication, a distributive bargaining relationship, and few administrative structures (other than a detailed information system so that individual perform-

ances can be identified). Although this set of characteristics is internally congruent, it is not necessarily optimal. However, suggestion systems and individual bonuses often succeed with this set, while it is unlikely that a cost-savings program could do so.

#### Fit between a Plan and Formal Organization Characteristics

There are many aspects of an organization's structures and processes with which reward systems should be congruent (5). Those organizational characteristics most relevant for incentive pay plans in transit systems include:

- Master strategy and goals
- Size
- Task interdependencies and controllability
- Information system
- Reward system

Most importantly, incentive pay plans should be congruent with the organization's master strategy and goals. Ideally, incentive pay plans should help the organization accomplish its strategy, but at a minimum they should not conflict with it.

The larger an organization's size, the more important becomes performance-based pay, because as the organization grows "the connection between individual performance and organizational success becomes remote and organizations tend to lose this as a motivator" (5, p. 16). At the same time, certain types of incentive pay plans, such as organization-wide cost savings plans, often become less effective once an organization grows beyond 500 employees, because individuals can have little impact

on the total results. Therefore, organizations with more than 500 employees, who wish to use some form of gain-sharing plan, often should break the organization into performance aggregation units of not more than 500 people each (5). Some of the possibilities for transit include divisions, terminals, and garages (16), to name just a few. (Note, however, that under appropriate conditions, units of more than 500 people can be successful, as discussed in the case study of Houston in Chapter 4.)

Task interdependencies caused by an organization's strategy, structure, or environment should influence the incentive pay plan characteristics chosen. As tasks become increasingly interdependent, the importance of cooperative behavior among those with interdependent tasks also increases (5, 16). Thus, incentive pay plan structure and processes should be congruent with the organization's need for cooperation that results from task interdependence.

The extent to which task outcomes are under the control of the involved workers is also important, because they must be able to influence the outcome if the incentive pay plan is to work. Thus, if the characteristics of the organization (or environment) make certain outcomes beyond the control of the workers, then the essential congruence between those particular outcomes and any incentive pay plan is absent.

The various ways that incentive pay plan structure and process must be congruent with the organization's information and audit systems has been indicated throughout the chapter. Indeed, congruence between an incentive pay plan and these systems is critical for the plan's success (75). As Lawler (5, p. 167) states:

Performance-based pay requires a good performance measurement system. The information and control system can provide this. If the information system does not, then the possibility of having an effective performance-based pay system may be close to zero.

Finally, incentive pay plans should be congruent with other parts of the reward system (5, 16). This does not mean that all parts of the reward system need to address the same employee needs; some parts may be concerned with providing a stable base and others with rewarding above-average performance. However, the components of the reward system should be congruent with each other in a way that allows the system as a whole to provide the desired mix and proportions of compensation types.

#### **Fit between a Plan and Informal Arrangements and Culture**

Although there are many needed congruences here, two of the most important ones deal with the organization's climate and its managerial style. The importance of congruence between climate and an incentive pay plan is well summarized by Lawler (5, p. 177):

Much of what can and should be done in the area of pay administration is determined by the climate of the organization. Climates that are characterized by trust, openness, and a concern for people simply call for different pay practices than do those that are characterized by a low level of trust, secrecy, and little concern for people.

Likewise, the managerial style of the organization must be congruent with the incentive pay plan choice (2, 5, 16). Organizations with traditional authoritarian managements should have very different types of incentive pay plans than organizations with a participative approach. Indeed, one reason that incentive pay plans requiring employee participation and an integrative relationship with the union fail is because they are installed in organizations that have an autocratic style of management. It is possible either to choose an incentive pay plan to fit the current management style, or to change the management style to fit a desired plan (5). However, effectively changing a management style requires a very substantial commitment of time and resources, and should not be undertaken lightly. Finally, it is important to note that neither a participative nor an authoritarian style is always the best. The most effective management style depends on a variety of other factors, including the characteristics of the workers and their unions.

#### **Fit of Incentive Pay Plans with Worker and Union Characteristics**

If the incentive pay plan is not congruent with the individuals who work for an organization, it will not motivate them and therefore will fail. Specifically, plans will succeed only if enough of the individual workers are motivated by economic rewards. This means that if incentive pay is to work, then the plan must be congruent with employee characteristics and needs.

Moreover, the workers and their unions must be willing to accept the concept of incentive payments, as well as the specific plan proposed. Although wholehearted acceptance is not necessary for success, wholehearted rejection will normally lead to failure, even if management is able to force the plan into the labor agreement. The willingness of workers and their unions to accept incentive plans will increase with their trust in management, and as outside influences make incentive pay plans the best way to get more for the workers. Thus the attitude of a union toward an incentive pay plan will become more positive as the overall union-management relationship improves. An example of an outside factor that increased the willingness of unions to adopt incentives was the wage/price freeze in the late 1960s. As a result of this freeze, one good way to get wage increases was to show productivity improvements. Thus some unions were willing to negotiate incentive pay plans because this was the best way to get wage increases.

Finally, participative approaches to incentive pay plan design and administration will work only if the individual workers and the unions representing them favor responsible participation. In determining this, it is usually helpful to consider both the local and national union views. It takes two sides to participate, and if either the employees or the management is unwilling, then incentive pay plans requiring participation will fail. Likewise, it takes two sides to develop an integrative relationship. Therefore if either the union or the management is unwilling to behave in an integrative fashion, then incentive pay plans requiring such a relationship will fail. When a local union refuses to agree to an integrative relationship, it may be because of the attitudes of its current leaders, because membership factions vying for power prevent anyone from agreeing to better relationships with management, or because the membership does not want participation. However, there is some research that indicates that over

the long run it is primarily management that determines the type of union-management relationship present (76–78). Therefore, managers would be unwise to conclude that they cannot change a relationship if they really desire to do so. In most cases, however, such changes take time. Moving from a distributive to an integrative relationship usually must occur with small incremental changes, with each small change building on the last one.

#### Where the Right Plan Will Fit, and Where No Plan Will Fit

The right incentive pay plan will succeed where (5, p. 100):

- Important rewards can be given
- Rewards can be varied depending on performance
- Performance can be validly and inclusively measured
- Information can be provided that makes clear how rewards are given
- Trust is high
- Employees accept the performance-based pay system

Conditions under which incentive pay plans should not be used because they “will not contribute to both organizational effectiveness and a high quality of work life” (8, p. 199) include organizations where the following conditions exist:

- The trust level is low,
- Performance must be measured subjectively,
- Inclusive measures of performance cannot be developed, and
- The organization is large and performance cannot be measured at the individual or group level.

Lawler summarizes the consequences of using incentive pay plans in inappropriate situations (5, p. 100):

Putting performance based pay in situations where conditions are not right may only make the situation worse. It can contribute to superior-subordinate mistrust and the breakdown of communication. It can lead to subordinates presenting false data both about their past performance and what they can do. It can

lead to individuals performing in ways that are dysfunctional for the overall goals of the organization. It can contribute to cynicism on the part of employees about how fair the organization is in dealing with them and how concerned it is for them. In short, it can cost the organization a considerable amount of money for which little positive effect is gotten in return.

It should be noted again, however, that although certain conditions must be present for incentive pay plan success, it is sometimes possible to change the conditions to make them congruent with a desired plan. Indeed, the process of designing and installing performance based pay can sometimes be a valuable part of an effort to change an organization's culture or other characteristics (5).

#### CHAPTER CONCLUSIONS

Extensive summaries of key concepts have been provided at the beginning of each section of this chapter. Here, therefore, the following applicable quotations are offered (79):

- For every human problem, there is a neat, plain solution—and it is always wrong. (H.L. Mencken)
- I have yet to see any problem, however complicated, which, when you looked at it in the right way, did not become still more complicated. (Poul Anderson)
- There is a solution to every problem; the only difficulty is finding it. (Evvie Nef)
- Nothing will be attempted if all possible objections must first be overcome. (Posted in the U.S. Department of Labor)
- There comes a time when one must stop suggesting and evaluating new solutions, and get on with the job of analyzing and finally implementing one pretty good solution. (Robert Machol)

In short, establishing successful incentive pay plans is not a simple task. To have a plan adopted and implemented, designers must make decisions about a multitude of subjects, must ascertain that the chosen set of decisions fit well together, and must accomplish these tasks while working with others who always are less reasonable than themselves. However, establishing successful incentive pay plans is not an impossible task either. It is quite possible, with a reasonable amount of knowledge and effort, to achieve effective incentive plans.



## CHAPTER THREE

## INCENTIVE PAY IN THE TRANSIT INDUSTRY

This chapter examines the use of incentive pay plans in the urban transit industry, based on published research and surveys. Special attention is given to differences in the plans by the union involved and by agency size. The chapter:

- Identifies characteristics of agencies with and without incentive pay plans,
  - Identifies selected characteristics of transit incentives, including the subjects involved, occupations covered, average life, and number of plans per agency,
  - Provides examples of transit incentives,
  - Identifies the methods used to design, implement, and evaluate transit incentives, for a small number of cases,
  - Examines evaluations of transit incentive plans, and
  - Discusses the reasons advanced for success or failure of transit incentives.

Carefully note that many transit incentive pay plans involve rewards other than money, most have relatively low reward levels, and some have probabilities of earning rewards that are small. Thus, when considering survey findings concerning the prevalence of incentive pay in the transit industry, it is important to remember that most of the reported plans do not represent major comprehensive incentive pay efforts. The typical transit incentive may be an effective method for accomplishing its objectives, but it usually represents a very minor part of the property's compensation package.

## KEY FINDINGS OF THE CHAPTER

- In 1985, about two-thirds of U.S. transit agencies with 25 or more vehicles had incentive pay plans, although most plans had low reward levels and accounted for a small proportion of total compensation.
  - None of the very small agencies had incentive pay plans, about half of the medium-sized agencies had plans, and almost all of the large agencies had plans.
  - Incentive pay plans were equally prevalent in all geographic regions, in unionized and nonunion agencies, and among the various unions.
    - Operators were covered by 91 percent of the plans, and maintenance workers by 54 percent; half of the plans covered multiple occupations.
    - Plans were more likely to cover only one occupation at the larger agencies, at agencies organized by the ATU or by multiple unions, and for plans involving accidents, safety, and roadeos.

- Plans were more likely to cover multiple occupations at the smaller agencies, at agencies organized by single unions other than the ATU, and for plans involving attendance and gain sharing.

- The average life of a plan is about six years, although changes were sometimes made in plans during this period.

- About half of the agencies had more than one incentive plan; medium-sized agencies were the most likely size group to have more than one plan, as were agencies organized by the TWU or multiple unions.

- Incentive subjects, in rank order of prevalence, were attendance, roadeos, accidents and safety, "best" employee, suggestion systems, gain sharing, and merit plans.

- Smaller agencies favored attendance and gain-sharing plans, while larger agencies favored roadeo and best worker plans. There were no significant differences in subjects by the union involved.

- Plan characteristics tended to be relatively uniform for each subject, but tended to differ substantially among subjects.

- There has been relatively little published about methods used to design, implement, and evaluate incentive plans.

- Formal evaluations of incentive plans have been rare, and rigorous evaluations have been almost nonexistent. However, based on the evidence available, and on the reasons advanced for success and failure of transit incentives, incentive plans can succeed in transit when the conditions discussed in Chapters 1 and 2 are met.

- Some types of incentive plans common in other industries are often inappropriate in transit, but transit is designing innovative new incentives uniquely appropriate for its organizations and environment.

## PUBLISHED LITERATURE AND SURVEYS

Because pay incentives are relatively new for most transit systems, there has been little published research about them. Clark et al. (6, 42) examine recognition and pay incentives as one of several quality of work life techniques, and present the results of their survey of transit agencies. Jennings et al. (43, 44) provide valuable examples of pay incentive development and use in their case studies of union-management cooperation efforts. Scott and Deadrick (16, 21) discuss a variety of types of pay incentives, deal briefly with recognition incentives, and present the results of their survey of transit agencies.

The American Public Transit Association (APTA) conducts ongoing surveys of its members about a variety of labor relations



matters, including pay incentives. The characteristics of these three surveys are summarized in Table 6 (55, 80).

Because the focus of this study is on pay incentives for unionized workers, the survey by Clark et al. (6, 42) (which does not distinguish between pay and recognition incentives), and the survey by Scott and Deadrick (16, 21) (which includes non-unionized and managerial workers), usually do not provide the information of interest here. Thus they are used to supplement the general trends found in the APTA survey (55, 80), but are not cited at length.

#### PREVALENCE OF INCENTIVE PAY IN THE TRANSIT INDUSTRY

By the early 1980s, performance incentives had become common, but certainly not universal, in the transit industry. Thus 61 percent of the 222 respondents to Scott and Deadrick's early 1984 survey reported at least one incentive (16), as did 75 percent of the 152 respondents to the survey in late 1982 by Clark et al. (6, 42). In both cases, however, these figures include both pay and recognition incentives. Of the 259 agencies participating in the 1985 APTA surveys, 63 percent reported pay incentive plans. Thus, by the mid-1980s it would probably be fair to say that about two-thirds of U.S. transit agencies with 25 or more vehicles had some form of incentive pay plan, although most of the plans had low reward levels and accounted for a small proportion of total compensation.

#### CHARACTERISTICS OF SYSTEMS WITH AND WITHOUT INCENTIVE PLANS

##### Presence of Incentive Plans by Agency Size

The relationship between number of employees (81) and presence of pay incentive plans (55) can be seen in Table 7.<sup>1</sup> As the table shows, there are three significantly different groups:

- very small agencies (less than 25 employees or approximately 13 vehicles) seldom if ever have incentive pay plans;
- medium-sized agencies (25–299 employees or approximately 13–150 vehicles) have incentive pay plans about half of

<sup>1</sup> The number of employees instead of vehicles is used because employment is a more valid and reliable proxy for size, especially in studies dealing with human resource systems. A rough rule of thumb is to assume that the typical system has about two employees for every vehicle.

For all tables using employment as the independent variable, first the employment categories 25–49, 50–99, 100–299, 300–999, 1000–2499, 2500 up, and where relevant 1–24, were used in tests for statistical significance. When the full set of categories showed significant differences, but some of the adjacent categories were not significantly different from each other, then those adjacent categories were combined. The chi-square and significance statistics presented at the bottom of a table are for the categories actually listed in the table.

TABLE 6  
COMPARISON OF THREE SURVEYS CONCERNING INCENTIVES FOR TRANSIT EMPLOYEES

Item	Survey <sup>a</sup>		
	Clark, Warren, and Greisinger (6, 42)	Scott and Deadrick (16, 21)	APTA (55)
Reward Type	Incentives in general. Did not distinguish between pay and recognition incentives.	Primarily about pay incentives, but also asked about one incentive type, labeled "Non-cash Incentive," which was defined to include both non-monetary economic and recognition rewards.	Pay incentives only
Size of Agency	25 or more vehicles	Less than 25 vehicles	25 or more vehicles
Unionization	Less than 10% non-union. Responses do not distinguish between union and non-union.	40% non-union. Responses do not distinguish between union and non-union.	Less than 6% non-union
Occupations Covered	Non-management only	All employees. Results do not distinguish between management and non-management	Non-management only
Sample Size/ Response Rate	152 agencies (40% of agencies surveyed)	222 agencies (26% of agencies surveyed)	259 agencies (75% of agencies surveyed)

<sup>a</sup>Data for Clark, Warren, and Greisinger and for Scott and Deadrick are from their tables. The APTA data were extracted from descriptions of pay incentive plans. Where relevant, APTA survey data were correlated with number of employees from reference 80. No statistical tests were reported in any of the three surveys. Statistical data in tables and text were calculated from information reported in the surveys.

TABLE 7  
PRESENCE OF INCENTIVE PAY PLANS BY TRANSIT  
AGENCY SIZE (1985 APTA DATA)

Total Employment	Number of Agencies	Percentage of Agencies With Plans
Small 1-24	9	0
Medium 25-49	29	59
50-99	44	59
100-299	56	59
Large 300-999	36	92
1000-2499	16	88
2500 up	12	100
TOTAL	202	67

[Chi-square = 40.8; statistical significance = .00. There are no statistically significant differences among the employment levels within each of the three main groups; however, the three main groups differ from each other with a statistical significance of .0001.]

the time, and there is little variation by agency size within this group;

- large agencies (300 or more employees or approximately 150 or more vehicles) almost always have incentive pay plans, and there is no significant variation by agency size within this group.

Clark et al. (6, 42) found a similar pattern in their survey. Their tabulations showed pay or recognition incentives present at: 69 percent of the agencies with 100 or fewer buses, 88 percent of the agencies with 101 to 500 buses, and 85 percent with 501 or more buses. Although they did not test for statistical significance, the standard chi-square test shows that there is no statistically significant difference between their two larger size categories. If, however, the systems are grouped into agencies with 100 or fewer buses and agencies with 101 or more buses, there is a statistically significant difference between these two categories (at the 0.015 significance level). Thus, the Clark et al. (6, 42) data indicate that agencies with more than 100 buses are more likely to have incentive plans than those with 100 buses or fewer, which is consistent with the APTA data in Table 7.

