

Employee Incentives in the Public Sector: A National Survey of Urban Mass Transit Authorities

by
Diana L. Deadrick
and
K. Dow Scott

Managers in this decade are facing a number of challenges that hinge on the demand for increased productivity. This study focuses on the viability of financial incentive strategies to improve public sector productivity. The transit industry was chosen for the survey due to its interest in financial incentive programs (FIPs) and its concern with productivity. The data indicate that numerous FIPs are being used within the transit industry and that these programs are for the most part evaluated positively.

The declining growth rate of productivity in the United States, relative to other nations, is a matter of increasing concern for both the private and public sectors. Improving productivity, or the efficiency with which goods and services are produced, represents a means of maintaining economic growth, retaining foreign markets, reducing unemployment, and keeping inflation under control. Because the cost of labor is a major factor in the production of goods and services, increasing the output of human resources is an important element in reversing the productivity decline. Based on the economic realities of our times, Americans are finding that a commitment to productivity is a necessity, or, as a nation, we will face further erosion of our marketplaces and even tighter resource constraints. The productivity issue has become a major concern to public sector organizations in light of the public's demand for better services while maintaining, if not reducing, operational costs.

In response to these pressures for increased productivity and better quality service, private and public sector organizations are re-examining the use of financial incentive programs (Greiner, Bell and Hatry, 1975; Locke, *et al.*, 1980). The purpose of

Diana L. Deadrick is a Ph.D. candidate in the Human Resource Management Program at Virginia Polytechnic Institute and State University in Blacksburg, Virginia. She has written articles on selection, training, financial incentives, and the history of personnel management. Ms. Deadrick is an active management consultant to both government and industry.

K. Dow Scott is a management professor at Virginia Polytechnic Institute and State University. He holds a Ph.D. from Michigan State University and prior to pursuing an academic career was employed by the B.F. Goodrich Company in personnel. His research is directed toward productivity issues which include absenteeism control, financial incentives and productivity management. Dr. Scott is an active management consultant to both government and industry.

financial incentive programs (FIPs) is to motivate employee performance and reward increased organization productivity and effectiveness. Since Frederick Taylor's initial work on his now-famous piecework incentive plan, a plethora of monetary reward programs linking pay with performance has been used in private industry (Lawler, 1971; Lawler, 1981; Locke, *et al.*, 1980). Locke conducted a review of the empirical literature to determine which types of management programs were the most effective in terms of increasing performance and productivity, and he found that the individual FIPs resulted in the highest median performance increase as compared with the other programs (Locke *et al.*, 1980). Additional research reveals that FIPs represent a key to effective organizational change, lead to positive productivity results, and facilitate cooperation between labor and management to increase productivity (Greiner, *et al.*, 1977; Lawler, 1971; Lawler, 1981; Clark, Warren and Greisinger, 1983; General Accounting Office, 1981).

While financial incentives are widely used in the private sector, there is considerable controversy as to the appropriateness of these programs for public sector use. The idea of rewarding "public servants" for what they are already paid to do is highly debatable and may often be unacceptable to political leaders. Furthermore, due to political barriers and such limiting factors as civil service policies and procedures, it is often believed that financial incentives are simply not feasible. Greiner, *et al.* (1977) developed a series of reports and articles in which he examined the effects of FIPs in a government environment. He recognizes the constraining influence of public sector barriers, yet stresses that when financial incentives are properly planned and implemented, they can be among the most effective organizational change techniques available (Greiner, *et al.*, 1977:97): "The results of financial incentives generally coincide with findings in the private sector . . . monetary incentives for government employees have contributed to significant cost savings and improvements in efficiency without sacrificing service quality."

Based on an examination of over 200 books and articles focusing solely on financial incentives, the following were revealed:

1. An almost exclusive focus on private-sector FIPs with minimal attention to studying public sector FIP strategies.
2. Laboratory studies which manipulate single elements within an incentive program and rely on controlled laboratory conditions. These studies appear to have limited adapting the general contours of incentive programs to organization settings.
3. A wealth of anecdotal, prescriptive "studies" retelling the author's experience with one FIP within a specific organization, yet lacking an analysis of that program across different organizations.

Furthermore, Bullock and Lawler (1984) have pointed out that many researchers focus on an overall effectiveness rating for FIPs, and in doing so they neglect to report on the specific effects of these programs. Thus, the purpose of the present investigation is three-fold: First, to determine the applicability of the traditionally private-sector FIP strategies to the public sector. Second, to examine FIPs across a number of organizations within a public sector industry. And, finally, to determine

the extent to which FIPs are used within the urban mass transit industry and to evaluate the effectiveness of such programs within the transit environment.

