The San Francisco Municipal Railway (Muni) has undertaken a transit service reliability demonstration under a Service and Methods Demonstration grant from the Urban Mass Transportation Administration. The objective of the demonstration is to improve the reliability of service delivered to transit passengers by applying a variety of management and operational strategies. Among the primary strategies are an operator performance evaluation and motivation program, an attendance management program, and on-street supervision and control strategies.

Multisystems initiated the project in December 1983, preparing summary papers to generate discussion on possible demonstration strategies. The papers reviewed Muni's current performance evaluation procedures and the approaches of several other transit authorities, including Metro-Dade, Houston Metro, Seattle Metro, METRO (Twin Cities), Flint MTA, Chittenden County (Vermont), and San Diego Transit. The papers also included summaries of the following approaches to improving productivity and motivation outlined in research performed by the Urban Institute [1]: monetary incentives, performance appraisal, performance targeting, job enrichment, and employee assistance programs. Research on the causes of absenteeism among transit employees was also re-

Transit Operator Performance Evaluation: Study Group Review at Muni

LARRY S. ENGLISHER, MARTIN J. MORGENBESSER, and JOHN P. ATTANUCCI

ABSTRACT

The results of a study group review of employee performance evaluation at the San Francisco Municipal Railway are outlined. The review was undertaken as one aspect of a demonstration funded by the Urban Mass Transportation Administration, which is aimed at improving the reliability of transit service. Muni is currently implementing study group recommendations as part of the ongoing demonstration. The study group process was used in a previous study of safety issues at Muni and proved quite helpful. By bringing together representatives of other transit properties that have been addressing similar problems, the study group was able to "brainstorm" and exchange ideas. Both Muni staff and the representatives from other properties left the 4-day session with new insights and ideas. The study group addressed several components of a performance standards and motivation program, including measurement of performance, setting targets, establishing incentive and awards programs, ongoing procedures for appraisal and communication, and outlining and operating under a system of discipline. Among the aspects of performance discussed were attendance and punctuality; adherence to schedule; safety; courtesy and appearance; stress and substance abuse; and general conformance to rules, procedures, and directives.
viewed, including studies of the impacts of extra-board scheduling and workers' compensation by Peat, Marwick, Mitchell and Company (2), MacDorman and MacDorman Associates (3,4), and the U.S. Department of Transportation (5), and on the role of stress by the University of California at Irvine (6,7). Recent developments in employee assistance programs (8), participatory management (9,10) and attendance policies (11) were also reviewed and presented to Muni.

On the basis of recent experience with an accident and safety program, Harold Geissenheimer, Muni's General Manager, suggested that a meeting with managers from other transit properties would help Muni to formulate an effective program design. Therefore, on April 11-13, 1984, representatives of Muni labor and management and the management of six other transit properties met to discuss approaches to operator performance standards and motivation that could be applied to Muni. The six properties were selected to represent a variety of approaches and on the basis of recent innovations they had undertaken. (The study group participants are listed in the acknowledgments at the end of the paper.) The recommendations of the study group are summarized in this paper.

STUDY GROUP RECOMMENDATIONS

The study group discussions focused on three major components of a performance standards and motivation program, as outlined in research by the Urban Institute:

- Measurement and targeting;
- Incentives, awards, and discipline; and
- Appraisal and communication.

Within these three categories, six aspects of performance were considered:

1. Attendance and punctuality;
2. Schedule adherence;
3. Safety;
4. Appearance and courtesy;
5. Substance abuse and dealing with stress; and
6. Observance of rules, operating procedures, and directives.

These six aspects were selected by Muni and Multi-systems. They were addressed both as a group and individually in the context of a performance standards and motivation program. The study group's recommendations are generally applicable to all aspects, although individual references are made in special cases at the end of the paper.

In the course of the study group's discussions, Muni representatives reported on Muni's activities to date in this area. As a result, the study group's recommendations built on those elements of a performance standards and motivation program already in place. The recommendations of the study group are discussed in the following sections.