The relationship between the presence of incentive plans and agency size is what would be expected based on the literature survey in Chapter 2, which indicates that as organizations grow, the connection between individual performance and organization success becomes so remote that it is lost as a motivator. Thus alternative motivators, such as performance incentives of both the pay and the recognition variety, become increasingly important as organizations become larger. The smallest organizations may not have resources to permit incentive programs,

as Scott and Deadrick (16, 21) point out. But, more importantly, the smallest agencies generally will be in less need of incentives, because of the closer connection between individual performance and organization success. The largest organizations will of course be those most in need of incentive programs, and, at least in transit, they are also those most likely to have them.

Although incentives are more common at larger agencies as of mid-1985, in the future they may become increasingly common at systems of all sizes. This is so because labor relations innovations in the transit industry have frequently started at the larger agencies and spread to the smaller agencies over time. Thus another survey taken several years hence may no longer show the current relationship between presence of incentive plans and size.

#### Presence of Incentive Plans by Region

Although one might expect incentive plans to be more common in certain regions of the country, this was not so as of 1985, as Table 8 shows. Although there is some variation in the proportion of agencies in each region with incentive pay plans, the differences are not statistically significant, so the variations observed easily could have occurred by chance.

#### Presence of Incentives and Unionization

As with regions of the country, the probability that an agency would have incentives did not vary by whether or not the agency was unionized, as can be seen in Table 9. Although sample agencies with unions appear to be slightly more likely to have incentive pay plans than those without unions, the difference is not statistically significant. Thus it appears that unionization status does not relate to the presence or absence of incentive pay plans.

TABLE 8  
PRESENCE OF INCENTIVE PAY PLANS BY REGION (1985  
APTA DATA)

Region	Number of Agencies	Percentage of Agencies With Plans
New England	14	64
Middle Atlantic	37	59
East North Central	49	67
West North Central	20	55
South Atlantic	39	67
East South Central	12	50
West South Central	17	65
Mountain	10	70
Pacific	51	63
Canada	10	60
TOTAL	259	63

[Chi-square = 2.5; statistical significance = .98]

TABLE 9  
PRESENCE OF INCENTIVE PAY PLANS BY UNIONIZATION STATUS (1985 APTA DATA)

Union Status	Number of Agencies	Percentage of Agencies With Plans
No Unions Present	15	60
One or More Unions	231	63
TOTAL	246	63

[Chi-square = 0.1; statistical significance = .80]

Likewise, for the unionized agencies, the particular union involved does not matter (Table 10). Although there is some variation in the proportion of incentive pay plans, the differences are not statistically significant, so the variations observed could have occurred by chance. Thus no particular unions were any more or less likely to be associated with pay incentives.

### Summary

In comparing transit agencies with and without plans, a number of points have been made:

- Larger systems are more likely to have incentives than smaller systems, as of the mid-1980s.
- There is no significant difference in the prevalence of incentive pay plans by geographic region as of 1985.
- There is no significant difference in the prevalence of incentive pay plans between unionized and nonunionized agencies as of 1985.
- There is no significant difference in the prevalence of incentive pay plans among the various unions as of 1985.

TABLE 10  
PRESENCE OF INCENTIVE PAY PLANS BY UNION (1985 APTA DATA)

Union	Number of Agencies	Percentage of Agencies With Plans
Amalgamated Transit Union	128	63
Transport Workers Union	13	85
Teamsters	21	71
United Transportation Union	5	80
Other National Unions	17	59
Independent Unions	15	53
Multiple Unions	32	56
TOTAL	231	63

[Chi-square = 5.3; statistical significance = .62]

TABLE 11  
INCENTIVE PAY PLANS BY OCCUPATIONS COVERED (1985 APTA DATA), UNIONIZED TRANSIT AGENCIES ONLY

Occupations Covered by Plan	Percentage of Plans
Operators & Maintenance	47
Operators Only	44
Maintenance Only	7
Other Groups & Combinations	2
TOTAL (sample size = 279)	100

### SELECTED CHARACTERISTICS OF INCENTIVE PAY PLANS

For unionized transit agencies that have one or more pay incentive plans, some of the characteristics of the plans are discussed next. These include: the occupations covered, the average life of an incentive pay plan, the average number of incentive pay plans at an agency, and the subjects involved.

#### Occupational Coverage

The occupations covered by incentives vary considerably. Thus, Scott and Deadrick's sample of 291 union and nonunion incentive plans shows that operators were covered in 75 percent of the plans, maintenance in 61 percent, office workers in 57 percent, supervisors in 57 percent, and managers in 40 percent (16). Scott and Deadrick did not indicate what proportion of the plans covered more than one occupational group.

The sample by Clark et al. (6) of 115 agencies that had pay or recognition incentive plans shows that operators were covered at every site, mechanics at 50 percent of the sites, and all employees at 20 percent; clerical workers were mentioned specifically only four times and supervisors only five.

Considering only pay incentives only for unionized workers, the 1985 APTA sample shows the pattern presented in Table 11. As the table shows, operators were involved in 91 percent of the plans and maintenance workers in 54 percent. Further, 51 percent of the plans involved only a single occupation, while 49 percent covered two or more occupational groups. Because only bargaining unit occupations at unionized agencies are included, there are no supervisory or management plans and few clerical plans.

Whether a plan involved only one group or covered several occupations was related to the size of the agency (Table 12). The larger the agency, the less likely were its plans to be applied to multiple occupations. Thus only 26 percent of the plans at the largest agencies applied to multiple occupations, while 78 percent of the plans at the smallest agencies applied to multiple groups.

TABLE 12

OCCUPATIONAL COVERAGE OF INCENTIVE PAY PLANS BY TRANSIT AGENCY SIZE (1985 APTA DATA), UNIONIZED TRANSIT AGENCIES ONLY

Total Employment	Number of Plans	Percentage of Plans Covering More Than One Occupation
25-49	18	78
50-99	43	58
100-299	69	52
300-999	64	41
1000-2499	36	50
2500 up	23	26
TOTAL	253	49

[Chi-square = 14.3; statistical significance = .01]

There was, moreover, a relationship between coverage and the union involved, as is shown in Table 13. As the table shows, agencies organized by the ATU and agencies dealing with several unions were more likely to have single-occupation plans. Those agencies organized by the other unions were more likely to have multi-occupation plans. The differences are not related to union policy, however, but probably to the nature of the bargaining units and the size of the agency. That is, agencies organized by the ATU or by multiple unions are more likely to have bargaining units (and hence agreements) that are craft-specific, so one would expect to find more incentive pay plans covering only one craft. The TWU is more likely to have organized more comprehensive units, so one would expect to find more incentive pay plans covering multiple occupations (82). The Teamsters, moreover, are usually found at the smallest agencies; and, as already discussed, multi-occupational coverage is most often present at the smallest agencies.

#### Average Life

The average life of incentives varies considerably. Thus, while Clark et al. (6) found that incentives had on the average been

TABLE 13

OCCUPATIONAL COVERAGE OF INCENTIVE PAY PLANS BY UNION (1985 APTA DATA), UNIONIZED TRANSIT AGENCIES ONLY

Union at Agency	Number of Plans	Percentage of Plans Covering More Than One Occupation
Amalgamated Transit Union	152	43
Transport Workers Union	31	61
Teamsters	24	71
Other national union (including UTU)	19	63
Independent Unions	17	59
Multiple Unions	36	39
TOTAL	279	49

[Chi-square = 12.5; statistical significance = .03]

TABLE 14

NUMBER OF INCENTIVE PAY PLANS AT A TRANSIT AGENCY BY UNION (1985 APTA DATA), UNIONIZED TRANSIT AGENCIES ONLY

Union at Agency	Number of Agencies	Percentage of Agencies with More than One Plan
Amalgamated Transit Union	80	49
Transport Workers Union	11	64
Teamsters	15	27
Other Na. (including UTU)	14	21
Independent Unions	8	50
Multiple Unions	18	61
TOTAL	146	47

[Chi-square = 9.0; statistical significance = .11. Likelihood ratio chi-square = 9.3; statistical significance = .10.]

used for 6 years, 15 percent of the agencies reported incentives had been used for 10 years or more, and 17 percent had introduced incentives within the last year. Likewise, Scott and Deadrick (16) reported that 16 percent of their sample's plans had been in place 1 year or less, 48 percent for from 1 to 5 years, and 36 percent for more than 5 years. Although neither study reports on whether changes had been made in the incentive plans during their life, the 1985 APTA survey shows that 37 percent of the 279 pay incentives at unionized agencies were either new or had changed from the previous year. Roadeo plans surged sharply higher in 1985, however, and leaving out these plans, 17 percent of the remaining 207 plans were new or were changed from the previous year (55).

Using the collective information from these three surveys, it would appear that the average plan has a life of about six years, or through two or three labor agreements. This would seem to be reasonable, as the literature reviewed in Chapter 2 reports that even good incentive plans seldom remain effective for more than six or seven years.

#### Number of Incentive Pay Plans per Agency

A given transit agency can of course have one or more incentive plans. In the APTA sample, 53 percent of the 146 agencies had only 1 plan, 25 percent had 2 plans, 8 percent had 3, 8 percent had 4 and 6 percent had 5 or more plans. Thus, about half of the agencies had only one plan, whereas the other half had more than one; that is, about half had multiple types of performance rewards whereas the other half limited rewards to a single area.

Whether an agency had a single plan or multiple plans was related to the union involved as well as agency size. As can be seen from Table 14, agencies organized by the TWU and agencies with several unions were the most likely to have multiple plans.



TABLE 15  
NUMBER OF INCENTIVE PAY PLANS AT A TRANSIT  
AGENCY BY AGENCY SIZE (1985 APTA DATA),  
UNIONIZED TRANSIT AGENCIES ONLY

Total Employment	Number of Agencies	Percentage of Agencies with More Than One Plan
25-49	13	23
50-999	85	51
1000-2499	14	86
2500 up	12	50
TOTAL	124	52

[Chi-square = 10.8; statistical significance = .01. There is no statistically significant difference between 50-99, 100-299 and 300-999 employee size groups.]

The effect of agency size on the number of plans is somewhat complex (Table 15). The smallest agencies are the least likely to have multiple plans, and the proportion of agencies with multiple plans generally increases with size until the largest size group is reached, where the proportion decreases substantially. One would expect smaller agencies to have fewer plans because multiple incentives would be less needed. It appears, however, that the agencies most likely to be involved with multiple plans are those with 1000 to 2499 employees, rather than the largest agencies. The reason for this is unclear.

#### Incentive Pay Plan Program Types and Subjects

In the transit industry, most of the programs are of a few types. Thus Scott and Deadrick's (16) sample of 291 plans, which included many nonunion agencies and managerial occupations, showed 30 percent of the programs to be merit plans, 28 percent to be recognition or non-cash incentives, 19 percent to be individual cash bonuses, 13 percent to be suggestion systems, 3 percent to be cost-savings plans, and the remaining 7 percent to be some other type.

The 1985 APTA sample, which allows a somewhat different classification scheme of incentive pay plan subjects, is shown in Table 16.

There appears to be a slight relationship between the frequency of subjects and agency size (Table 17). The only differences, however, occurred among the very smallest agencies, the very largest agencies, and the remaining large group in the middle. For agencies with between 50 and 2499 employees, there were no significant differences based on size. Among the three groups, however, size increases are associated with decreases in the frequency of attendance, accident/safety, and gain-sharing plans, whereas size increases are associated with increases in the frequency of roadeos and best employee plans.

There are no statistically significant relationships between the frequency of plan subject and the union involved. There is however a highly significant relationship between a plan's subject

and whether the plan covered only one or multiple occupations (Table 18). As the table shows, almost all of the attendance plans applied to all organized employees, as did all of the gain sharing incentive pay plans. Almost all of the roadeos, however, applied to only one group, and this group was almost always the operators, although there were a few mechanic roadeos as well. Likewise, the accident and safety plans usually applied to only one group.

These results are what would be expected. Attendance is a problem regardless of occupation, and the same performance measures are appropriate to all. Accidents are usually a problem for operators only, but even when other employees are covered different measures of performance are needed because of the differing job duties. Finally, gain-sharing incentive pay plans based on organizational performance affect and can be affected by all workers; therefore all workers are correctly included in such plans.

#### Conclusions about Incentive Pay Plan General Characteristics

In conclusion, there are substantial variations among incentive pay plans in terms of the occupations covered, their life span, the number of plans at a transit agency, and the subjects involved. Frequently the variations are associated with differences in agency size and in union status.

#### EXAMPLES OF TRANSIT INCENTIVE PAY PLANS

As already noted, a relatively few subjects dominated transit incentive pay plans in 1985. To provide a deeper understanding of the more important subjects, this section gives examples of incentive pay plan provisions and characteristics concerning (a) attendance, (b) accidents and safety, and (c) gain sharing. Table 19 presents the choices available for the characteristics of each of the three types. More comprehensive choices are presented for each characteristic in Chapter 2 (see Table 4). Fewer characteristic choices are used here, partly because some of the possible choices are never utilized in transit incentive pay plans,

TABLE 16  
SUBJECT OF ECONOMIC INCENTIVE PLANS (1985 APTA  
DATA), UNIONIZED TRANSIT AGENCIES ONLY

Subject	Percentage of Plans
Attendance	35
Roadeo	26
Vehicle Accidents, & Safety	11
"Best" Employee	8
Suggestion	4
Gain Sharing	2
Merit Plan	1
Other or Combination	13
TOTAL (Sample Size = 279)	100

TABLE 17

FREQUENCY OF INCENTIVE PAY PLANS BY TRANSIT AGENCY SIZE (1985 APTA DATA), UNIONIZED TRANSIT AGENCIES ONLY

Total Employment	Total No. of Plans	Total Plans %	Attendance %	Accidents or Safety %	Roadeo %	Best Workers %	Gain Sharing %
25-49	15	100	73	13	7	0	7
50-2499	174	100	42	13	32	10	3
2500 up	21	100	29	10	48	14	0
TOTAL	210	100	43	13	32	10	3

[Chi-square = 12.3; statistical significance = .14. Likelihood ratio chi-square = 15.0; statistical significance = .06. Because of low frequencies in many cells, however, neither chi-square may be a valid test.]

and partly in an attempt to combine choices in order to improve the clarity of the presentation.

#### Attendance

The most common incentive subject deals with the goal of improving attendance. Some attendance plans from the APTA survey, most of which were effective in 1985 and most of which are representative, are:

- Current year's accrued sick leave (ASL) may be cashed in at 75 percent of regular pay rate.
- 40 percent of current year's ASL, up to five days, may be cashed in.
- If no unpaid time off, maximum of 3 absences, and 6 attendance credits (1 credit per 45 consecutive days with no absences), then employee receives \$100 for first year, \$300 after

TABLE 18

FREQUENCY OF INCENTIVE PAY SUBJECTS BY OCCUPATIONAL COVERAGE (1985 APTA DATA), UNIONIZED TRANSIT AGENCIES ONLY

Plan Subject	Number of Plans	Percentage of Plans Covering More than One Occupation
Attendance	98	89
Accidents or Safety	30	13
Roadeo	72	1
Best Worker	23	43
Gain Sharing	6	100
TOTAL	229	47

[Chi-square = 149.3; statistical significance = .00]

2 consecutive years, and \$500 per year for 3 or more consecutive years.

- One day's pay if no sick absences.
- If 60 days of ASL, then unused sick leave for year converted to vacation.
- 8 hours pay for each quarter in which 64 days worked, payable at year end.

TABLE 19

SELECTED CHOICES FOR TRANSIT INCENTIVE PAY PLAN CHARACTERISTICS

Characteristic	Choice Categories
Performance Unit	Individual, or Group/Department/Organization
Payout Formula	Individual performance, or "equal" to all in group
Plan Structure	All plans at single performance unit level, or plans at multiple performance unit levels
Plan Coverage	One occupation, or multiple occupations
Performance Indicator Comprehensiveness	Specific result(s), or second-level or higher results
Performance Indicator Objectivity	Objective or subjective
Performance Period	Year or less, or variable, or multiple periods
Reward Type	Money, time, other economic, or combination
Reward Frequency	One payment at end of each performance period, or multiple payments for one performance period, or one payment for multiple performance periods
Reward Duration	Temporary, or Permanent

- If 5 years service and below 50 percent of ASL used, then one day sick leave converted to paid day off.
- All ASL may be cashed in.
- Unused sick leave for the year may be cashed in.
- \$50 savings bond if no absences for year.
- 10 percent extra vacation if no miss-outs and perfect attendance for year.
- 3 days vacation if no sick leave used for year, 2 days if no more than 8 hours used and 1 day if no more than 16 hours used.
- \$50 for each quarter with no unexcused absences and \$200 for year with no more than 1 unexcused absence, all paid at year end; half for part-timers.
- 1 paid day off if no more than 5 miss-outs in one year period.
- 8 hours pay if no unexcused, personal, on-duty injury, or disciplinary absences, leaves of absence or misses for year.
- \$150 less \$12.50 per each 1/2 day of sick leave during the year.
- \$0.10 per hour worked for each month with no unexcused absences, plus \$0.15 per hour worked for each quarter with no unexcused absences, plus \$0.20 per hour worked for each year with no unexcused absences.
- May cash in ASL over 8 days at rate of \$60 per day.
- \$100 if no absences except vacation, personal days, jury/funeral/medical exam/union leave, and no more than 3 months medical disability leave; \$200 any year that 20 percent qualify.
- All ASL over 90 days paid at rate of \$25 per day.
- 5 pound ham or other award if no lost time for year.
- 25 percent of all ASL over 180 days converted to vacation.
- May cash in up to 5 days of ASL per year if 40 days remain and 90 percent of scheduled work in preceding year worked.
- ASL over 105 days paid at \$30 per day if none used in preceding year, less \$5 per day for each day used in preceding year; no payment and days forfeited if 6 days used.
- 50 percent of unused annual sick leave paid if 400 hours of ASL and 2/3 of annual accrual unused.
- 50 percent of ASL over 120 days paid.
- If 536 hours of ASL, 32 hours of sick leave paid if none used for year, 24 hours paid if 8 used, 16 hours paid if 16 used, and 8 hours paid if 8 used.
- 1 paid day off if no sick leave used for year.