METHODOLOGY

Sample

Survey questionnaires were sent to 850 transit directors from a list provided by the Urban Mass Transportation Administration. Twenty-eight percent (or 234) of the surveyed authorities responded to the questionnaire, and of these 222 (95%) were usable.

Based on the demographic section of the questionnaire, it was discovered that respondents had an average of 161 revenue-producing vehicles, 86 mechanics, 219 transit operators, and 517 employees in total. The average hourly pay for transit operators was \$7.56, while mechanics received an average of \$8.01 per hour. The employees were represented by unions in 60 percent of the sampled authorities, and 40 percent of the authorities contracted the management of the authority to a transit management organization.

Sixty-one percent (or 136) of the 222 respondents reported having at least one incentive program, 39 percent (87) reported the use of two different programs, 22 percent (48) have three programs, and 9 percent (20) were found to use four (or more) programs. In fact, a total of 291 incentive programs was reported, which was an average of two programs per authority that reported having an incentive system.

Incentive Programs

Based on knowledge of the transit industry and an extensive review of the financial incentive literature, four major types of financial incentive programs and one non-monetary program were described in the survey questionnaires as presented below. These programs were selected because of the appropriateness to transit authorities. Piecerate and profit sharing were not included because these FIPs were not directly applicable to the transit operations.

- **MERIT PAY:** An annual or semi-annual pay increase is given to employees based on their performance. This is not a general increase program (or cost of living adjustment) where all employees receive the same dollar or percentage increase. In order to measure performance, a technique such as a general rating scale (focusing on quality, quantity, problem-solving, etc.), critical incident, or joint goal-setting may be used.
- **SUGGESTION PLAN:** Individual employee ideas are solicited about reducing cost, improving quality of services, and improving safety. If the suggestion is used, the employee making the suggestion receives a cash award.
- **LABOR COST SAVINGS PROGRAM:** These programs provide a cash bonus that is based on productivity gains or labor cost savings. Typically, employee commit-

tees are established to encourage and implement employee suggestions to improve productivity. Any savings that occur as a result of these suggestions are shared among all participating employees. The Scanlon, Improshare, and Rucker plans are examples of these programs.

- **INDIVIDUAL CASH BONUS:** A bonus is a "once-only" cash award to an individual employee. This bonus is not a permanent wage or salary increase that is added to an employee's base pay. Participants may receive a bonus for good attendance, good driving record, performance, safety record, etc.
- **NON-CASH INCENTIVE:** Prizes or awards such as merchandise, dinners, and plaques are used to reward employees. The reward may be based on seniority/length of service, safety record, performance, attendance, or driving record.
- **OTHER FINANCIAL INCENTIVE PROGRAMS.**

Respondents were asked to identify which of these programs, if any, were in use, had been abandoned, or were being considered for future use by the transit authority. In addition, respondents were asked to evaluate the incentive programs in terms of their effectiveness. Because of the nature of the survey responses and the transit-specific versions of the basic programs, the respondents' evaluations are viewed as subjective assessments of program efficiency.

RESULTS

Frequency tables are presented that describe the characteristics of the FIPs currently being used in the transit industry. These tables summarize the present findings in terms of how widely each FIP is used in the industry; how long the program has been in existence; which employees participate in the program; how performance, or productivity, is measured; and how effective the program has been.

Program Use and Coverage

Table I provides three basic pieces of descriptive information about each major type of FIP. First, the table indicates how frequently each program is used within the transit industry (column 2). Second, the Program Experience columns indicate how long the programs have collectively been in use (columns 3-5). The last section of the table, Employee Coverage, breaks down each program in terms of the employees who are eligible to participate and also distinguishes between the programs on the basis of targeted employee groups (columns 6-10).

Column 2 reveals that Merit Pay is the most widely used FIP among the transit authorities, followed closely by Non-Cash Incentives (30% and 28%, respectively). The Labor Cost Savings programs were found to be the least common FIP in the industry (3%). In addition, only 22 programs (7%) were categorized as "Other" by respondents, indicating that the majority of FIPs fall within the general structure of the traditional private-sector strategies. Columns 3-5 indicate that approximately 47 percent of all FIPs fall within the experience range of one to five years. The most recent program among these is the Labor Cost Savings programs: 70 percent of these