Performance Measurement and Targeting

Measurement

The measurement of performance provides the foundation on which a performance standards and motivation program can be built. Although the extent to which performance can be quantified depends on the aspect of performance being measured, the study group made a number of general recommendations.

Ideally, performance data should be accurate and timely; an automated management information system would facilitate this. As a first step, Muni should establish a limited number of simple performance measures that can be managed manually and are clearly understandable to supervisors, operators, and all management levels. The use of a personal computer was suggested by some members of the study group; a pilot program using a personal computer could be part of a longer term effort to develop a performance monitoring system.

Measures should ideally be expressed in terms of performance per operator as opposed to systemwide statistics per operator or an average per year instead of the currently used percentage of operators not present on an average day). Expressing the measures in this way makes them more readily understandable and usable to supervisors and operators who are trying to achieve established goals.

Measurements should be done on a rolling basis; "per year" should mean the immediately preceding 12 months not the calendar year. This approach removes artificial time constraints and allows for a more meaningful time period (i.e., 1 year instead of the current 3 months). It also addresses an issue raised by Muni regarding the use of an individual's long-term record in the application of discipline. The use of a rolling year also departs from Muni's current practice of allowing a certain number of miss-outs per quarter.

On the basis of these general recommendations and the specific discussions at the meeting, a sample set of performance measures has been prepared:

1. Attendance
   - Unscheduled absences per operator,
   - Miss-outs per operator,
   - Sick and occupational illness absences per operator, and
   - Late reports per operator.

2. Safety
   - Chargeable accidents per operator;
   - Chargeable accidents per 100,000 miles by mode, division, and type of accident;
   - Safety commendations per operator; and
   - Safety violations per operator.

3. Schedule adherence
   - Early departures (1 min or more) as percentage of departure checked for system,
   - Percentage on-time arrivals (to be defined), and
   - Ahead-of-schedule violations per operator.

4. Appearance and courtesy
   - Passenger service reports per operator,
   - Commendations per operator, and
   - Uniform violations per operator; and

5. General adherence to rules
   - Rule infractions write-ups per operator and
   - Commendations for general adherence to rules.

Note that because performance characteristics may vary by mode, performance measurement should be performed separately for each mode, where applicable.

Performance measurement is not in and of itself a motivational factor. However, making average "per operator" statistics available, and graphically presenting trends in such statistics (for the system and by division), can provide a clear picture to operators and their supervisors of movement toward achieving goals.

Similarly, the manner in which performance measurements are implemented and articulated can significantly affect morale. A negative emphasis and complicated, imposing forms could alienate and demotivate the majority of operators who want to perform well and do little to improve the performance of others.
A positive approach to performance measurement should be presented using clear, agreed-upon definitions of the measures to be used. Furthermore, at the start of implementation, it should be understood that, as for anything new, there will be a shakedown period during which the measurement system can be adapted to the particular situation before being institutionalized. All parties involved in the initial design of the measures should have an opportunity to provide input to any revision process. Such an approach means that the initial concern is about new procedures and provides the initial flexibility for developing a "tailor-made" system. (After the shake down period, there should be periodic reevaluation, but changes should be infrequent.)

Targeting

Targets can be set for each of the established measures. Instead of transferring standards from other transit properties to Muni, it was recommended that Muni assess current performance and establish targets for percentage increases or decreases in selected performance statistics. The targets should be achievable and arrived at in a participatory manner; getting supervisors and operators involved in the process of establishing targets fosters commitment to achieving them. The targets should be reevaluated and revised periodically.

Multisystems is currently assisting Muni in implementing a set of performance measures and a microcomputer-based monitoring system, and in establishing targets based on improvements over current performance.

Incentives, Awards, and Discipline

Incentives and Awards

When a measurement system has been established, programs can be designed to reward employees for their superior performance. Incentives, awards, and, in a larger sense, recognition are all positive motivators. They can be divided into three distinct categories:

1. Pay incentives, which are a significant percentage of the total paycheck (i.e., 5 to 15 percent), are monetary payments (i.e., bonuses, incentive-based pay scales) directly tied to performance. Such pay incentives may be offered to individual employees or to groups (divisions) that meet the criteria.