The most frequent choices for the various characteristics of transit attendance incentive pay plans are presented in Table 20.

#### Accidents and Safety

Another common incentive subject deals with the goal of decreasing vehicle accidents or improving safety. Some safety plans, most effective in 1985 and representative, are:

##### Incentives for Individual Operator Performance

- If an operator has a safe driving record for the year, he or she receives \$10.
- If an operator has no accidents for the year, he or she receives \$100.

TABLE 20

#### CHARACTERISTICS OF TRANSIT ATTENDANCE INCENTIVES (1985 APTA DATA) FOR UNIONIZED TRANSIT AGENCIES

Characteristic	Choice Category
Performance Unit	Almost always individual
Payout Formula	Always individual
Plan Structure	Most part of single-level structure
Plan Coverage	Most cover more than one occupation
Performance Indicator Comprehensiveness	based on specific result or results
Performance Indicator Objectivity	All objective, although judgment sometimes involved as with "unexcused" absences
Performance Period	2/3 are for year or less; however, 1/5 have a variable performance period (as when all ASL may be cashed in), and 1/5 have multiple performance periods (as when past years' ASL can be cashed in if attendance is good this year)
Reward Type	1/2 money, 1/3 extra paid time off, rest mixture
Reward Frequency	Most paid at end of each performance period, although some give one lump payment for multiple periods (as when quarterly awards are all paid together at end of year).
Reward Duration	All temporary.

- If an operator has no preventable accidents for the year, he or she receives \$500.
- If an operator has no chargeable accidents during the specified period, then he or she receives the following rewards at the year's end (50 percent for part-time operators): \$15 for each month, plus \$30 for each quarter, plus \$125 for the year. In addition he or she receives \$25 after 3 years without a chargeable accident, \$75 after 6 years, \$100 after 11 years, and \$125 after 16 years.

##### Incentives for Group Operator Performance

- If the authority achieves 5.3 accidents or less per 100,000 miles of revenue service during the six-month period, then each operator employed for the entire six months receives a three percent wage increase, which will become part of each receiving operator's base rate.

##### Incentives for Group Non-Operator Performance

- Maintenance department receives \$1 for each day and an additional \$30 for each month with no industrial or workers'

compensation accidents, payable to the departmental coffee fund.

- If a maintenance shift has no lost-time injuries in a quarter (one person off for an entire day), then each shift member and a guest receives a \$17.50 value per person awards banquet.

#### Incentives for System Performance

- All Authority employees during the entire six-month period will be eligible for the following cash payments, which will constitute a one-time bonus. If accidents per 100,000 revenue miles is less than or equal to 2.9 and greater than 2.8: 0.5 percent of the employee's straight-time earnings for the period. If accidents per 100,000 revenue miles is less than or equal to 2.8 and greater than 2.7: 0.75 percent of the employee's straight-time earnings for the period. If accidents per 100,000 revenue vehicle is less than or equal to 2.7: 1 percent of the employees straight-time earnings for the period.

The most frequent choices for the various characteristics of transit accident/safety incentive pay plans are presented in Table 21.

TABLE 21

#### CHARACTERISTICS OF TRANSIT ACCIDENT AND SAFETY INCENTIVES (1985 APTA DATA) FOR UNIONIZED TRANSIT AGENCIES

Characteristic	Choice Category
Performance Unit	4/5 individual and 1/5 group or organization
Payout Formula	4/5 individual and 1/5 equal to all in group
Plan Structure	3/4 part of single-level structure; rest not
Plan Coverage	Most cover only one occupation
Performance Indicator Comprehensiveness	All based on specific result or results
Performance Indicator Objectivity	Almost all objective, although judgment sometimes involved as with "chargeable" accidents
Performance Period	Most are for year or less, although about 1/5 have multiple performance periods (as when more valuable rewards are received for two and for three periods of continuous performance)
Reward Type	1/2 money, and 1/2 other reward with economic value (such as gift certificates, watches, color TVs and uniform allowances)
Reward Frequency	Most paid at end of each performance period
Reward Duration	All temporary

#### Gain Sharing Based on Organization-wide or Group Performance

Much less common, and indeed almost absent until recent years, are gain-sharing incentives using the entire organization or occasionally groups as the performance unit. As used herein, such gain-sharing plans refer to improvements that may or may not be reduced to money savings, but in all cases there is some gain in organizational or group performance. All of the plans listed in the 1985 APTA survey are:

- June 1984: Each employee will receive 3.9 cents per pay hour up to 2080 hours for each 1 percent increase in passenger revenue in the preceding year over the base amount, up to \$717 per employee. June 1985: 50 percent of the increase in passenger revenue in the preceding year over the base amount will be distributed according to each employee's eligible pay hours, with the total distributed not to exceed 0.1 percent of the base amount.

- 0.5 percent of earnings paid as a one-time bonus for each of the following standards met: 94.5 percent on-time system performance, 4300 miles between system roadcalls, and 2.9 accidents per 100,000 system revenue miles. Alternatively, 0.75 percent paid for each of the following standards: 95 percent on-time system performance, 4500 miles between system roadcalls and 2.8 accidents per 100,000 system revenue miles. Alternatively, 1 percent paid if 96 percent on-time system performance, 4750 miles between system roadcalls, and 2.7 accidents per 100,000 system revenue miles.

- 2 percent hourly pay increase in January and June (1 percent frozen into base) if group accident, roadcall, and ridership standards met.

- Paid weekend vacation for two to member (drawn by lot) of the team with most performance points.

- 2 percent pay increase if the ratio of farebox revenue to operating expenses in the preceding 6 months exceeds 16 percent, plus an additional 2 percent pay increase for each 2 percent increment in the farebox ratio over 16 percent, with a maximum pay increase of 16 percent.

The most frequent choices for the various structural elements for transit group/organizational gain sharing incentive pay plans are presented in Table 22.

#### PROCESSES AND STRUCTURES FOR DESIGN, IMPLEMENTATION, AND EVALUATION

Almost all of the information available concerns the characteristics of incentive plans. Very little has been published about the processes and structures by which incentive plans have been designed, implemented, evaluated, or revised. Indeed, although plan characteristics have been described in great detail for hundreds of systems, the only information that has been published on processes may be found in case studies of three systems, and even these cases do not cover many critical process issues.

This section summarizes the limited information available. Because only three systems are involved, individual descriptions of each are provided, rather than summary tabulations for all three. The systems discussed are the Mass Transit Authority of Flint, Michigan (6), the Metropolitan Transit Commission of Minneapolis-St. Paul, Minnesota (6, 43, 44), and the New York



TABLE 22  
CHARACTERISTICS OF TRANSIT GAIN-SHARING  
INCENTIVES (1985 APTA DATA) FOR UNIONIZED TRANSIT  
AGENCIES

Characteristic	Choice Category
Performance Unit	5/6 organization-wide and 1/6 group
Payout Formula	5/6 equal to all in group and 1/6 individual
Plan Structure	All part of multi-level structure
Plan Coverage	All cover more than one occupation
Performance Indicator Comprehensiveness	2/3 based on specific result or results; 1/3 based on second-level or general results
Performance Indicator Objectivity	All objective, with no judgment involved
Performance Period	All are for year or less
Reward Type	5/6 are money, and 1/6 is weekend vacation
Reward Frequency	2/3 paid at end of each performance period; 1/3 make multiple payments for one performance
Reward Duration	5/6 are temporary; 1/6 is permanent

City Transit Authority (16, 43, 44). [Jennings et al. (43, 44) did not identify agencies by name, but the widely known plans in New York and Minneapolis made their identities obvious.]

Flint's pay incentives involve temporary increases in hourly wages for those individuals meeting specified attendance and/or safety standards, with progressively higher rewards for those meeting the standards for a month, a quarter, and an entire year. The incentive pay plans are one element of a comprehensive quality-of-work-life effort.

Likewise, Minneapolis has established a comprehensive quality-of-work-life program, of which incentives are only one part. Moreover, although the incentives have a definite economic component, they are considered to be primarily recognition incentives. Thus drivers can receive money, paid time off, and a number of recognition rewards for meeting a set of attendance, safety, discipline, and passenger-complaint standards.

Finally, from 1975 to 1982, New York had a productivity gain-sharing plan. Transit employees were given cost-of-living adjustment (COLA) increases only to the extent that funds were available from productivity or certain other cost savings.

#### Design Processes

In both Flint and Minneapolis, the incentive plans were suggested and primarily designed by management. In both cases the union did have some input, but their contribution was mainly

to make minor modifications in management proposals. In New York, the gain-sharing plan was initially forced on the parties as the result of legislation, but was voluntarily renewed for two contracts following the one in which it was required by law.

#### Implementation Structures and Processes

In Flint, three labor-management committees were established, and meet monthly. Each committee has labor and management members, the chair rotates between labor and management, and the labor representatives are picked by the union leadership. Among their other duties, the committees are expected to explain and encourage participation in the incentive programs. Because eligibility for the safety incentive includes standards concerning the number of "avoidable" accidents, a special safety panel consisting of three outside neutral safety experts is available to hear employee appeals about an accident's classification. Finally, training classes about the overall cooperation philosophy are available to all, and probably are also used to explain the incentives.

In Minneapolis, the incentive plan is administered by management, but task forces have been established to examine and suggest revisions in various aspects of the incentives. The task forces meet "periodically," and include committees for Driver Recognition, for Attendance Recognition, and for Motivation Research Implementation. However, at least on the Driver Recognition Committee, the union acts more as a watchdog than as a full participant, since the committee is chaired by management and consists of five top managers, five drivers picked by management, and one union representative.

In New York, the only two administrative structures reported in the published research were a three-member Productivity Committee, and the city's Special Deputy Comptroller. The Productivity Committee consisted of the local union's president, the transit agency president, and a jointly chosen neutral third party. It was supposed to meet monthly throughout the contract running from April 1980 through March 1982, but in fact did not meet at all until the summer of 1981, more than a year later. The independent representative of the city, the Special Deputy Comptroller, was charged with monitoring and reviewing Productivity Committee decisions.

#### Evaluation and Revision Processes and Structures

Although no formalized procedures for periodic evaluation and revision were reported in the research, Flint's and New York's plans were part of their labor agreements, therefore they were open for possible evaluation and change at each contract renewal. In the case of Minneapolis, it was not reported whether the incentives were part of the labor agreement. However, the task forces were charged with evaluation of the incentives, and in fact the Driver Recognition Committee did make recommendations that resulted in revisions of the driver award plan. Also, Minneapolis hired an outside consultant to evaluate the program in 1983.

#### Summary

In summary, according to the literature both Flint and Minneapolis had relatively comprehensive and ongoing implemen-

tation efforts for incentives as well as other quality-of-work-life programs. Flint in particular made substantial efforts to involve employee representatives. New York on the other hand, according to the literature, seemed to have a much lower level of employee involvement and relatively minor implementation and administration efforts.

## EVALUATIONS OF INCENTIVE PAY PLANS

Through the mid-1980s, formal evaluations of incentive plans have been rare, and rigorous evaluations have been almost nonexistent. Clark, Warren, and Greisinger's experience (6) summarizes the situation well. Of the 115 transit agencies that reported using incentives, only 15 said that the plans had been evaluated, and follow-up phone calls to the 15 found that only one, Flint, had "a careful evaluation component capable of demonstrating the effect of the program" (6, p. 46). After completing case studies at Flint and Minneapolis, the authors stated that "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" (6, p. 78). [Minneapolis since has had a formal evaluation (43), as discussed later.] Part of the problem is that new incentive programs are often accompanied by other changes as well, so even when employee performance improves, it is difficult to determine how much the incentives had to do with it.

Therefore, the general situation is that no truly conclusive statements can be made at this time about the effectiveness or the benefit/cost ratios of incentive pay plans in the transit industry. Thus, although the following discussion offers some evidence, it should not be regarded as conclusive.

In Flint, between the first three months of the program and the same quarter two years later, unexcused absences declined by 72 percent and late arrivals by 70 percent. Likewise, between the first and second years of the agreement, unexcused absences declined by 58 percent, late arrivals by 34 percent and accidents by 19 percent. Management attributes these results primarily to the incentive programs, and believes that the benefits outweigh the costs (6).

In Minneapolis (43, 44), comparisons of the 1981 and 1983 performance and costs associated with the driver recognition incentive showed benefits per driver of \$650 and costs per driver of \$50, for a benefit/cost ratio of exactly 13. Moreover, although only 10 percent of the drivers would have met the standards in 1981 before the reward program was implemented, in 1983 almost 26 percent met the standards. The 26 percent of the drivers meeting the standards accounted for slightly more than half of the savings, which implies that much of the improvement came from the best drivers becoming better. It would be interesting to know if the Minneapolis incentives, which were designed to reward only top drivers, had any impact on the lower half of the driving work force.

The ending is less happy in New York. Although the program was viewed as successful by both parties initially, this assessment changed over time. The amount of savings generated by cost and productivity improvements were disputed within the Productivity Committee, and the integrative decision making needed for effective gain sharing was replaced with distributive bargaining (16). Moreover, the city's oversight comptroller modified downward many of the committee's estimated savings (43,

44). (Although part of the problems in estimating savings may have been unique to the New York situation, it is extremely difficult to arrive at generally acceptable costs and savings growing out of incentive programs, and benefit/cost ratios developed by one of the parties involved often should be taken with a degree of skepticism.) Management wanted to stop the program after 1982, and in fact both the COLA and the gain-sharing plan were removed by an arbitrator (43).

Moving from the results at specific systems to results in general, Scott and Deadrick (16) asked their survey respondents (who were all management personnel) to subjectively evaluate the effectiveness of their incentive programs, both in terms of specific benefits and in terms of overall effectiveness. Of those who answered the question about overall effectiveness, 60 percent of the gain-sharing plans were said to be effective, as were 96 percent of the individual cash bonuses, 76 percent of the non-cash incentives, and 80 percent of the suggestion systems. These high percentages probably should be viewed with some suspicion, given that they are subjective judgments by non-neutral parties, that no union or employee assessments are included, and that very few if any agencies have made rigorous evaluations. Moreover, because no information about costs or benefits is available, it is not possible to determine if the gains were worth the costs. Many of these transit incentive pay plans may indeed have succeeded, but the survey's success percentages seem to be higher than reasonably could be expected.

In summary, taking all of the evidence together, the literature on transit incentive pay plans suggests that incentives can succeed in transit, but that success is far from certain, and plans will fail unless many preconditions are met. Preconditions in general have been discussed in Chapters 1 and 2; preconditions specifically noted as important for transit are covered next.

## FACTORS INFLUENCING THE SUCCESS OR FAILURE OF TRANSIT INCENTIVES

The authors of studies dealing with Flint, Minneapolis, and New York identified a number of factors that they believed influenced the eventual success or failure of the incentive pay plans in those cities. In general, it was concluded that the plans in Flint and Minneapolis were successful, while the plan in New York was not. It should be noted, however, that both the Flint and Minneapolis plans had been in effect for only short times when they were evaluated, whereas the New York plan was in effect for six years, or through three labor contracts.

### New York

In New York, the gain-sharing plan was initially considered successful by the union and management, but failed in the end because at least one and perhaps both of the parties wanted it out of the agreement (16). Although no one discusses why the plan was initially successful, a number of reasons are listed for its eventual failure.

First was the factor of negative public opinion, which probably also affected employee behavior (43, p. 108):

This program received negative public opinion in part associated with press accounts which labeled "productivity gain sharing"

as a "subterfuge"— "payments were going to be given anyway, and the projects were a lame excuse for justification."

Second was the veto power of the external auditor. Even when the primary parties agreed that certain gain-sharing increases were justified, the external auditor could and often did reduce the estimated savings and thereby the pay increases (43, 44). The fact that an outsider frequently decided to withhold payments certainly would lessen the perceived link between performance and reward, thereby decreasing the motivation to perform.