TABLE I
Survey Results by Program Use, Experience and Coverage

FIP	PERCENT OF ALL REPORTED FIP	PROGRAM EXPERIENCE			EMPLOYEE COVERAGE				
		0-1 yr.	1-5 yrs.	Over 5 yrs.	Operators	Maintenance	Office	Supervisory	Mgt.
Merit Pay	30% (86)	7% (6)	43% (37)	50% (43)	37% (32)	37% (32)	78% (67)	90% (77)	73% (63)
Suggestion Program	13% (37)	14% (5)	51% (19)	30% (11)	95% (35)	95% (35)	89% (33)	81% (30)	51% (19)
Cost Savings Program	3% (10)	20% (2)	70% (7)	— —	70% (7)	80% (8)	50% (5)	50% (5)	10% (1)
Individual Cash Bonus	19% (55)	27% (15)	49% (27)	22% (12)	89% (49)	65% (36)	31% (17)	31% (17)	16% (9)
Non-Cash Incentive	28% (81)	11% (9)	47% (38)	41% (33)	93% (75)	63% (51)	40% (32)	33% (27)	20% (16)
Other	7% (22)	41% (9)	36% (8)	18% (4)	96% (21)	68% (15)	50% (11)	45% (10)	36% (8)

The percentages are based on 291 reported FIPs. Some agencies used a FIP to cover multiple employee groups therefore, the percentages for FIPs exceed 100%. In some cases this info was not provided, therefore the percentages for some FIPs may be less than 100%.

have been adopted since 1979. In addition, the Individual Cash Bonus appears to be relatively new to the transit industry: over 20 percent of these programs have been in use for less than one year. The fifth column indicates that merit programs are not only the most widely used FIP in transit, they also have been in existence for the longest period of time. Half of the merit programs reported here have been in use for more than five years.

Columns 6-10 indicate which employee groups participate in the various FIPs. Beginning with Merit Pay, it was found that salaried personnel are included in more than 75 percent of the reported merit programs. In contrast, the Non-Cash Incentive and Individual Cash Bonus programs are targeted at hourly-paid workers. In both the Non-Cash and Bonus programs, operators were found to participate in almost 90 percent of these programs and the maintenance employees in over 60 percent. Both the Suggestion and Cost Savings programs appear to be more evenly spread out among employees, with over half of the reported programs encompassing both salaried and hourly employees. However, the Cost Savings programs rarely include senior management (only 10%). The Suggestion programs emphasize operator and maintenance employees (95% participation rate) yet also include the office and supervisory employees in about half of the cases.

TABLE II

Survey Results by Performance Measurement Criteria

FIP	Number	Cost Savings	Supervisor's Rating	Attendance	Customer Compliment/Complaint	Seniority
Merit	30% (86)	3% (3)	97% (83)	49% (42)	34% (29)	19% (16)
Suggestion	13% (37)	62% (23)	14% (5)	14% (5)	16% (6)	8% (3)
Cost Savings	3% (10)	50% (5)	30% (3)	20% (2)	10% (1)	—
Individual SBonus	19% (55)	9% (5)	31% (17)	62% (34)	29% (16)	7% (4)
Non Cash	28% (81)	5% (4)	22% (18)	46% (37)	35% (28)	27% (22)
Other	7% (22)	—	9% (2)	64% (14)	23% (5)	9% (2)

Performance Measurements

Table II presents the behaviors, or results, targeted by the incentive program (i.e., the performance/productivity criteria). In an attempt to determine the specific FIP focus, the respondents were asked to identify which indicators are used to link employee performance with the potential rewards (i.e., customer satisfaction, attendance, etc.) Because many programs have multiple measurement schemes (and multiple program objectives), the percentages in Table II will exceed 100 percent.

Beginning with the first row, one will find that Merit programs utilize a supervisory performance evaluation in 97 percent of the programs, with attendance being the second most important job behavior cited (49%). Suggestion Plans rely on cost-savings as do the Cost-Savings programs (62% and 50%, respectively). Both of these programs focus on efficiency as a key variable. The techniques which focus most heavily on employee attendance are the Individual Cash Bonus (62%) and Non-Cash Incentive (46%) programs. Additionally, customer satisfaction and performance ratings are oft-cited criteria in the evaluation process of these two programs.

Program Effectiveness

Table III describes the FIP outcomes as they relate to the specific elements of each program. In order to address the need for a comparative evaluation of FIPs and their outcomes, the questionnaire was designed to focus attention on the impact of the programs on multiple dimensions. Rather than indicate simply whether one program works better than another, the question of what works best, and why, was addressed.