2. Nonpay awards and recognition may be a small monetary award (less than $200), a nonmonetary gift (trip, dinner, trophy), preferential parking, dedicated bus with driver's name on it, or social activities. Publicizing the award (ceremonies, articles in newspaper) is also a form of recognition that enhances the impact of the award itself.

3. Time off is a unique type of nonmonetary reward that can be used to reward superior attendance and punctuality. Depending on its application, it can discourage the abuse of sick leave and transform a large number of expensive unscheduled absences into a smaller number of less expensive scheduled absences.

The second category, "nonpay awards and recognition" was cited by the study group as offering the greatest return in terms of being both relatively inexpensive and a strong performance motivator. Furthermore, it appears that these are implementable by Muni now, in contrast to pay incentives. Although pay incentives were cited as effective (in Flint and Houston), the increased data processing requirements and complication of pay structures might make them difficult for Muni to implement in the immediate future. More important, San Francisco City Charter laws prohibiting "give-away of city funds" would constitute a greater barrier to pay incentives than to nonpay incentives. Thus, pay incentives should be considered only a longer term possibility. Although the law may also apply to monetary nonpay awards (i.e., cash prizes), the smaller magnitude and special nature of these awards might make them easier to structure to come within the law. Furthermore, because the cost is relatively low, it may be practical to establish special funds, perhaps raised by nontransit activities (advertising, business contributions), that would not be subject to the restrictions. In the long run it may be advisable to seek legal advice on how to remove the city restrictions.

In addition to these constraints, there was clear sentiment expressed at the meeting by both management and labor that nonpay awards, in particular publicized recognition, would be stronger motivators than pay awards. This led the study group to recommend that Muni give a higher priority to nonpay incentives than to pay incentives for the immediate future.

Two philosophies were identified in designing an incentive and award system: awards can be large and go to a few operators or awards can be smaller and go to many operators. Rewarding a few results in focused recognition; positive "examples" are created. Spreading the rewards, however, spreads recognition and makes rewards more attainable; this increased attainability is consistent with the philosophy of setting achievable (not necessarily easy) goals--success is a strong motivator.

The Metropolitan Transit Commission (MTC) of Minneapolis-St. Paul struck a compromise between these two philosophies in designing its incentive system. Using a two-tiered approach, several levels of achievement with increasing rewards were established. As many as 40 to 60 percent of operators qualified for the first level; a much smaller percentage reached the highest level. This appears to be a good compromise and is recommended to Muni. It will enable Muni to recognize and give a "pat on the back" to the large group of operators doing a good job while further rewarding those doing a superlative job. (Another aspect of the recommended to Muni is that several aspects of performance are considered so that each level of achievement represents a complete performance profile.)

Muni should also widen award distribution by giving them out separately for each division or mode (i.e., instead of one driver of the month there would be several from various divisions or modes.) Alternatively, divisional awards can be given to create positive competition among divisions and esprit de corps within. This approach has been applied successfully in Houston.

There was considerable discussion at the study group meeting about which incentives are the strongest motivators; the recommendation was that this question be addressed to the employees themselves. Accordingly, a survey of operators is being undertaken. The study group stressed the importance of follow-up and action based on the survey. Otherwise, expectations might be raised but not realized, which could adversely affect morale.

Another method for selecting the strongest motivators is, where practical, to build some flexibility in the award programs. For example, an operator might be offered a choice between a cash award and some time off.
Discipline

Discipline works in concert with incentives and awards to encourage good performance. Although it can be considered a "negative incentive," if properly implemented, it is a positive force.