Third, at least near the end of the program, the cooperative problem-solving climate considered essential to the success of any gain-sharing plan was absent. As Scott and Deadrick (16, pp. 33-34) report:

The productivity decisions were a subject of controversy, and the joint decision process was replaced by a bargaining process. Because the focus of the program became a matter of "us versus them," the underlying "we" concept of productivity sharing was never fully realized.

In summary, Jennings et al. (43) note that New York's gain-sharing plan (and another unidentified agency's gain-sharing plan) lacked a number of factors, each of which is considered essential for success: the desired behavior was not clearly specified, the potential rewards were not enough to be of value to the employees, the employees did not believe that the reward would follow behavior, and the employees did not believe the system was being administered fairly.

Although the preceding reasons leave many unanswered questions about the underlying causes of the initial success and eventual failure, they are all in accord with the research about incentives presented in Chapters 1 and 2. That is, many of the conditions that the incentive literature suggests will lead to failure were reported to be present in New York.

### Flint and Minneapolis

In Flint and Minneapolis, the incentive plans were considered successful at the dates that they were studied, although neither had been in place for as long as the New York plan at the point that it was removed. Flint and Minneapolis both reward individual performance and both provide recognition and pay incentives, although the emphasis in Flint is on economic rewards while the emphasis in Minneapolis is on recognition. Factors that Clark et al. (6) believed assisted the success of these plans are as follows.

1. The union-management relationship was a mature one at both agencies. Both union and management recognized that the presence of a distributive relationship at certain times (as when bargaining over wage rates) did not preclude the presence of an integrative relationship at other times (as when solving operational problems).

2. Neither union nor management leaders seemed to be afraid of losing power through the cooperative process necessary to make the incentive plans work.

3. In Flint, the union willingly accepted the incentive plan because they believed that the total financial package would be better than the previous wage package, with any losses in over-

time earnings more than made up with the increased incentive earnings. Also, the union was guaranteed that any reductions in personnel would be accomplished through attrition.

4. At both the agencies, the incentives were designed with union input. Although the modifications suggested by the union were minor, the union indeed did have a voice in incentive pay plan design.

5. At both agencies, the incentives were implemented with comprehensive and ongoing administrative structures and processes. Indeed, in both cases the incentive plans were just one part of comprehensive quality-of-work-life programs, so the implementation processes and structures might have been more than would have been needed for incentives alone.

6. Both parties at Flint believed that the incentive plans would have been unworkable without the high level of trust that was present. Much of this trust developed through the activities of the labor-management committees.

7. Both agencies had the data processing capacities to keep precise records. In Flint, for example, an established computer system and a relatively small number of employees made the data requirements possible to administer.

8. The authors report that for implementation to be successful, the incentives must have the strong backing of top management, as they did in Flint and Minneapolis, and that the organizational atmosphere must be right (6, p. 47):

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.

Although the preceding reasons may not all be necessary or even sufficient to guarantee success, they are all in accord with the research about incentives reviewed in Chapters 1 and 2. Thus, many of the conditions that the incentive literature suggests are necessary for success were reported to be present in Flint and Minneapolis.

### PUBLISHED RESEARCH ON TRANSIT INCENTIVES: CONCLUSIONS

A number of conclusions can be drawn from the published literature on incentives in the transit industry.

1. A substantial amount of information is available about the presence, subjects, and characteristics of transit incentives. As of 1985, incentives were relatively common, and they involved a variety of different subjects and characteristics. Often, differences among agencies in the presence, subjects, and characteristics of incentives were associated with differences in agency size and union status.

2. Some of the types of incentives found in other industries may not be appropriate for transit, but transit is developing new types of incentive pay plans that are uniquely congruent with its strategics, organizations, and environment. As one example, profit-sharing plans will seldom be appropriate for unionized transit workers. Not only would there seldom be profits in a publicly owned enterprise, but also many aspects of revenue generation and productivity cannot be influenced by transit employees. On the other hand, new indicators are being developed that are uniquely suited to transit, such as "on-time per-



formance," "vehicle accidents," and "miles between road calls." Other measures that are even better for transit systems and their employees only await development by innovative transit management and union leaders.

3. Very little information is available about transit incentive design and implementation processes, evaluations of outcomes, and identification of reasons for success or failure. However, the available information suggests that incentives can succeed in transit. Also, it confirms that pay incentives succeed or fail

in transit for many of the same reasons that they succeed or fail in any other organization.

Therefore, it appears that the general requirements for success discussed in earlier chapters are valid for transit, and should be heeded by those wishing to establish successful transit incentive pay plans. In particular, no plan may work at some agencies, certain types of plans may not work at many more, and sometimes unique types may be the most appropriate.

## TRANSIT INCENTIVE DESIGN AND IMPLEMENTATION

The primary goal of this chapter is to identify the processes and structures involved in designing and implementing successful incentive plans for unionized employees. By focusing on design and implementation efforts, rather than on plan characteristics, the chapter addresses issues that have been largely ignored in the literature.

The limited information previously published about design and implementation was discussed in Chapter 3. This chapter presents comprehensive case studies, conducted as part of this research, on incentive plan development at two systems: the Metropolitan Transit Authority of Houston, Texas; and the Mass Transportation Authority of Flint, Michigan. For each system, the following format, which roughly parallels the four steps of effective incentive development through two cycles, is used:

- Goals of the Initial Plans
- Designing the Initial Plans
- Characteristics of the Initial Plans
- Implementing the Initial Plans
- Evaluating the Initial Plans
- Goals for the Revised Plans
- Designing the Revised Plans
- Characteristics of the Revised Plans
- Implementing the Revised Plans
- Evaluating the Revised Plans

### KEY FINDINGS OF THE CHAPTER

- For the most part, the evidence from Houston and Flint confirm the general concepts about incentive design and implementation discussed in Chapters 1 and 2. Thus, most of the general principles are also applicable to transit.

- In both cases, the incentive plans were part of a management response to major problems. The agencies were in such bad condition that the employees, the unions, and the managements all knew that something had to be done if the systems were to survive. Such crises may not have been necessary to get the incentives accepted, but they certainly aided the process.

- In both cases, there were major management changes at or near the top shortly before the incentives were proposed. The new managers made many changes in their attempts to turn the systems around.

- In both cases, the plans were initiated and primarily designed by management; union input resulted in changes in the required levels of performance, and in minor characteristic changes, but the plans adopted were essentially designed by management.

- In both cases, the incentives' characteristics and implementation were directly related to the goals that management sought from the plans, as well as to their overall labor relations and system-wide goals. Indeed, both managements made changes in their goal sets after the initial incentive agreements were in place, and the revisions in the incentives that they proposed were partly a result of their new goals.

- In both cases, the unions were at first strongly opposed to incentives. Although the exact reasons that each union finally agreed to try incentives differed, in both cases it was true that the workers would get substantially more money with incentives than without them. In neither case were incentives viewed as replacements for money that could have otherwise been obtained.

- In both cases, comprehensive implementation processes and structures were used. Although Houston relied more on procedures already in place and Flint developed many new procedures, both spent a good deal of effort in planning for and conducting the implementation.

- In both cases, there were problems involving both the plan characteristics and their implementation, in spite of the thought that had gone into designing them. Thus, it was vital that the parties were able to evaluate the efforts, and to make needed revisions, both during the term of the first agreements and when the second agreements were negotiated.

- In both cases, all union and management interviewees said that the plans had been successful, from their own points of view.

- In both cases, the incentives were only one of a set of changes aimed at improving worker and system performance. Although all interviewees agreed that incentive pay was an absolutely necessary part, all also stated that incentive pay was not the sole cause for success. Thus, it was the combination of changes that resulted in success, not any one element in isolation. Indeed, the incentives might not have worked at all, and certainly would not have worked as well, if they had not been accompanied by other needed changes.

- In both cases, management spent a good deal of effort both during negotiations and during the life of the contract to convince the unions that management was sincerely trying to help the workers and was not trying to weaken the union. In both cases, the unions developed a good deal of trust in management and in the likelihood that the incentives could truly be earned. Indeed, in both cases, especially in Flint, management made substantial efforts to move the overall labor-management relationship from adversarial to cooperative.

- In both cases there was a strong commitment to incentives by top management. Both systems experienced problems initially, and both unions demanded that the incentives be removed after their initial experience with them. But both top manage-

ments were committed to making the incentive plans work. By making changes in response to the problems rather than by dropping the incentive concept, revised plans emerged that were viewed as successful by all union and management interviewees.

#### WHY HOUSTON AND FLINT WERE SELECTED

Houston and Flint were chosen as case studies for several reasons:

1. The agencies are typical of relatively large and relatively small systems respectively: both have long histories of true collective bargaining, and both have experienced many of the organizational and employee changes that have been common in the transit industry in the last several decades.

2. The incentive pay plans at both agencies can result in substantial payments to the workers, and hence are truly economic incentives.

3. In both cases, incentive plans have been in place through one entire contract cycle and through most of a second contract cycle. This length of time provides a reasonable degree of experience.

4. The initial plans were considered successful enough by both union and management that revised plans were included in a second contract.

5. The agencies illustrate two somewhat different approaches. Flint uses only individual incentives, and their incentive plans are only one part of a comprehensive, contractual, and functioning labor-management cooperation effort. In Houston, most potential incentive pay is based on system-wide performance, and the plans are geared to developing a team effort.

6. These systems were chosen because they have two of the most advanced and sophisticated incentive pay plans among U.S. transit systems. Their plans definitely are not typical for the industry, but provide models that other agencies may wish to consider.

Although neither of the systems is organized by an Amalgamated Transit Union local, plan characteristics and the design and implementation efforts would have been essentially the same regardless of national union affiliation. In both cases the incentives were designed and implemented based almost entirely on management initiatives, and both initially faced strong union opposition. There is no reason to believe that the ATU would have affected plan design, implementation or success differently than did the unions involved (82).

#### CASE STUDY OF HOUSTON<sup>2</sup>

The Metropolitan Transit Authority of Harris County serves the city of Houston, Texas and surrounding areas with approx-

imately 750 buses and 2200 employees. The employees include 1400 operators and 700 nonsupervisory maintenance workers (81).

The Transport Workers Union Local 260 represents the unionized employees, which include workers in the vehicle maintenance, facility maintenance, storeroom, public facilities maintenance, scheduling, transportation, and treasury service. The TWU has been the exclusive representative of Houston transit workers since 1949, having been present when the system was privately owned, when it was publicly owned but privately managed, and now that it is publicly owned and managed. The TWU local in Houston has not been free of internal problems, however. In 1980, the local went bankrupt, and was placed under international trusteeship. It again went bankrupt in 1985, and was again placed under trusteeship by the international. It recently had new elections and was removed from trusteeship. Of the just-elected officers, many are new, including the president, but many of the old officers were reelected. (Although the internal union problems were not reported to have a direct impact on presence and operation of the incentive plans, it is interesting to note that both Houston and Flint had such problems when their first incentive contracts were negotiated.)

Although collective bargaining in Texas is prohibited by law for most public employees, the TWU (and many other public employee unions in Texas) have long used various methods for maintaining full bargaining rights (82-85).

Incentive plans were first introduced in Houston's 1982-1984 contract. Revised plans were included in the 1984-1986 agreement.

#### Goals of the Initial Plans

In the late 1970s, the Houston system was in bad condition. After having suffered from years of neglect, it was reorganized as a publicly owned and operated authority in December 1979, and a new general manager was hired to turn the system around. Management introduced the idea of incentive pay as one of an arsenal of methods for improving system productivity and performance.

#### Designing the Initial Plans

Given the system's past history of poor performance, adversarial labor-management relations, and broken management promises, it was not surprising that the overall level of trust between the union and management was low during Houston's 1982 negotiations. In general, the type of bargaining that occurred was viewed by both sides as being a mixture of cooperative and adversarial, but definitely was closer to the adversarial end of the scale.

Management presented its incentive plan proposals, along with other economic issues, in the final weeks of bargaining. The union's initial response to the idea of incentives was completely negative. That is, the union was only interested in obtaining across-the-board increases in the base rate, and did not want incentive wages in the contract. In addition to the normal TWU reservations about incentive pay, the local believed that it would be difficult for the workers to improve system performance, no matter how hard they tried, because of the system's

<sup>2</sup> Much of the information on the Houston incentive plans was provided by Howard W. Lewis, Director of Labor Relations, Metropolitan Transit Authority of Harris County, and by John W. Bland, International Representative, Transport Workers Union, on February 24, 1986. Any errors, shortcomings, or misinterpretations in this presentation are the responsibility of the author.



poor equipment and nonsupportive management. Management however persisted, and the bargaining over the incentive plans was characterized as very adversarial by both union and management interviewees.

A number of factors finally convinced the union to accept the plans. First, the workers received regular pay and other increases that were in line with the industry. In the union's words, they got everything that they wanted. Therefore, incentive payments were seen by both parties as money in addition to, not in place of, the normal expected pay increases. There were no trade-offs involving the incentives, so the union believed that the employees had nothing to lose by accepting the incentive plans, and might possibly gain. Second, the union, management, employees, and the public were all very sensitive to the system's poor past performance. The union believed that an outright refusal to accept performance pay would make them look very bad in the eyes of the public, and in addition they were not willing to strike over the issue. Therefore, although the union did not like the concept, they eventually agreed to a set of incentive pay plans.

At the end of the negotiations, the union's attitude toward the plans that were actually adopted was more positive than their initial attitude toward the concept of incentive pay in general. Indeed, the union reported that their attitude about the plans actually adopted was quite positive, although management reported that they perceived the union still to be negative about the plans. However, both the union and management said they believed that it was quite likely that incentives would be earned by the workers. The plans adopted were basically those that management had first proposed, although the performance standards to be met had been modified as a result of union input during the bargaining.

#### Characteristics of the Initial Plans

Houston's 1982-1984 contract included four incentive plans (86). Two were based on individual performance and two on group performance:

- Individual Sick Leave Buy-Back
- Individual Performance Point Competition
- Group Accident
- Group Roadcall

The individual sick leave buy-back plan allowed workers to cash in any accrued sick leave over eight days at a rate of \$60 per day, a relatively common provision in the transit industry.

Not typical was the other plan based on individual performance, the individual performance point competition. The plan worked as follows for operators. For the first contract year each operator accumulated points, with total points equaling the number of:

Days absent + misses + preventable accidents involving collision + valid passenger complaints + off-schedule charges + reprimands for poor appearance.

The quartile of operators with the lowest total points for the year received a 3 percent increase in pay, effective only for the second contract year. The quartile with the next highest point

total received a 2 percent increase, the next quartile received 1 percent, and the quartile with the highest number of total points received nothing.

Similar provisions were adopted for maintenance employees, and for other employees, with the reward formulas being the same but the variables making up the point total being different. For maintenance employees, total points equaled the number of:

Days absent + preventable accidents involving collision + reprimands for disorderly/unclean work area + reprimands for poor workmanship and/or excessive use of parts.

For all other employees, total points equaled the number of:

Days absent + days late + chargeable safety violations + reprimands for poor workmanship + late or slow performances for contraflow workers.

The group accident incentive plan involved only operator performance. Under the plan, if the operators achieved no more than 7.9 accidents per 100,000 revenue vehicle miles for a 6-month period ending January 31, 1983, then all operators and certain supporting employees would receive a permanent 1 percent raise and an additional 1 percent for 6 months only. Likewise, if the authority achieved no more than 5.3 accidents per 100,000 revenue vehicle miles for a 6-month period ending January 31, 1984, then all operators and supporting employees would receive a permanent 3 percent raise in pay.

The group roadcall incentive plan was based on maintenance employee performance. Under the plan, if there were 1,000 or more miles between roadcalls for the 6-month period ending January 31, 1983, then maintenance and certain supporting employees would receive a 1 percent permanent increase and another 1 percent increase for 6 months. Also, if miles between roadcalls averaged 2,000 or more for a second 6-month performance period ending January 31, 1984, the covered groups would receive a permanent 3 percent raise.

In sum, it was possible for the unionized Houston employees to increase their pay permanently by 4 percent and temporarily by another 3.5 percent, not counting any sick leave buy back. Three of Houston's four plans were unique, one because it resulted in unionized employees competing directly against each other, and the other two because they were based on group rather than on individual performance.

#### Implementing the Initial Plans

At the beginning of the first contract period, the union-management relationship was basically an adversarial one, with little trust involved. But, over the term of the contract, the relationship substantially improved according to both union and management interviewees. Also, both parties viewed the agency's management style during this two-year period as a mixture of participative and autocratic, leaning toward the autocratic side in many situations.

No unusual efforts were made by either the union or management to introduce the incentive plans to the workers or supervisors. Management explained the plans to their supervisors as part of the normal briefings on a new agreement, and answered worker questions about the incentives as they arose.

The union separately explained the plans to the workers as part of their normal discussions of new agreements. Both parties believed that their efforts were relatively successful, and that the workers and the supervisors had a sufficient understanding of the incentives. Likewise, both union and management interviewees said that typical workers believed their chances of earning incentive pay was at least 50/50. In other words, the workers believed it was not certain that they would earn the incentives, but they had a reasonably good chance of doing so.