TABLE III

Evaluation of Program Benefits and Rated Effectiveness

Benefits Improvements	Merit	Suggestion	Cost-Savings	Individual Cash Bonus	Non Cash Incentive	Other
Reduced Tardiness	35%	—	11%	44%	28%	36%
Reduced Absenteeism	37%	6%	33%	53%	32%	55%
Reduced Labor Costs	17%	37%	44%	25%	21%	32%
Increased Customer Satisfaction	21%	17%	11%	31%	30%	32%
Increased Employee Motivation	84%	60%	67%	56%	58%	50%
Reduced road Calls	8%	17%	11%	9%	10%	9%
Reduced Cut Runs	10%	9%	—	7%	6%	5%
Increased Safety	19%	14%	22%	60%	60%	36%
Overall Effectiveness						
Not Effective	—	5%	10%	2%	1%	5%
Marginally Ineffective	1%	11%	10%	2%	2%	9%
Marginally Effective	41%	49%	10%	36%	43%	36%
Very Effective	47%	16%	20%	36%	33%	23%
Too Soon to Evaluate	6%	6%	40%	22%	16%	27%
No Response	5%	5%	10%	2%	5%	—

Eight dimensional measures of improvement, and one overall rating of program success, are displayed in Table III.

Increased employee motivation is the most frequently cited benefit of Merit Pay programs (84%), with reduced absenteeism and tardiness also seen as major improvement areas (37% and 35%, respectively). Overall, 88 percent of the Merit programs are judged to be "effective," with 47 percent being rated as "very effective." A notable finding is that no Merit Pay programs were seen as being ineffective, and only 1% were rated marginally ineffective.

The major benefit of the Suggestion programs is increased employee motivation (60%), followed by reduced labor costs (37%). Almost half (49%) of the respondents evaluated their Suggestion programs as being marginally effective, and an additional 16% were seen as being very effective. The Labor Cost Savings programs followed the same pattern of improvements as the Suggestion Plans, with the exception that reduced absenteeism also was seen as a major benefit of this FIP (33% of the reported cases). As noted earlier, Cost Savings Programs are relatively new to the transit industry, with none of those surveyed being in place for more than five years. Hence, 40 percent of the respondents indicated that the programs were "too young" for evaluation, and an additional 10 percent were not evaluated at all. Of the remaining 50 percent that were evaluated (5 programs), 30 percent were judged to be effective.

The Individual Cash Bonus and Non-Cash Incentive programs were associated with increased safety (both 60%), increased employee motivation (both over 50%), and

reduced absenteeism (53% and 32%, respectively). Thirty-six percent of the Individual Bonus programs were rated as very effective, and 33 percent of the Non-Cash Incentives were rated as very effective.

DISCUSSION

The survey results suggest that FIPs were a viable means of stimulating productivity in the public as well as private sector. Apparently, organizational pressures for productivity improvements are encouraging the utilization of private sector FIP strategies by numerous public sector transit authorities. These pressures appear to outweigh the fiscal and policy factors (or forces) thought to inhibit a change in the status quo. A current shift in the urban mass transit environment from expansion to maintenance of service can be characterized by a de-emphasis on capital development and an emphasis on human resource development — an area that represents one of the most important avenues for improving mass transit productivity. Because mass transit is relatively labor intensive, more efficient and effective use of labor can result in substantial cost savings. As a result, many transit authorities have adopted FIPs as a positive approach to increasing effectiveness and improving service efficiency. The traditionally private sector FIP strategy has had apparent payoffs for a significant, and growing, proportion of transit authorities. Not only have these authorities shared the responsibility for improving productivity with the employees, but they have also been willing to share the rewards resulting from employees' increased efforts and improved performance/productivity.

The findings are consistent with 1983 transit survey on Quality of Work Life in Transit (Clark, *et al.*, 1983). This survey points out that the recent growth of incentives in transit reflects the adaptability of FIPs as a means of effective organizational change within the public sector. These researchers found that although the collective use of transit incentives averages 5.8 years, the most commonly cited program duration was one year.

Due to the exploratory nature of this study, there are several limitations that have restricted the ability to generalize the findings. First, the identification of financial incentive programs is *not* as standardized as this survey would imply. Programs such as Merit Pay differ substantially from one organization to another in terms of program administration and reward distributions. Second, the reported use of FIPs in the transit industry may be overestimated because of response bias. Although numerous questionnaires were received which indicated no FIP experience, those transit authorities with FIP experience may have been more likely to respond to the survey. Finally, although urban mass transit is operated within the public sector, the industry may not be typical of other public sector organizations. One characteristic of transit is that it provides a distinct and highly visible service, often in direct competition with private transit operations.

In light of these limitations, this study may serve as a prototype for future studies that focus on the strategic (and innovative) management and control of public sector agencies. Examining the existence of FIPs within the transit industry makes some

inroads into the predominant research focus on private sector FIPs, and perhaps raises doubts about the alleged inapplicability of "private sector" management programs for the public sector. Future research as to the ongoing effects of FIPs on public sector organizations is certainly needed. However, the increased scarcity of public sector resources creates an immediate opportunity for public agencies to identify and develop the economic incentives that can emphasize *both* productivity and quality of work life.

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