Two distinct philosophies of discipline were discussed at the meeting. One, the traditional approach, views discipline as punishment for violation. The other approach, which has been successfully applied at Seattle Metro, is dubbed "positive discipline" and views discipline as a means of clearly articulating what is expected of the operator and obtaining the operator's commitment to meeting the expectations. When these accepted expectations are not met, discipline is applied progressively (i.e., in accordance with severity and past record) along with counseling to help the operator make a commitment to and meet the expectations in the future. Should the point of termination be approached, the operator is given a decision-making leave—time to decide whether to make a commitment to meeting performance expectations or to accept termination.

The study group recommended the positive discipline approach. The success of such a system requires trust between management and labor; regular conferences with division supervisors; and the existence of an established, working grievance procedure. Muni generally possesses these prerequisites, although a greater emphasis on conferences was recommended.

The key aspects of the recommended discipline program include the following:

1. Clear, understandable, agreed-upon rules. This may involve management-labor discussion and rule book revision. The current rule book, in place for some time, was deemed by both labor and management to be confusing and out-of-date. When rules are clear, understood, and agreed-on, operator commitment can be obtained.

2. Fair, consistent application of specific discipline balanced by appropriate management discretion. For discipline to be respected and upheld, fairness, consistency, and specificity are essential. However, in order to (a) allow managers to manage, (b) accommodate special circumstances, and (c) consider an individual's total record, a certain amount of managerial judgment must exist. Such leeway can be built into the system and fairness and consistency can be preserved provided enough so that supervisors and operators are not overwhelmed by constant conferences. A longer interval will allow supervisors to expand the time spent with the operator and thereby have an effect on performance and motivation. Although disciplinary matters may be discussed, this a priori understanding will allow better communication.

3. Discipline should be progressive. Discipline for minor infractions should be key to the severity of the problem and the individual's past record (over a rolling year period).

4. An individual's overall performance should be considered. This will prevent demotivation of good operators who may have erred but whose past record indicates acceptable or superior performance.

5. Counseling at each stage of the disciplinary process. The operator should be counseled about what performance is required and how the requirement can be met. This necessitates a management structure that allows managers administering discipline the time, information, training, and incentive to constructively counsel operators. The study group recommends that the division supervisor conference program now in effect at Muni devote more time to conferences and improve the quality of the conferences.

Employee assistance program referrals. If, in the disciplinary process, it becomes apparent that there may be personal, stress, or substance abuse problems, the individual should be referred to the employee assistance program for appropriate counseling and rehabilitation. In the case of substance abuse or other safety threatening conditions, it is also necessary to take the operator out of service (substance abuse is discussed further later in this paper).

To successfully implement the program described, it is crucial that all managers involved in the disciplinary process receive proper training and that the program be reviewed.

Appraisal and Communication

Performance appraisal and communication were identified as crucial elements of a standards and motivation program. Using the information provided by performance measurement, the goals that have been targeted, and the motivational tools of incentive, award, and discipline, the manager should communicate to the operator what is expected and whether those expectations are being met and should let the operator know how to progress toward them when they are not met. The manager must also recognize and reward superior performance. The operator, in turn, needs to communicate an understanding of expectations and a commitment to them. There must be a channel open for the operator to communicate questions and problems.

To facilitate this two-way communication, all operators should have conferences with their supervisors on a regular basis. Muni already has a program of conferences by division supervisors and assistant division managers; the following paragraphs outline guidelines for conducting and reviewing conferences that may lead to improvements.

The supervisor must have the time, information, training, and incentive to conduct a constructive conference. Division managers should periodically review the conferences. It should be made clear to operators, in advance, that these conferences are separate and distinct from the disciplinary process, although disciplinary matters may be discussed. This priori understanding will allow better communication.

The time interval between such conferences should be short enough for the conference to be remembered and thereby have an effect on performance and morale. It should last long enough so that supervi­sors and operators are not overwhelmed by constant conferences. A longer interval will allow supervisors to expand the time spent with the operator and do the preparation needed to have a meaningful conference. Six months was suggested by the study group as a good interval. This represents an increase from the 3-month interval previously in place at Muni. More time for preparation should facilitate longer, higher quality conferences. As of this writing, Muni has already implemented the 6-month interval.