Record-keeping procedures for the accident and roadcall incentives were already pretty much in place; thus little had to be added to collect and report the needed information. An accident appeals board was established to review disputes over accident classification, and decisions of the board regarding classification are binding. (Discipline concerning the accident is subject to appeal through the normal grievance procedure.) The individual performance point competition presented more substantial problems. Forms for collecting the data on each employee had to be designed, the supervisors had to be taught what data to collect and how to use the forms, and the supervisors had to correctly collect the data and report it. For this particular plan, however, the data were collected at the end of the year to which it applied; therefore individuals did not know precisely where they stood in the ranking until the performance year was over.

During the term of the first agreement, the group accident and roadcall results were communicated to the union on a weekly basis, and the union kept the workers informed about the progress. Likewise, bulletin boards reporting accident rates by garage were posted in each of the bus garages' ready rooms. As already noted, however, reports on the competitive performance point plan were not made until after the year ended.

There were no special committees or other formalized opportunities for worker or union involvement in the operation of the plans, although the union and management did discuss the plans as part of their normal communications during the term of the agreement. These discussions were of a mixed problem-solving and legalistic nature. Management believed that the discussions tended to be more legalistic, whereas the union reported that the discussions were oriented toward problem solving. In at least one instance, union-management discussions did result in changes. The union believed that roadcalls caused by flat tires and farebox malfunctions were beyond the control of the maintenance employees, and therefore should not be used in calculating vehicle miles per roadcall. Based on the union-management discussions, these types of roadcalls were removed from the calculations. It appears that this was an example of problem-solving rather than legalistic behavior, since contract language is clear in that all roadcalls would be included.

The union had the right to examine the data and request necessary verification, and indeed did initially examine the data quite closely. However, the local officials lacked the knowledge and resources to thoroughly validate the data, nor did they try to do so. This may have occurred partly because the union considered the incentive pay as "something extra," above and beyond expected wages, so was perhaps less concerned than it might have been otherwise. Although questions arose from some individual employees about how their own performance point incentives had been calculated, these were explained to the workers' satisfaction, and no grievances were filed over any of the plans throughout the entire two-year period of the contract.

### Evaluating the Initial Plans

At the end of the first contract period, both management and the union believed that the plans as a whole had been very successful, although not perfect. Management believed that they had obtained the performance goals sought, and the union was pleased that relatively large payments had been earned by the workers. The accident and roadcall objectives all were far exceeded, so management obtained their performance objectives and the workers obtained their money.

Both management and union interviewees believed that the workers ended up with generally positive attitudes about plans. The union reported that 87 percent of the workers were very pleased with the outcomes, and the only ones not wholly satisfied were those earning the lower rewards in the performance point competition. Management also reported that the workers' attitude about the plans were quite positive, but that a person's attitude was directly proportional to how much he or she earned in the individual performance point competition.

Thus, management, the union, and the workers were all reported to be very pleased with the two group plans, but there was negative fallout over the performance point competition plan. Management reported a number of problems. First, some of the good workers had unusually bad years, as is bound to happen to most good workers on occasion. The completely objective point totals provided no discretion for a usually good worker who though no fault of his or her own had a bad year. Thus, there were a number of good workers who received substantially less money than comparable workers, and this seriously hurt morale. Second, because of the quartile cutoffs, workers only one point apart in one year's performance received a 1 percent wage differential, again making the plan seem unfair. Third, as discussed later, management wanted to further establish the team concept, and the individual competition was not congruent with an organizational culture emphasizing the team approach. Fourth, the performance point incentives emphasized the negative. That is, the workers were rewarded for the absence of bad behavior instead for the presence of good behavior. Fifth, there were problems in getting the supervisors to adequately keep the extensive and detailed records on each individual under their control. The heavy additional administrative burden placed on the supervisors would have been an ongoing problem.

By the end of the first contract period both management and the union reported that worker performance had substantially improved as compared to their performance before the incentives were initiated. However, both parties emphasized that the incentives were only one of several causes for the improved performance. In addition to the incentives, management said that other factors also assisting performance gains were better equipment, more efficient supervision, improved management, and training efforts. Emerging out of these was a growing pride in the system. It was actually a combination of all the factors working together that both motivated the workers to try to improve their performance and also provided the new equipment and administrative support system that turned the added worker effort into positive system results. The union concurred that it was a set of factors all working together that resulted in the improved performance. The pay incentives, combined with better equipment, better management, a sincere effort on management's part from the general manager on down to be sure that everyone could do the best job possible, and a growing employee



self-pride all came together to produce the results. As the union interviewee said, the employees wanted to prove to management that they could meet and beat the performance goals. Both parties made it clear that the pay incentives were a necessary part of the package.

### Goals of the Revised Plans

Although they were basically satisfied with the use of incentive pay, management wanted to modify the plans to better meet their overall philosophy of labor-management relations. Beginning in mid-1983, a new director of labor relations began to implement an active and positive philosophy of labor relations. It involved an approach that appears to be less adversarial, more cooperative, less legalistic, and more participative than what had gone before. As one example, the number of arbitrations declined from about two per month before 1983 to about two per year in 1986. In any case, the new philosophy emphasized team orientation, positive responses to individual actions, and an increased emphasis on pay for performance. To bring the incentive pay plans into line with this philosophy, a number of changes in the incentive package were proposed by management.

First, for reasons already discussed, management proposed that the individual performance point competition plan be eliminated. Second, to better emphasize the concept of the whole organization working as a team, management proposed that the vehicle accident plan be expanded to include all employees, not just operators and supporting occupations, and that the roadcall plan be expanded to include all employees, not just maintenance workers. Third, to more closely tie individual pay to positive performance, management proposed pay incentives for good attendance and for good safety records. Fourth, to improve another key aspect of system performance, the on-time percentage, management proposed a system-wide incentive based on the on-time percentage.

The union made no proposals for changes in the incentive plans. But, coming into negotiations, the union said that they wanted the incentives to be eliminated entirely. As discussed later, however, union opposition did not appear to be very strong, and might have been at least partly a bargaining tactic.

### Designing the Revised Plans

During the negotiations, the union-management bargaining was described as an equal mixture of the cooperative and adversarial types according to both union and management interviewees. Likewise, at least from the union side, there appeared to be a moderate degree of trust in management. It appears that on the whole there was some movement toward a more cooperative and trusting relationship as compared to the 1982 negotiations, but as of 1984 the movement had not been large.

All of the proposed changes in the plans were made by management, with the union refusing initially to accept any plans at all. However, bargaining over the plans was less adversarial than it had been in the first negotiations, although still more adversarial than cooperative. The union interviewee reported that the union was primarily concerned that the goal levels be fair, and that the union's initial refusal to accept any plans was just part of common bargaining tactics. The plans finally adopted were basically those that management had first pro-

posed, although, as with the first contract, the standards to be met had been changed as a result of negotiations.

At the end of the negotiations, management believed that the union's attitude toward the new plans was neutral, although the union reported that they had a very positive attitude toward the plans. Moreover, management and the union each reported that they believed it was very likely that the incentives would be earned by many workers. The union reported that the experience under the first plans, as well as improved management and equipment, made them believe it was more likely that the incentives could be earned than during the first contract, even though the new goals were substantially higher. There was some disparity between the management and the union interviewees about how likely the union believed it was that the incentives could be earned. But, this may have been caused partly by bargaining postures on the part of the union and partly by differences within the union team itself.

As with the first contract, however, the incentives were considered by both sides as money in addition to the regular across-the-board increases. There again were no trade-offs. Both parties reported that the regular pay increases generally matched the industry average for the year. But, because the average industry increase was substantially smaller in 1984 than it had been in 1982, the incentive pay's proportion of the total wage package was greater.

### Characteristics of the Revised Plans

Houston's 1984-1986 agreement had six incentive plans (87). These included three individual and three system-wide plans, all involving temporary pay increases:

- Individual Sick Leave Buy-Back
- System Accident
- System Roadcall
- System On-time Performance
- Individual Attendance
- Individual Injury

One of the original plans remained the same: employees could still cash in accrued sick leave of more than eight days for \$60 per day. Also, one of the original plans was dropped: the individual plan wherein employees competed to obtain the lowest number of points in order to obtain a higher bonus was removed from the contract. The two original group plans, involving accidents and roadcalls, remained in the contract. But, as already noted, their payout units were expanded to include all bargaining unit employees, their goal levels were substantially raised, and their reward amounts were changed as well. Finally, one new group and two new individual incentive plans were added.

The system accident incentive plan, with payouts originally going only to operators and certain supporting employees, was expanded so that all bargaining unit employees received payment. The standards were increased, and three instead of one potential reward levels were established. Thus, if accidents per 100,000 revenue vehicle miles for the first 6 months of the first contract year was no greater than 2.9 then all workers would receive a bonus of 0.50 percent of their straight time earnings for the period; if the accident rate was no greater than 2.8 then they would receive a 0.75 percent bonus; and if the rate was no greater than 2.7 they would receive 1 percent. Similar reward pro-



visions were established for the second, third, and fourth six-month periods of the contract, although the performance levels became more rigorous for the later six-month periods.

The system roadcall plan, with payouts originally going only to maintenance workers and certain other supporting employees, was expanded so that all bargaining-unit employees received payment. As with the accident incentive, a three-level goal structure was established for the system roadcall plan, with a 0.50 percent bonus paid to all employees if the lowest level was reached, or a 0.75 percent bonus paid if the middle level was reached, or a 1 percent bonus paid if the highest level was reached. Also, like the accident incentive, there were four six-month performance periods, with the standards of performance tending to increase over time.

The third system-wide performance plan was new and involved the system's on-time performance percentage. As with the previous two, three possible levels of performance were set for each of four six-month performance periods, and the same rewards for reaching each level applied here also. Thus it would be possible for all employees to earn an extra three percent for the entire contract period, if the highest standard levels in all three plans were met.

The two remaining plans both involved individual performance, but did not make workers compete against each other. Under the individual attendance incentive plan, employees who had worked every workday during the first contract year except for permitted vacation and no more than three excused absences would receive 0.50 percent of their 2080 hour earnings; the same reward could be earned again in the second contract year.

In the individual injury plan, employees who had worked at least 1800 hours during the first contract year and who had no on-the-job injuries during the period would receive another 0.50 percent bonus; the same provisions applied for the second contract year.

In sum, not counting sick leave buy-back earnings, employees could potentially earn a four percent semi-annual bonus for two contract years, if they met all of the highest-level goals. Although this percentage was lower than the 7.5 percent for the 1982 contract, and none of it was permanent, it could be earned over the entire contract period, which was not true for the earlier agreement.

### Implementing the Revised Plans

There were no major changes in the methods by which the incentives were introduced and administered in the second contract period. Both the union and management reported, however, that the workers believed their chances of earning incentive pay were better than the workers had believed their chances were the first time. Both the union and management believed that the workers viewed it as quite likely that they would earn incentives.

Moreover, both parties reported that the union-management relationship had moved further toward the cooperative end of the scale and hence further away from the adversarial end, and the union reported an increased trust in management. The agency's management style was described by both parties as a mixture between autocratic and participative, being slightly more participative than previously. As with the first contract, union-management discussions over the incentives were of a mixed problem-solving and legalistic nature, with the union again be-

lieving that they were more oriented toward problem solving, and management believing that they were more legalistic in nature. As with the first incentive contract, no grievances have yet been filed on the current incentive plans.

### Evaluating the Revised Plans

As of March 1986, Houston has had more than one and a half years of experience with their second two-year incentive contract. At this point, both management and the union said that the incentive pay plans have been very successful and are more satisfied with the new plans than the old. All of the organization-wide performance goals were met at the highest of the three potential levels; thus over the first year and a half of the contract the workers have received a three percent annualized bonus from the incentive plans. Both attendance and injury rates, covered by individual incentive plans, have improved substantially.

Both management and union interviewees believed that the workers have very positive attitudes about the plans. In general, there seemed to be agreement that the undesirable aspects of the earlier plans had been removed, and the workers, the union, and the management all seemed more pleased with the second-generation plans.

By this point in the second contract period, both management and the union reported that worker performance had substantially improved as compared to their performance during the first contract period. As before, both parties emphasized that the incentives were only one of several causes for the improved performance. In addition to the incentives, the other factors continuing to assist performance gains were better equipment, more efficient supervision, improved management, training efforts, and a continually increasing pride by the workers in the system and in themselves. Moreover, the incentive plans and the rest of the package have resulted in a substantial increase in the workers' commitment to the organization, and in the congruence between workers' goals and the organization's goals.

In the next contract, management would like to continue the incentive plans and expand into some new areas to make performance pay a greater percentage of total wages. Despite their positive comments about the incentives, however, the union says that they would like to see them eliminated in the next contract. Although the reasons for the union's position were not completely clear, it appears that this reluctance probably grows out of the TWU's traditional dislike of uncertainty about future earnings, and may partly be posturing for the upcoming negotiations. In any case, the union seems to be willing to accept incentives in the next contract, even though they say they would prefer the incentives not to be included.

### CASE STUDY OF FLINT<sup>3</sup>

The Mass Transportation Authority of Flint, Michigan serves its city and surrounding areas with approximately 60 buses and

<sup>3</sup> Much of the information on the Flint incentive plans was provided by Robert J. Foy, General Manager, Mass Transportation Authority of Flint, and by Trula Parent, Chief Steward, Teamsters State, County and Municipal Workers Union Local 214, on March 3, 1986. Any errors, shortcomings, or misinterpretations in this presentation are the responsibility of the author.

5 demand-responsive vehicles. It employs 141 people, including 87 operators and 27 nonsupervisory maintenance personnel (87).

Before 1980, the employees were represented by a Transport Workers Union local. In late 1979, however, after a great deal of internal conflict and confusion, a representation election was held between the TWU and an independent employees union. The election was won by the independent union, the Mass Transit Employees Union. The new union immediately retained the Teamsters State, County and Municipal Workers Local 214 as an advisor, and soon thereafter voted to merge into that Teamsters local. After the affiliation occurred, the union officials at the agency consisted of a chief steward and three additional stewards. Also, a Teamsters business agent services the agency. Bargaining unit employees include all operators and maintenance personnel.

Public employees have the right to bargain collectively in Michigan under a law somewhat comparable to the National Labor Relations Act, except that strikes are unlawful (88). Because of the local auto manufacturing plants, the area strongly favors unions.

Incentive plans were first introduced in the Flint's 1980-1983 contract. Revised plans were included in the 1984-1986 agreement.

#### Goals of the Initial Plans

From the mid-1960s, and perhaps before, employee-management relations at the Flint transit agency had been of an extremely adversarial nature, alternating between armed truce and open conflict. One problem, but certainly not the only one, was very low wages and almost nonexistent benefits. Transit wages were reported to be at least one third lower than those in comparable public-sector jobs in the local labor market. Thus, the system's wages probably were much more than one-third lower than those at comparable transit agencies.

Although the problems began under private ownership, they continued when the agency was bought by the city in 1968. Thus, the workers struck in late 1970 and completely shut the system down for almost a year. In late 1971, the Mass Transportation Authority was established to own and operate the system. Most of the old employees came back, but the wages were still about one-third below the market rate. Moreover, the system did not have competent management, partly because of low management wages, and the general manager was a political appointee. Also, the system had an extremely large number of work rules, and very harsh discipline was administered to those caught breaking them. Not surprisingly, labor-management relations remained bitter. This bitterness came out in frequent worker and union statements to the news media, and in treatment of the passengers. There were strikes at every contract reopening, often marked with physical violence against authority property.

In late 1975 a new assistant general manager was hired. After experiencing a typically bitter strike in mid-1976, and observing that the workers had "low wages, no fringes and bad supervision," he decided to try a new approach when negotiating the next contract. When the July 1979 contract expiration date approached, however, the union itself was in turmoil, and could not even agree on a bargaining team. At this point a confusing recognition campaign was under way between workers sup-

porting the TWU and workers supporting an independent union, with two different Teamsters locals allegedly being involved. Eventually an election was held under Michigan's public employee bargaining law, and the independent union won. As already noted, the independent union quickly formed ties with one of the Teamsters locals, which was based in Detroit.

Eventually negotiations began, with the top Teamster negotiator in the state serving as chief negotiator for the union. A new agreement was signed in April 1980, running through December 1983. This contract incorporated the new approach to labor relations, including incentive pay plans.

Management wanted to accomplish a number of things with this contract. First, they wanted to sharply increase productivity; at that time, primarily because of high absenteeism, management reported that it was taking 1.4 workers to do the job of 1 person. Second, management wanted to change the union-management and employee-management relationships from ones that were extremely adversarial and characterized by no trust, completely autocratic supervision, and a very detailed and very punitive discipline procedure, to cooperative relationships characterized by much trust, participative management, and positive rather than negative incentives. Third, management wanted to develop a work force that was highly professional, motivated to do a high quality job, and committed to the organization.

The incentives were proposed by management "to act as the cornerstone for massive changes in the management/union relationship" that management hoped to achieve. It should be noted, however, that although incentives were considered essential to achieve the changes that management desired, they were only one of several mechanisms that were adopted as a package in order to bring about the changes.

#### Designing the Initial Plans

At the time negotiations commenced, the level of trust was surprisingly high, especially between the two chief negotiators. Indeed, both the union and management said that trust was high during the negotiations. There were two possible reasons for this. First, the two chief negotiators spent a great deal of time before negotiations in developing a personal relationship built on mutual respect and trust. This was a case where the chief negotiators both were highly skilled and experienced professionals, both were convinced that major changes in the union-management relationship had to be made, and both were flexible enough to be willing to try nontraditional methods of accomplishing necessary results. Second, management's chief negotiator, who was the assistant general manager who had come on board in late 1975, had over the intervening years earned the trust of many of the negotiating team members (according to the union interviewee). This is not to say that the union team necessarily agreed with the management negotiator, but they did believe he would keep his word. In general, the type of bargaining that occurred over most issues was viewed by both sides as a roughly equal mixture of cooperative and adversarial.

The union's initial response to the idea of incentive pay was very negative. Indeed, initial bargaining over the incentives was completely adversarial, but over the course of the negotiations it moved toward a mixture between adversarial and cooperative.



The union eventually agreed to accept incentive plans for a number of reasons. First, the chief union negotiator was experienced, flexible, and independent enough to be willing to risk a unique approach. Second, management convinced the union that the only way that wages could ever reach market rates was if the agency could make up the money through productivity increases. Third, the union was promised that while the increases in productivity would result in fewer employees, all decreases would be made through attrition. Fourth, the incentive plans were accompanied by a number of other changes, some of which were badly wanted by the union. In particular, the union had as a top priority a complete overhaul of the discipline system. Management agreed to replace the old system with a new one that was based on positive rather than negative motivators, and that treated the workers as mature and competent human beings. Fifth, the union was assured a strong voice in developing and administering the incentives and other plans. It was clear that the union was being treated as a partner and that management was not trying to weaken the union. Sixth, the union was reasonably sure that management really did want to make things better for the workers, and was not just using incentives as a method of holding down wages and benefits.

At the end of the negotiations, the union's attitude toward the plans actually adopted was much more positive than their initial attitude toward the concept of incentive pay in general. Thus management reported that they believed that the union's attitude had moved from very negative to neutral, while the union interviewee indicated that the union's attitude had moved from very negative to slightly positive. Both the management and the union said they were unable to forecast whether or not incentives would indeed be earned by many workers; that is, on a scale ranging from "very likely that many workers would earn incentives" to "very unlikely that many workers would earn incentives," both parties were right in the middle at "neutral." The plans adopted were basically those that management had first proposed, although there had been minor modifications as a result of union input.

#### Characteristics of the Initial Plans

Flint's 1980-1983 contract contained three incentive plans (89). All were based on individual performance, all were temporary, and the last two were paid in lump sum immediately following the performance period in which they were earned. They were:

- Individual Maintenance Proficiency
- Individual Accident
- Individual Attendance

Under the maintenance proficiency plan, a large number of proficiency categories were established for different kinds of maintenance work. An employee who was capable of and actually doing a certain type of work on a regular basis would receive a certain number of cents per hour for his or her proficiency/performance. Thus a General Maintenance Technician who qualified in all proficiency categories for that job would earn a proficiency incentive of 45 cents per hour. Likewise, a Building, Grounds, and Equipment Maintenance Specialist could earn up to 75 cents; a Body Repair and Painting Specialist

could earn up to 79 cents; and a Mechanic could earn up to \$1.34. Because no one could work in all the categories on a regular basis, however, it was not expected that anyone would actually earn the maximum. One of the reasons that this particular plan was established was that some of the most senior and highest paid mechanics were doing the easier jobs, leaving the more difficult tasks for the junior and lower-paid workers. Thus this plan was an attempt to pay for skill combined with performance, without forcing anyone to do the harder jobs against their will.

The attendance plan applied to all bargaining-unit employees. In the contract's first two years, an individual would receive 10 cents per hour for each month worked with no unexcused absences, an additional 5 cents per hour for each quarter worked with no unexcused absences, and an additional 10 cents per hour for a full year worked with no unexcused absences. In the contract's final year, these amounts became 10 cents, 10 cents, and 15 cents per hour, respectively. Thus, if an employee worked for an entire year with no unexcused absences, he or she could receive 25 cents for every hour worked in the first two years of the contract, and 35 cents per hour actually worked in the agreement's last year.

The safety plan also applied to all bargaining-unit employees, and included both vehicle and personal accidents. Under the plan, an individual would receive 5 cents per hour actually worked for each month with no chargeable accidents, given at least 120 hours had been worked in the month. An individual would receive an additional 5 cents per hour for each quarter with no chargeable accidents, given that at least 360 hours had been worked in the quarter. A third payment of 5 cents per hour would be made if all 12 monthly awards were received. Also, if the employee had no accidents at all during a quarter in which at least 360 hours had been worked, then a fourth 5 cents per hour worked would be paid, and if an employee had no accidents at all for a year in which the 12 monthly awards noted above had been received, then a fifth 5 cents per hour would be paid for hours actually worked. Thus, if an employee worked full time for an entire year with no chargeable accidents, he or she could receive 15 cents for each hour worked, and could receive 25 cents per hour if there had been no accidents at all.

In summary, in the contract's first year, it was possible for all unionized Flint employees to temporarily increase their hourly rate by 50 cents per hour, or about 7 percent of the \$7.21 top hourly operator base rate. By the contract's last year, they could increase their hourly rate by 60 cents, or about 8 percent of the \$7.81 top hourly operator base rate. With the maintenance proficiency incentives, maintenance personnel could do even better. In the contract's last year, a mechanic could earn up to \$1.94 per hour for accident, attendance, and proficiency bonuses, or about 25 percent of the \$7.85 top hourly mechanic rate.

#### Implementing the Initial Plans

At the beginning of the first contract period, the union-management relationship was described by both union and management interviewees as a very adversarial one, involving little trust. Although the union team had developed a somewhat better relationship with the assistant general manager during negotiations, he was the only one present on the management side of



the table, and their relationship with him differed from their relationship with management in general. The union interviewee said the reasons for the poor union-management relationship during this period were the local union president, the agency's general manager, and the agency's supervisory staff. Likewise, at the beginning of the period, both parties described the agency's management style as very autocratic. Over the life of the contract, however, things improved according to both parties. Management style moved to a mixture of autocratic and participative, partly because managers who could not adapt to the new methods were fired. Not surprisingly, the union-management relationship moved from very adversarial to a mixture of adversarial and cooperative, and also the trust level substantially increased. Also, when the union formally affiliated with the Teamsters, the office of union president was replaced with the office of chief steward, and the person who had been president was not the chief steward. Thus, leadership changes by both parties helped to improve the situation. Part of the reasons for the changes were undoubtedly the substantial efforts made to introduce the new labor-relations philosophy, as discussed next.

A detailed plan was developed to sell the incentive concept to the workers in Flint, tied into the selling of the other mechanisms for changing the human resource system, such as labor-management cooperation and positive discipline. The efforts were jointly conducted by union and management, and involved, among other things, long training sessions for union and management employees, with the time spent being paid for by the agency. Both parties believed that the efforts were very effective. The management interviewee reported that the average worker thought it was likely that he or she would earn incentives; the union interviewee indicated that the average worker believed it was very likely that the incentives would be earned. In other words, most workers thought they would earn incentives. Indeed, as it turned out, many workers who actually did not earn much in the first year were surprised, even though their attendance and accident records were poor.

Detailed procedures were jointly established by management and the union to administer the plans. In fact, it took longer to implement the incentive plans than the parties had anticipated because of the time it took to translate the original concepts into operating procedures. An ongoing training program was established, which related primarily to the labor-management cooperation and quality-of-work-life plans, but which also included some discussion of incentives. The union was deeply involved in meetings and committees concerning the implementation of the plans, and workers were frequently in communication with both the union and management concerning progress. Moreover, the union had the contractual right to see all records, but believed that they would never have been refused access even without the contract provision. The agency had earlier installed a sophisticated computerized management information system, which somewhat eased the problems of storing and retrieving the substantial information required on each individual employee; the information collection, storage, and retrieval was handled by management.

Also, an Accident Review Committee was established by contract to arbitrate any grievances over the classifications that supervisors had given to accidents. This committee was made up of three outside, neutral members who were safety experts. Their decisions were final, but only concerning incentive pay issues. Other grievances involving an accident were still subject

to the normal grievance procedure. Along the same line, absences caused by illness were excusable only with a signed statement from a designated HMO facility. Thus, for the judgmental elements of both incentives, contractual procedures were established to ensure the absolute neutrality of decisions.

When asked if union-management discussions about the plans were more problem solving in nature, more legalistic in terms of rights and duties, or a mixture, both the union and management agreed that they were problem-solving discussions. It is instructive to note that, in relation to the accident classification, supervisors were told that management was not trying to take the incentives away from the workers, but wanted to help them obtain the goals when possible. To ensure that this was occurring, management told the supervisors that they did not want cases going before the Accident Review Committee that were likely to be lost. As a result, the Committee overturns only about one out of ten supervisory classifications. This serves to illustrate further the supportive rather than adversarial nature of the parties' relationship over incentives.

One factor that both the union and management believed made the employees more responsive to the incentives than perhaps they otherwise would have been were the terrible economic conditions in Flint at the time. Flint is heavily dependent on the auto industry for employment. Because of low U.S. auto sales in the early 1980s, unemployment in Flint was about 20 percent. Thus many transit employees were happy to be working at lower-paying jobs instead of not working at higher-paying jobs.

There was, however, much unhappiness from workers who did not earn much incentive pay. As a result, many grievances were filed. However, according to the union representatives, none were justified. Part of the problem was that there was a core of workers who were not willing to change their attendance and safety behavior, but believed that they should be paid the incentives even if they had not met the specific requirements because they considered themselves good employees. Also, there undoubtedly were some workers who were truly confused about the new system, despite the extensive training. Indeed, often when disputes occurred and the union and management representatives got together, the Teamsters business agent, who had been the chief negotiator for the union, agreed with management's interpretation of the contract language. It appeared that in a number of cases the two top negotiators had been very clear on what was being agreed to, but some other members of the union team had not really understood the agreement and its consequences. As a result of the internal union conflict, the business agent was fired by the local and another appointed.

#### Evaluating the Initial Plans

By the middle of the first contract period, management believed that the plans were proceeding successfully, but the union did not. There had been very large improvements in accident and absence rates. The benefits far outweighed the costs, according to detailed management calculations. Of course, this also meant that some of the workers were getting rather large bonuses. However, as already noted, there was a lot of turmoil within the union over the plans. This turmoil was partly the outgrowth of workers who were unwilling to change their behavior, but believed they deserved the money anyway. It was

caused partly by the workers who wanted to continue the old confrontational relationship with management. It was caused partly by the discomfort that surrounds any major change. But it was also partly the result of genuine problems in the plans. Both management and union interviewees said that if the contract had been for two rather than four years, the union would have demanded that the incentives be abolished, and management would have been forced to grant this demand. (It is interesting to note that the two chief negotiators had foreseen the possibility of such problems developing in the plans' initial years. They had signed a long contract deliberately so that the drastic changes being made would have time to succeed before they came up for renewal.)

By the end of the first contract period, management's benefit/cost and other success measures still showed the plans to be highly successful from their standpoint. The union's overall attitude toward the plans had substantially improved, and the union attitude was rated as very positive by both the management and union interviewees. Worker attitudes, however, were mixed, ranging from very positive to very negative, but averaging out to neutral. At this point, the dissatisfaction was the result of about 20 members who were still unwilling to change their behavior and were angry because they were getting less money than others, and also because of some genuine problems with the safety plan. Although the only real problems reported were with certain correctable aspects of the safety plan, the union membership was upset enough to want to discard the whole incentive concept. Although the union leadership was reported to be very positive about the plans in general, the membership static and minor problems with the safety incentive resulted in a union demand that the plans be removed.

The union's concerns were these. First, almost half of the safety incentive was paid only if there had been no accidents at all. If an operator's bus was hit while it was stopped at a traffic light, for example, then there would be a very sharp reduction in his or her safety incentive pay. The union believed that this was very unfair. Second, a month's safety incentive could be earned only if at least 120 hours, or about three weeks, had been worked; a quarter's safety incentive could be earned only if at least 360 hours, or about 9 of the 13 weeks, had been worked; and a year's safety incentive could be earned only if all 12 monthly awards had been given. Thus, for high-seniority employees, a normal vacation or an extended illness could make them ineligible for a monthly, a quarterly, and therefore the yearly safety award, even if they had no accidents at all when working.

By the end of the first contract period, however, both management and the union reported that worker performance was much better as compared to their performance before the incentives were initiated. However, both parties emphasized that the incentives were only one of several causes for the improved performance. In addition to the incentives, both parties said that the increasing employee involvement growing out of a more participative management style, quality circles, and labor-management cooperation committees all helped to motivate workers to perform better. Another factor mentioned by both parties was the replacement of the old negatively oriented discipline system with a positively oriented system, of which incentive payments were one element. In short, although incentive pay was the cornerstone of the new system of labor-management relations, the other mechanisms were also critical for success.

Management stressed two more factors, which they said were absolutely essential to the success to date. First was that the union and employees trusted management to keep their word. Second, and just as important, there was a strong commitment by top management to stay with the plans until they succeeded. As already noted, there was a substantial amount of discord over the plans, and top management's resolve to keep working on the plans until they were acceptable was essential.

### Goals of the Revised Plans

Management was basically satisfied with the incentive plans that were included in the first contract, but wished to modify them to overcome the concerns raised by the union, and also wished to increase the size of the incentive payments. Although the safety and attendance plans were primarily geared to decreasing the cost of service, management wanted to introduce additional plans aimed at increasing the quality of service.

To encourage workers to improve the quality of their performance, two new plans were proposed. First, because management believed that "the development of work habits consistent with established work rules and procedures is important for the attainment of organizational and individual goals," an incentive plan was proposed under which employees would be rewarded for performance periods in which they had not been disciplined. Second, because it was believed that "only through a professional image created by the way employees act and look will public support of transit be sufficient to allow organizational and personal goals to be met," an incentive plan was proposed under which employees would be rewarded for earning a certain number of professionalism points.

Although the union initially said that they wanted to eliminate incentive plans altogether, it became clear that they were particularly concerned with certain aspects of the safety incentive, as already discussed. It would probably be fair to say that the union was responsible for proposing changes that would make the entire safety incentive based only on chargeable accidents, and that would make it possible to earn the yearly and quarterly safety incentives despite regular vacations or extended illnesses.

### Designing the Revised Plans

During the negotiations, the overall union-management relationship was described as an equal mixture of the cooperative and adversarial types, according to both union and management interviewees. Likewise, both parties reported substantial trust in each other. Thus there was some movement toward a cooperative and trusting relationship, but because the bargaining relationship had already been fairly good, there was less room for improvement.

Because of the problems that the union had expressed, their initial demand was that all incentive plans be removed from the agreement. However, once the union concerns over the safety incentive had been dealt with, union opposition to the incentive concept was greatly reduced.

Although the proposals for the new plans were made by management, the union did make proposals concerning the modification of the old plans. However, bargaining over the plans was viewed by both parties as an equal mixture of cooperative



and adversarial, which was a substantial shift from the very adversarial bargaining that occurred over the plans during the first negotiations. Although the plans finally adopted were basically those that management had proposed, the union had substantial input into adjusting those plans to meet their needs.

At the end of the negotiations, both union and management interviewees reported the union's attitude toward the new plans was very positive. Also, both parties believed that it was very likely that incentives would be earned by many workers.

As with the first contract, moreover, the incentives were viewed by both parties as a further effort to bring the system's wages up to the prevailing local wage for comparable work. Thus again the incentives were not something in addition to a regular wage increase, but a necessary means of obtaining a fair wage. Indeed, when the union had initially proposed that all incentive plans be dropped, management agreed to do so. But, management cautioned the union that the incentive money could not be rolled into the base rate, because the system could afford to pay it only if performance was guaranteed. Therefore, without the incentive plans, the top potential wages would substantially decrease. Thus, the union was convinced to accept the incentives partly because it was the only way to get the desired wage levels, and partly because their concerns over the first plans had been resolved.

#### Characteristics of the Revised Plans

Thus, Flint expanded the number of incentive plans in their second contract from three to five (90). The five, all based on individual incentives and all involving temporary increases, were:

1. Individual Maintenance Proficiency
2. Individual Accident
3. Individual Attendance
4. Individual Discipline
5. Individual Professional Performance

The maintenance proficiency pay plan was changed by increasing the maximum hourly rewards in the four maintenance job classes from \$0.45, \$0.75, \$0.79, and \$1.34 to \$0.50, \$0.90, \$0.95, and \$1.50, respectively. The absence and accident plans' performance periods of a month, a quarter, and a year remained the same, but the potential earnings for each period increased. Thus the total potential yearly bonus for no unexcused absences increased from 35 to 45 cents per hour. For no chargeable accidents the total bonus increased from 15 cents to 30 cents, but for no accidents at all it decreased from 10 cents to about 5 cents. (In terms of actual contract language, only chargeable accidents were covered by the monthly/quarterly/yearly performance periods in the second agreement. If an employee worked a full year with no accidents at all, he or she would receive a \$100 bonus, which amounts to about 5 cents per hour.) Therefore, the total hourly accident incentive increased from 30 cents to about 35 cents, but with almost all the weight given to the chargeable accident record. All of the figures are for the last year of the contract; as with the first contract, some of the bonuses increased during the term of the agreement.