In addition to these formal conferences, other channels of communication can be opened or strengthened.

1. Company newsletter. The study group recommends using a newsletter to acquaint operators and
supervisors with each other, publicize performance trends, recognize exceptional operators, and encourage "letters to the editor" to raise questions, identify problems, and suggest solutions. Both operators and supervisors should be involved in the newsletter. [The Washington, D.C., Metropolitan Area Transit Authority (WMATA) and Seattle Metro publish newsletters and claim they are highly beneficial.] As of this writing, Muni has implemented a newsletter.

- Informal "rap sessions." Such sessions involving operators and supervisors should be used to discuss achievements, problems, and solutions.
- Joint labor-management board (JLMB). The JLMB should be continued and its role strengthened as a channel of communication and an avenue for operator participation and job enrichment.
- Intersupervisor communication. Improved communication within management, especially including first-line supervisors, will benefit supervisor-operator communication as well.

Aspects of Performance

The aspects of performance identified at the beginning of this paper have been referred to implicitly (and occasionally explicitly) in the preceding discussion of recommendations for an operator performance evaluation program at Muni. This section contains comments of specific pertinence to the individual aspects of performance.

Attendance and Punctuality

There are really two management goals with regard to attendance. The first is to reduce overall absenteeism. The second goal is, for a given level of absenteeism, to create incentives that will encourage the appropriate use of scheduled time off (vacation, individual personal days) in lieu of unscheduled absence (sick days) and lateness. This facilitates planning, which helps maintain schedule reliability and results in less expense than do unscheduled absences.

To achieve these goals, data collection and analysis should be undertaken so that understanding of the causes of absenteeism can be improved. Research at other properties and absenteeism records will be helpful in this task. Management should understand the different needs for different types of time off and should examine how its policies affect attendance and punctuality. Such policies include

- Size of extraboard and resulting extent of overtime use,
- Limitations on vacation or personal days (scheduled time off) that encourage sick leave abuse (unscheduled time off),
- Operator selection criteria (Are operators selected who can handle stress of the job?),
- Operator training and communication,
- Reduction of unnecessary stress, and
- Equipment availability to match operator commitment.

It is also necessary to educate operators and supervisors about the relationship of attendance and punctuality to service reliability. This will help develop a commitment to good attendance and punctuality.

Schedule Adherence

It is recognized that running ahead of schedule is more within the control of the individual operator than is running late. It should therefore be the primary focus in measuring individual operator performance. Running late, however, should not be ignored. The limited extent of driver control over lateness should be explored, along with the full range of causes, including equipment availability, scheduling, traffic, weather and road conditions, and load factors.

In measuring schedule adherence, it is important that those performing the measurement be objective. If, for example, street supervisors are charged with gathering data on schedule adherence and those same street supervisors are evaluated on the basis of schedule adherence, there may be a problem with objectivity.

Safety

Safety training and awareness should be emphasized. In conjunction with efforts to set standards and motivate safety, it is important to clearly determine what is and what is not an operator preventable accident and to investigate each accident promptly and thoroughly to establish cause.

The study group was made aware of a separate "Accident Peer Group Review" that addressed safety at Muni. Its recommendations provide additional input to the development of measures, targets, incentives, discipline, and so forth.

Appearance and Courtesy

Instilling pride and a sense of commitment in general should produce specific gains in this area. Awards and recognition are particularly appropriate to reward courteous service.

Involving operators in the design of uniforms was recommended to encourage their subsequent use. (This approach has been used in Seattle.) A process for union input to the design of uniforms is already in place at Muni.