Also changed was the requirement that all 12 monthly safety awards be earned in order to earn the annual award; it was

replaced by the requirement that all four quarterly awards be earned. This change was combined with the understanding that anyone short of the required quarterly hours could work overtime to obtain them. Together, they removed the problem in which those on vacation or extended sick leave could sometimes not earn the annual and quarterly safety awards.

Finally, two new plans were established. One involved discipline. If a month was worked with no discipline notices, then the employee would receive 5 cents per hour, a quarter with no notices would bring another 10 cents per hour, and an entire year with no notices would bring an additional 15 cents per hour, for a total potential payment of 30 cents per hour actually worked. (These bonuses applied to the contract's last year; earlier amounts were slightly less.)

The other new plan was the employee professional incentive program. It works as follows (90, pp. 73-74):

Each employee will be provided at the beginning of each calendar quarter 25 incentive points. Each month where the employee maintain[s] the cumulative point total of 25 points during the first quarter, 50 points during the second quarter, 75 points during the third quarter and 100 points during the fourth quarter, a financial incentive will be given for each hour worked. Where the total points are equal to or greater than 100 on the 30th day of September [that is, after one full year], an additional annual incentive per hour will be granted.

It is the intention of this program to encourage positive performance on the part of the employee, therefore, additional incentive points will be earned for positive actions. Correspondingly, incentive points may be lost for actions that demonstrate a negative attitude on the part of the employee. An example of positive actions are the employee contributions to the Quality of Work Life program in the form of suggestions that result in the implementation of the improvements in the work environment, being selected operator or maintenance person of the month, or receiving letters of commendation. Incentive points may be lost when the employee demonstrates a lack of concern for the public, other employees, or job performance as indicated by such actions as the receipt of negative evaluations, negative customer reports, or non-compliance with an employee dress code.

An employee receives 5 cents per hour actually worked in a given quarter when he or she has maintained at least the required minimum number of points for that quarter. Also, another 10 cents for each hour actually worked is received when an employee has 100 points at the end of the year.

One initially surprising thing about the plan is its extreme subjectivity in determining what constitutes professional or non-professional behavior. However, the situation is handled as indicated in the following contract language (90, p. 74):

A committee of six (6) members, three Management employees and three Union members will be established to identify specific categories where positive and negative points will be applied. Union membership will be made up of the chief steward along with each of the stewards representing the drivers and the maintenance employees. . . .

A second committee will be established to review monthly the professionalism credits or debits. This committee will also be comprised of six (6) members, three from Management and three from the Union. . . . The awarding of a credit or debit for professionalism is the responsibility of the respective supervisor. However, this committee may review the actions of the superintendent upon the request of either the Union or Management. This committee will vote by secret ballot. It will take four (4) votes to alter the original credit or debit as assigned by the supervisor. . . .



This process is notable for several reasons. First, only the general concepts were agreed to under the pressures of negotiating the contract. The specific behaviors resulting in positive or negative points were to be worked out later. Thus these decisions were removed from normal negotiations to a period more conducive to taking all the time needed to reach decisions, and more conducive to integrative rather than distributive bargaining. Second, the employees are protected by an appeal process to a committee of equal numbers of management and union members. Third, management makes the initial decisions, as they should, and can only be overturned if a majority of the committee believe that the decision was wrong, thus protecting management's right to manage. Fourth, by making the decision by secret ballot, the committee members themselves are insulated from pressures from their own side or the other side. Although flaws in the procedure may surface as the parties use it, it represents a great deal of thought on how to make it workable, fair, and effective.

In total, by the end of the second contract, all unionized Flint employees could earn a maximum of \$1.25 per hour in incentive pay, up from \$0.60 per hour at the end of the first contract. Maintenance personnel could earn substantially more, with the top mechanic incentive being \$2.10 (\$0.60 + \$1.50). Thus operators could increase their top base hourly rate of \$9.15 by 14 percent if all incentives were earned, and mechanics could increase their top base hourly rate of \$9.15 by 23 percent, with other maintenance maximum incentives being between 14 and 23 percent.

### Implementing the Revised Plans

In addition to continuing the many methods by which the incentives were introduced and administered in the first contract, an number of new mechanisms were added. There were two new committees dealing with the professionalism incentive, as already discussed. Also established, per a memorandum of understanding in the contract, was a comprehensive program for training, testing, and rewarding maintenance personnel. This program seems to be partly an administrative mechanism for putting the maintenance incentive pay plan into operation. Although run by management, the program is subject to joint review on an ongoing basis through union-management meetings.

Finally, the actual role of the quality-of-work-life program was expanded. The parties developed the concept of gain sharing, whereby any gains coming out of the QWL effort would be returned to the workers, either through improved amenities, or with increases in the incentive rates to be negotiated in the next contract.

As during the introduction to the first contract, both the union and management said that the average workers believed it was very likely that they would earn incentives. Moreover, both parties had reported at the beginning of the first contract that the union-management relationship was adversarial and involved little trust. By the second contract, however, both parties reported that the relationship was substantially more cooperative than adversarial, and reflected much trust. Moreover, both parties reported that the agency's management style had moved from very autocratic at the beginning of the first contract to very participative by the second. As before, both parties reported that union-management discussions over the

plans were of the problem-solving rather than of the legalistic type. However, although many grievances had been filed over the plans during the first contract period, none have yet been filed during the first two and a half years of the second.

Also present during the second contract period were changing worker and union-leadership attitudes toward incentive payments. They increasingly came to accept them as a legitimate method of compensation. Furthermore, they more fully realized that improved individual performance leads to improved system performance, which in turn increases the money and job security that the system can give to the employees. In particular, it seemed that the employees had a much better understanding of the importance of the system succeeding if the workers were to have job security and pay increases. Indeed, as the end of the second contract period nears, the union is supportive of retaining all of the incentives in the contract, with no real changes.

### Evaluating the Revised Plans

As of March 1986, Flint has had more than two and a half years of experience with their second three-year incentive contract. At this point, both management and the union said that the incentive plans had been very successful. They are much more satisfied with the plans in the second contract than they were with the plans in the first. There has been continued progress in individual and system performance in the areas affected by the incentives. As another measure of success in terms of quality, in 1979 the system received numerous complaints from riders and subsidizers about poor service. In 1986, subsidizers never complained and riders seldom did. Finally, operating cost per vehicle mile has actually been decreasing and is expected to be about \$2.00 per vehicle mile in the current fiscal year, which is substantially lower than comparable systems.

Both management and the union rate worker performance much better than their performance during the first contract period. Very significantly, however, management noted that performance increased most rapidly in the first three or four of the six years to date. Although further increases have continued to occur, they have not been as large as at first. This is only to be expected, of course, because there is less room for improvement after high levels have already been reached. Therefore, although the total benefits continue to grow, they are likely to grow at a slower rate as time goes by.

Both management and the union interviewees believed that the workers had positive attitudes about the plans, although the union believed worker attitudes were even more positive than did management. Some incentive pay is earned by 100 percent of the workers; although initially only one or two people earned the maximum, now 13 or 14 people, or about 12 percent, routinely do so. In general, there seems to be agreement that the undesirable aspects of the earlier plans had been removed, and the workers, union, and management all seem to be more pleased with the second-generation plans and procedures for implementing them. The only dissatisfied workers are a core of workers who have been unable or unwilling to change their behavior, and those workers who still believe in the confrontational model of labor-management relations. These employees include between 8 and 20 people out of the 120 people in the bargaining

unit. They tend to come from the middle seniority employee cohort, with the oldest employees and the newest employees (who are the part-time drivers) being much better satisfied.

One final problem, pointed out by the union interviewee, is that for some workers the incentives become the only reason for maintaining good behavior. When some of the employees lose their chance to earn quarterly and yearly incentives, through one accident or one unexcused absence for example, they believe there is nothing more to lose with more bad behavior. The relatively modest punishments for bad behavior are not sufficient to prevent it, nor apparently is their desire to do a good job for its own sake. This problem may be related partly to the particular type of workers involved, and partly to the removal of strong negative sanctions. However, it may also reflect an attitude that sometimes develops when specific behaviors are rewarded: the behavior becomes only a response to the reward, and when the reward is removed, so is the motivation for the behavior. This should not be a problem at Flint for most workers because of the overall change in motivation techniques, but it may be a problem with a few employees. Although all of the factors responsible for the improved performance in the first contract were still important, management noted that the primary cause of the further improvements in worker performance were the expanded number of incentives. The union added to this that the additional money provided in all of the incentive plans was enough in total to make more workers more motivated to improve their performance. However, as the management interviewee again pointed out at the end of the interview, it is essential to understand

the relationship between quality of work life, discipline, positive and negative motivators, organizational communication, and mutual trust as ingredients in [the success of] this program.

Beginning in the first contract and continuing thereafter, the money had an indirect motivating effect as well. The yearly and last quarter incentive checks are presented at an annual awards banquet. Although initial attendance was small, attendance now amounts to about 90 percent of the workers. When spouses at the earlier banquets saw the vast differences in the size of the incentive checks, they began asking their mates why the differences occurred. On finding out that it depended on such things as attendance, they were said to have put pressure on their spouses to improve their performance!

In addition to improving worker performance, both the union and management reported that the incentives themselves had increased the employee commitment to the organization, and brought worker job goals more in line with the organization's goals. This is less likely to occur in individual than in group incentive plans, but it probably occurred in Flint for several reasons. First, performance indicators were chosen such that if individuals do better, it also results in improved results for the organization. Second, as noted earlier, the workers have begun to realize that their personal success was directly related to the organizational success. That is, if they could help the organization to do better, it eventually would be directly reflected in their pay level and their job security. It would seem, however, that this increase in commitment occurred because of joint effects of the incentives, extensive communication, labor-management cooperation, training, and quality circles.

In the next contract, both parties are strongly in favor of keeping incentive plans. Indeed, management would like to expand the percentage of wages accounted for by incentives, and would like to consider adding more behaviors to be rewarded by incentives.

## INCENTIVE PAY: GENERAL THEORY AND TRANSIT EXPERIENCE

Much general theory and many transit industry practices are covered in this synthesis. Key concepts from the general theory of incentives are presented at the beginning of each major section in Chapters 1 and 2. Key findings concerning transit practices are presented at the beginning of Chapters 3 and 4. Rather than repeating those summaries, this chapter amplifies some of the more important concepts from general theory with examples from transit industry experience.

**If incentive pay plans are to succeed, management must be committed to them, and must be willing to devote substantial effort to their design and implementation.**

One common factor in all transit cases where incentives have succeeded was an active management. In no known case has a union proposed an incentive plan. Indeed, even in those cases where the incentives eventually benefited all parties, the union had to be convinced by word and deed that the incentives were beneficial over the long run for the workers. Thus, if a transit system's management is not committed to the concept of incentive pay plans, and is not actively involved in their development, then they are unlikely to succeed.

**For an incentive pay plan to affect behavior in the desired ways, the workers must perceive that there is a relationship between the behavior and the reward, although the relationship does not have to be a certainty.**

In Houston and Flint, where both the unions and managements agreed that the incentive pay plans have caused the desired behavior to occur, they also reported that the workers and unions did perceive that there was a reasonable probability that the behavior would be rewarded. Initially, workers and unions sometimes believed that there was only about a fifty-fifty chance of earning the incentive, implying that sometimes a "reasonable" probability may not need to be very high. In New York, on the other hand, Jennings et al. (43, 44) reported that the employees did not believe that the reward would follow desired behavior, and indeed the behavior did not occur.

**A person will be motivated to exhibit the desired behavior only when the benefit exceeds the effort, according to his or her own individual valuation. In general, the higher the reward, the more of the desired behavior will be exhibited by the work force as a whole, because the benefit will exceed the effort for more people.**

In New York, Jennings et al. (43, 44) reported that the potential rewards were not high enough to be of value to most employees, which might be another reason why the incentive pay plan there failed to motivate the desired behavior. In Flint and Houston, on the other hand, it was clear that many workers did value the rewards. In Flint, for example, worker performance improved markedly during the second incentive contract as compared to the first. It was reported that a primary reason for this was the higher reward level. Also in Flint, when some of the workers have lost the possibility of getting the annual reward their performance has decreased substantially, even though they were still eligible for the smaller monthly rewards.

**Incentive pay plans will have unintended as well as intended effects, and unintended effects can influence the net benefit of the incentive.**

Not too many unintended effects were reported in the case studies. This may be because they were minor for the types of incentive plans being examined, or because they were not noticed or reported by the interviewees. Two unintended effects in Houston were the damage to the morale of some good employees and damage to team spirit caused by the performance point plan, under which workers competed against each other for bonuses. Indeed, because the harm caused by the unintended effects outweighed the good caused by the intended effects, the plan was dropped from the second incentive contract. On the other hand, both Houston and Flint reported that the incentive plans helped to increase worker commitment to the organization and the overall pride of the workers in their job and organization, which were probably benefits that were not initially anticipated.

**Incentive pay plans are best at attaining cost and productivity goals, but often are not effective for attaining goals involving employee commitment to the organization, employee competence, or congruence between worker and organizational goals.**

The evidence from Houston and Flint does not refute this statement, but does expand upon it. In both cities, incentives were reported to have improved commitment, competence, and congruence, as well as meeting cost and productivity goals. However, in both cities other aspects of general management and human resource management also were revised in order to improve employee productivity, commitment, competence, and congruence. Incentives were a necessary, but not sufficient, element in the achievement of these goals, according to all interviewees. It would appear, therefore, based on evidence from the transit industry, that incentives can be helpful in achieving com-



mitment, competence, and congruence goals when they are part of an appropriate package of factors. Thus the transit experience is in line with general theory (2, 5). As noted by Beer et al. (2, p. 115):

The design of a compensation system should rarely be the place to start in solving business and human resource problems, though it will always be an area that will have to be managed to complement other HRM [human resource management] changes.

**The motivation for cooperative performance caused by an incentive pay plan extends primarily to those within the performance unit.**

In Houston the accident incentive initially applied only to operators and the roadcall incentive applied only to maintenance personnel. Both incentives were extended to cover all unionized employees in the second contract. This has resulted in everyone feeling more like one team, and it has improved cooperation between the operators and the maintenance personnel.

**Trust is needed for any incentive pay plan to work, but the necessary level of trust is lower for some types of incentives than others.**

In New York, Jennings et al. (43, 44) reported that the employees did not believe the system was being administered fairly. This might have contributed to its failure. Also, Clark et al. (6) said that both the union and management in Flint believed that the incentive plans would have been unworkable without the high level of trust that was present.

On the other hand, a general trust in management may not be necessary, or at least not as high as implied in the literature, based on the Flint and Houston cases reported in Chapter 4 of this synthesis. In both cases, trust in management was very low during the initial stages of the first incentive contact periods, yet the incentives succeeded in changing worker behavior from the beginning. However, in both cases the union and workers did believe that there was a reasonable probability that incentive pay would be earned. Therefore, although trust in management initially was quite low, trust that the incentive could be earned was higher, and it is the latter trust that is important in motivating desired behavior.

Even to the extent that general trust in management is helpful, the cases imply that such trust can be developed concurrently with the use of incentive plans. Indeed, payment of incentives when truly earned may be one way of helping to build this trust. Thus, in both Flint and Houston, trust improved over the life of the first contract, and continued to improve thereafter as well. Trust was reported to have improved much more dramatically in Flint, but this probably was the result of the intensive union-management cooperation and quality-of-work-life efforts that took place there.

Also, even the trust that the incentives can be earned does not have to be extremely high, according to the evidence from Houston. It was reported there that the workers believed that their chances of earning incentives were about fifty-fifty, yet this apparently was high enough to elicit the desired behavior. This is not to say that higher trust would not have resulted in more of the desired behavior, or that the behavior would have occurred if no trust were present. However, it does imply that

incentives in which there is at least a moderate degree of trust may be successful in changing worker behavior.

Finally, the literature indicates that certain types of incentives require lower levels of trust than others. Thus the overall level of trust in management can be lower if the incentives are objective and are primarily under the workers' control. In both Flint and Houston, the initial performance indicators were either completely objective or procedures were present whereby judgmental decisions could be appealed to a neutral body. In Houston, the success of the system-wide performance indicators depended on management as well as worker performance. Despite the workers' initial distrust of management, it was apparently possible to change this quickly enough in the needed areas to result in workers behaving as desired.

In conclusion, the trust issue is more complex than it is often presented. Trust that incentives will be paid if behavior changes must not be confused with general trust in management. Even trust in the incentive may not have to be extremely high initially, and some types of incentives will work better than others in lower trust situations. Also, reliable payment of incentives may be one good way to build trust in general, as well as increasing the trust in the incentive system.