Substance Abuse and Dealing with Stress

Although substance abuse is difficult to quantify, it is an extremely important area because it directly affects safety. A strong, accessible, and trusted employee assistance program (EAP) is a major preventive asset. One approach to encouraging preventive use of the EAP before an accident occurs is to offer the following (a version of which is in place at WMATA):

- If an operator has a drug or alcohol problem that affects the ability to drive safely, and so notifies the supervisor, the operator will be put on a noncritical job (e.g., cleaning) and sent to the EAP, drug rehabilitation program, or other appropriate resource of help. After successful completion of the prescribed program, the driver will be returned to service with the understanding that recurrence of the problem will necessitate dismissal. (Follow-up counseling will be available, however, to help the operator avoid recurrence.)
- If operators with drug or alcohol problems fail to take advantage of this opportunity to seek help, however, they are subject to normal disciplinary procedure (i.e., termination of employment). (At WMATA, every employee involved in an accident is required to submit to a blood test to determine the presence of alcohol or drugs.)

In all cases the emphasis should be on getting the unsafe driver off the road before an accident.
stress-related problems (e.g., divorce, depression) that may impair job performance; all Muni employees should be encouraged to make use of this resource before a stressful condition results in serious deterioration of performance.

Observance of Rules, Operating Procedures, and Directives

This aspect of performance includes miscellaneous yet important items, such as running with proper signs, calling out stops, stopping at designated locations, responding to passenger inquiries, following supervisor directives, and awareness of notices, all of which affect the quality of service and are performance indicators in themselves. Improved communication and appropriate use of disciplinary procedures should produce gains in this area. Many of the aforementioned communications improvements, such as newsletters and more conferences can be used in efforts to increase observance of rules. Specific incentives and awards may be created to reward attention to these aspects of quality of service.

CONCLUSIONS

The study group review process enabled Muni to benefit from the experiences of other transit properties in tackling the issues related to evaluating employee performance and motivating employees to improve service. The study group initiated a mutually beneficial exchange of ideas among representatives of several properties, brought new ideas to Muni staff at several levels, and fostered a dialogue between union and management that will be beneficial to the special demonstration project and to Muni employees. As a result, Muni was able to reevaluate a number of its programs and to plan enhancements for both the short and the long term. The developments at Muni in implementing these enhancements, as well as the guidelines for employee performance evaluation and motivation programs, should prove useful to other transit properties.

EPILOGUE

As of this writing, Muni has implemented a number of the recommendations of the study group. Current activities include installation of an operator performance monitoring system that has been developed for use on a microcomputer using commercially available data base management software, setting of performance targets, review of attendance policies, expanded recognition programs, revisions to the operator rule book, and analysis of street supervision activities to design an experiment for implementation in the coming year.

ACKNOWLEDGMENTS

This research was sponsored by the Urban Mass Transportation Administration Service and Methods Demonstration Program; the UMTA technical monitor is Joseph Goodman. Multisystems is assisting under a contract with the Transportation Systems Center (TSC); the project manager at TSC is Robert Casey. The views expressed in the paper are not necessarily those of the sponsoring agencies.

The contribution of the following key study group participants along with that of other active observers is gratefully acknowledged. Transit industry representatives: Shirley Delibero, Director of Human Services, Washington Metropolitan Area Transit Authority; Robert Foy, Acting General Manager, Mass Transportation Authority, Flint, Michigan; Phil Garey, Director of Transportation, Regional Transit Authority, New Orleans, Louisiana; Dan Gracyk, Manager of Bus Operations, Swallow Metro; Martin Reiner, Executive Assistant to the General Manager, Metropolitan Transit Authority of Harris County, Houston, Texas; and Tom Vida, Assistant Director of Transportation, Metropolitan Transit Commission, Minneapolis-St. Paul, Minnesota. San Francisco Municipal Railway participants: Ray Antonio, Executive Vice President, Transport Workers Union, Local 250A; Bobbie Brown, Potrero Division Chairman, Transport Workers Union, Local 250A; John Hopper, Business Representative, Transport Workers Union, Local 200; George Newkirk, Manager, Field Support; Dianne Ngaya, Manager, Training; Dick Singianti, Manager, Field Operations; Paul Tolliver, Deputy General Manager of Operations; and Alvin White, Vice President, Transport Workers Union, Local 200.

REFERENCES