**The information and audit systems must be capable of collecting, storing, retrieving, and verifying any performance indicator used.**

In New York, the information that needed to be collected was very complex, and decisions on what to consider were somewhat subjective, as compared to the other systems examined. However, Jennings et al. (43, 44) reported that the administrative efforts to collect and verify the information on an ongoing basis were minimal, and that the special deputy comptroller who monitored productivity committee decisions was critical of the information used to justify pay increases.

Clark et al. (6) reported that both Flint and Minneapolis had the data processing capacities to keep precise records of all needed information. In Houston, the information machinery to collect system-wide statistics was in place when the plans were implemented, and no problems were reported. But the procedures to collect the individual information for the performance-point competition were not in place, and some of the problems with this plan were said to have grown out of shortcomings with the data-collection procedures.

In conclusion, the transit experience would support the general proposition noted above. It is essential to either already have or to be able to quickly construct the necessary information system.

**The workers and their unions must be willing to accept the concept of incentive payments, as well as the specific plans proposed. Although wholehearted acceptance is not necessary for success, complete rejection will normally lead to failure, even if management is able to force the plans into the labor agreement.**

Although the transit industry experience does not contradict this statement, it does modify it somewhat. First, in both Houston and Flint, the unions did strongly oppose the concept of incentive pay initially, and bargaining over the incentives was

very adversarial in nature. However, over the course of the negotiations the unions' attitudes became less negative, and the plans actually adopted were not viewed very negatively. Likewise, over time both unions, especially the one in Flint, have become increasingly positive about incentive plans.

Perhaps the lesson to be learned is that initial union opposition is to be expected. But incentives can succeed despite strong initial union opposition if a number of conditions are met: (a) the plans can be modified to meet major union concerns, (b) the union can be shown how the incentives will result in more money than otherwise would be available, and is convinced that the money could not have been included in the base rate, (c) management makes clear by word and deed that the plans are not attempts to weaken or destroy the union, (d) union and worker trust in management and/or the incentive plan is above the minimum threshold level needed, as discussed earlier in this chapter, and (e) in actual practice the plans do pay off as expected.

Although these conditions may not always be necessary or sufficient, they did seem to contribute to union acceptance in Houston and Flint. Moreover, fewer conditions for union acceptance may be necessary when the incentives are part of a package of trade-offs. Notably, however, the Houston and Flint experiences do not contradict the proposition that incentives will fail if a union continues to strongly oppose them.

Note that if a union believes that the incentive money could have been included in the base rate, it will be more reluctant to accept the incentive. Base-rate increases are preferred by workers and their unions because they are permanent, and because base-rate earnings usually are worth more than an incentive earnings. Base-rate earnings are usually worth more than incentive earnings because fringes usually do not include incentive earnings in the base from which they are computed. Thus, an increase in the base rate also increases fringe benefit earnings, whereas incentive pay usually does not. Perhaps more important from the union point of view is that incentive earnings usually are temporary. Not only can they vary within a contract period, but they can also be more easily dropped when a new contract is signed. In some cases, a union may fear that a management will pay a temporary incentive to boost performance, then eliminate the incentive in the next contract while demanding that the new high level of performance be maintained. (Of course, a union can propose that temporary incentive earnings be frozen into the permanent earnings base when the next contract is signed, but it is usually more difficult to get temporary earnings frozen into the base than to keep permanent earnings in the base.) In both Flint and Houston, the union interviewees believed that the incentive offer could not have been converted to base-rate increases, and if rejected would have been taken off the table. Also, neither union seemed to fear that management would try to drop the incentives after getting the employees to increase their performance to unreasonably high levels.

**Performance indicators should be easy to understand, and employees should be able to influence them.**

In both Flint and Houston, most indicators relating to individual performance, such as the attendance incentives, were easy to understand and were completely under the control of the employees involved. The indicators for Houston's individual performance point competition, however, were substantially

harder to understand, and moreover were less under the control of a given employee because the behavior of other employees could affect the outcome. These reasons may or may not have contributed to the plan's failure. On the other hand, in Houston the system-wide indicators were easy to understand, but some could be improved by the employees only if management also improved its performance. Effective management performance did make it possible for the employees to influence the indicators, however, and the plans were considered successful by both parties.

**Workers are more likely to be motivated by incentive pay plans that they or their unions have helped to design.**

In Houston and Flint, the plans finally adopted in the first contract were basically those that management had proposed. At the same time, the union did have the opportunity for input, and indeed some changes in the standards and other minor changes were made. However, during the term of the agreement in Houston, and during the second contract negotiations in Flint, the unions brought forward problems that arose with the incentives, and changes were made in the plans based on union concerns. Thus the Houston and Flint cases suggest that the unions may not provide much input into the initial incentive plans, but will provide input once the plans have gone into operation. It would seem, however, that the plans are more likely to succeed if the unions have the opportunity for input during the negotiations over the initial plans, during the term of the first agreement, and during renegotiation of the plans for the second contract.

**Communication efforts are needed for all incentive pay plans, both during their introduction and over the term of their existence.**

Based on the Houston and Flint experiences, this proposition is true, but the degree of communication should vary based on the nature of the incentives involved and the existing communication processes. Although Flint engaged in extensive extra communication, Houston treated the incentive plans as any other issue. In Houston the incentives were explained to the supervisors along with all other changes in the contract, and management discussed the incentives with a worker only when someone asked a question. The union in Houston also did not make any special efforts to explain the incentive plans, but discussed them as they would any other new contract provision. It may be, therefore, that when the plans and performance indicators are relatively easy to understand, only normal communication about how they work is necessary. On the other hand, Houston did keep the union constantly informed about progress, and the union passed the information on to the workers. In Flint, moreover, a large number of changes in addition to the incentives were being made, which necessitated more extensive new communication efforts. Thus, it may be reasonable to state that the degree and type of communication needed may be contingent on the nature of the incentive plans adopted, and other changes being made concurrently. But in all cases it is critical that substantial communication occur.

Despite the intensive communication efforts at Flint, there was a relatively large group of workers who could not or would not understand the behavior needed to receive the rewards. This

may imply that no amount of communication will be enough to educate everyone, and the amount should be tempered to where the benefit of additional communication is greater than its cost.

**Certain types of incentive pay plans, such as organization-wide plans, become less effective once an organization grows beyond 500 employees, because individuals can have little impact on the total organization's performance.**

This commonly held belief is contradicted by the evidence in Houston, which has 1400 operators and 700 nonsupervisory maintenance workers, each group being well beyond the 500-employee limit. In Houston's initial incentive contract, only operators and supporting employees were covered by the vehicle accident incentive, and only maintenance workers and supporting employees were covered by the roadcall incentive. In the second contract, however, both groups were covered by both incentives. Based on the 500-person limit, the incentives should not have succeeded in changing employee behavior under the first contract or especially under the second contract. Yet they did succeed in doing so according to both the union and the management, with employees being even more motivated under the second contract than they were under the first. There may, of course, have been special circumstances in Houston. But in any case, the 500-person limit should not be used as an absolute rule to be applied in all situations.

**Incentive pay plans must be congruent with a variety of other factors, including formal organizational and environmental characteristics.**

Some types of incentive plans common in other industries may often be inappropriate for transit systems. But, transit systems can develop unique plans that are congruent with the industry's strategies, organizations, and environment. For example, some types of plans, such as profit sharing, often will be inappropriate for a transit system, because the employees

often will have too little control over revenue generation and many aspects of productivity. On the other hand, some types of plans, such as those dealing with vehicle accidents, on-time performance, and roadcalls, are uniquely suited to the industry. Over time, it is likely that more and even better plans can be developed if transit uses the general principles such as those discussed in Chapters 1 and 2, but does not accept blindly the specific types of plans that have worked in other industries.

**The right incentive pay plan will succeed where important rewards can be given, rewards can be varied depending on performance, performance can be validly and inclusively measured, information can be provided that makes clear how rewards are given, trust is high, and employees accept the performance-based pay system.**

**Incentive pay plans should not be used where the trust level is low, performance must be measured subjectively, inclusive measures of performance cannot be developed, and the organization is large and performance cannot be measured at the individual or group level.**

It would seem that many of the factors necessary for success were not present in New York, while many of the factors that often lead to failure were. Thus the eventual failure of the New York plan could have been predicted. (Although, of course it is much easier to identify reasons for failure after the fact!)

Conversely, in Flint and Houston, it would seem that many of the factors necessary for success were present, while many of the factors that often lead to failure were not. The exceptions are that trust was not high (and indeed was low) in both systems initially, so the necessity of trust should probably be modified as discussed earlier in this chapter. Likewise, as also pointed out about Houston, in at least some situations, organization-wide incentives can succeed in large systems.



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## APPENDIX

### INCENTIVE PAY PLAN QUESTIONNAIRE FOR HOUSTON AND FLINT

A. NEGOTIATING OVER INCENTIVE PAY: FIRST CONTRACT
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1. Why were the incentive pay plans proposed?
2. What was the union's initial response to the idea of incentive pay? Where would you rate it on the following scale?  

Very Negative	1-----2-----3-----4-----5	Very Positive
	Neutral	
3. Were there any changes between the plans first proposed and what was finally agreed to?
4. What convinced the union to accept the incentive plans?
5. What point on the following scale represents the type of bargaining that occurred over the plans? ["Adversarial bargaining" is traditional bargaining, where each side tries to get as much as possible. "Cooperative bargaining" is more like problem solving, where the parties are trying to find mutually beneficial solutions to the issues. "Mixed bargaining" is some of each.]  

Adversarial	1-----2-----3-----4-----5	Cooperative
	Mixed	
6. Were any outside experts utilized? How?
7. At the end of the negotiations, what was the union's attitude toward the incentive plans?  

Very Negative	1-----2-----3-----4-----5	Very Positive
	Neutral	
8. What did the parties feel the chances were that incentive pay would be earned by many workers?  

Union:	Very Likely	1-----2-----3-----4-----5	Very Unlikely
Management:	Very Likely	1-----2-----3-----4-----5	Very Unlikely
		Neutral	
9. Were there any tradeoffs that involved the incentive plans, or were the plans negotiated independently of other issues on the table?
10. Other than the new incentives, were any other changes made concerning the subjects covered by the plans, such as changes in attendance or accident policies for example?
11. During the negotiations, where was the union-management relationship on the scales:  

Much Trust	1-----2-----3-----4-----5	Little Trust
Cooperative	1-----2-----3-----4-----5	Adversarial
	Mixed	
12. Was there anything else preceding or during negotiations that affected the plans?



12. During the first contract period, where on the following scales would you say the union-management relationship was? Did it change over the life of the contract?

Cooperative 1-----2-----3-----4-----5 Adversarial  
 Much Trust 1-----2-----3-----4-----5 Little Trust  
 Mixed

13. During the first contract period, how would you describe the property's management style?

Very Autocratic 1-----2-----3-----4-----5 Very Participative  
 Mixed

14. Did anything occur during the first contract period that affected the outcomes of the incentive plans?

15. Was there anything else that you feel affected the outcomes of the incentive plans (such as QWL or Labor-Management Cooperation Programs, unemployment, financial position of the property, management or union changes, changes in the contract other than the incentive plans, and so on)?

D. EVALUATING THE INCENTIVES: PRIOR TO SECOND CONTRACT

1. Was any evaluation conducted before negotiating the second contract? What were the results?

2. From management's viewpoint, rate the success of the plans at the end of the first contract.

Very Successful 1-----2-----3-----4-----5 Very Unsuccessful  
 Neutral

3. At the end of the first contract, rate worker and union attitudes about the plans.

Worker: Very Negative 1-----2-----3-----4-----5 Very Positive  
 Union: Very Negative 1-----2-----3-----4-----5 Very Positive  
 Neutral

4. At the end of the first contract period, how did worker performance compare to their performance before the plans were instituted?

Much Worse 1-----2-----3-----4-----5 Much Better  
 Same

5. What factors were responsible for the changes in worker performance?

6. Were there any other effects of the plans, either positive or negative?

7. What do you feel were the key reasons that the plans were succeeding or failing at this point?



E. NEGOTIATING OVER INCENTIVE PAY: SECOND CONTRACT
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1. During the negotiations, where was the union-management relationship on the scales:

Cooperative	1-----2-----3-----4-----5	Adversarial
Much Trust	1-----2-----3-----4-----5	Little Trust
	Mixed	

2. Did the union need urging to accept the continuance of incentives? If so, what convinced the union to continue them?

3. Were revisions in the plan proposed by management, the union, or both? Why were they proposed?

4. Were there any changes between what was first proposed and what was finally agreed to?

5. What point on the following scale represents the type of bargaining that occurred over the plans? ["Adversarial bargaining" is traditional bargaining, where each side tries to get as much as possible. "Cooperative bargaining" is more like problem solving, where the parties are trying to find mutually beneficial solutions to the issues. "Mixed bargaining" is some of each.]

Adversarial	1-----2-----3-----4-----5	Cooperative
	Mixed	

6. Were any outside experts utilized? How?

7. At the end of the negotiations, what was the union's attitude toward the new incentive plans?

Very Negative	1-----2-----3-----4-----5	Very Positive
	Neutral	

8. What did the parties feel the chances were that incentive pay would be earned by many workers?

Union:	Very Likely	1-----2-----3-----4-----5	Very Unlikely
Management:	Very Likely	1-----2-----3-----4-----5	Very Unlikely
		Neutral	

9. Were there any tradeoffs that involved the incentive plans, or were the plans negotiated independently of other issues on the table?

10. Other than the revised incentives, were any other changes made concerning the subjects covered by the plans, such as changes in attendance or accident policies for example?

11. Was there anything else preceding or during negotiations that affected the plans?

F. INTRODUCING THE INCENTIVES: SECOND CONTRACT

1. What efforts, if any, were made to explain the revised plans to the workers and supervisors?
2. Were the efforts carried out by management, by the union, or jointly?
3. How effective were the efforts?
4. What did average workers feel where their chances for earning incentive pay?  
 Very Likely 1-----2-----3-----4-----5 Very Unlikaly  
 Neutral

5. Did anything occur during the plans' introduction that affected their outcomes?

G. WORKING UNDER THE INCENTIVES: SECOND CONTRACT PERIOD

1. Were any changes made in the methods used to administer the plans?
2. Were the workers communicated with about the plans during the contract period?
3. Were any changes made in the opportunities for union or worker involvement in the operation of the plans? How much did they actually participate?
4. Did the union have any new rights concerning the recordkeeping and verifying the accuracy of the data? Did they exercise any of their formal rights?
5. Were any grievances filed over the plans?
6. Were union-management discussions about the plans more like problem-solving, more legalistic in terms of rights and duties, or a mixture?

Problem Solving 1-----2-----3-----4-----5 Legalistic  
 Mixed

7. Were there any new unintended effects of the plans, either positive or negative?
8. Were there any worker characteristics or behaviors that helped or hurt the plans' success?
9. Were there any union politics, leaders or behaviors that helped or hurt the plans' success?
10. Were there any management characteristics or behavior that helped or hurt the plans' success?
11. Was there anything else going on that helped or hurt the success of the plans?

12. During the second contract period, where on the following scales would you say the union-management relationship was? Did it change over the life of the contract?

Cooperative 1-----2-----3-----4-----5 Adversarial  
 Much Trust 1-----2-----3-----4-----5 Little Trust  
 Mixed

13. During the second contract period, how would you describe the property's management style?

Very Autocratic 1-----2-----3-----4-----5 Very Participative  
 Mixed

14. Did anything occur during the second contract period that affected the outcomes of the incentive plans?

15. Was there anything else that you feel affected the outcomes of the incentive plans (such as QWL or Labor-Management Cooperation Programs, unemployment, financial position of the property, management or union changes, changes in the contract other than the incentive plans, and so on)?

H. EVALUATIONS SINCE THE SECOND CONTRACT WAS SIGNED

1. Have any evaluations been conducted since the second contract was signed? If so, what were the results?

2. From management's viewpoint, rate the success of the new plans.

Very Successful 1-----2-----3-----4-----5 Very Unsuccessful  
 Neutral

3. Rate worker and union attitudes about the new plans.

Worker: Very Negative 1-----2-----3-----4-----5 Very Positive  
 Union: Very Negative 1-----2-----3-----4-----5 Very Positive  
 Neutral

4. How did the workers' performance in the second contract period compare to their performance in the first contract period?

Much Worse 1-----2-----3-----4-----5 Much Better  
 Same

5. What factors were responsible for the changes in worker performance?

6. Were there any other effects of the plans, either positive or negative?

7. What do you feel are the key reasons the plans are succeeding or failing at this time?

8. Would you like to see incentive plans included in your next contract? If so, would you like changes, and what would they be?



I. OTHER QUESTIONS
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1. Did you select your incentive plans based primarily on each's individual merits, or did you also try to choose a set of plans that complemented each other?
2. Have the incentives affected the workers' commitment to the organization?
3. Have the incentives affected the congruence between workers' job goals and the organization's goals?
4. About what percentage of the workers usually earn some individual incentive pay?
5. About what percentage of average earnings is a worker's incentive pay?
6. What are the union's main concerns about the incentive plans?
7. Is there anything else that you feel it would be helpful for me to know about your incentive plans, your union, or your property?