

Management of Transit Bus Prerun Inspections

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ABSTRACT

Described in this paper are the types of bus prerun inspection programs that are used at various transit systems within the United States. The information was obtained through mail-out questionnaires and phone interviews. The results indicate that there is a great deal of variety in how transit properties design and manage their prerun inspection programs. For instance, some agencies have formal procedures that utilize detailed checklists and constant management oversight while other agencies do not have any programs at all. Successful programs have visible support from management: if an agency's management believes in the efficacy of the program, it is much more likely that the inspection program will be undertaken and properly completed. The two greatest problems in utilizing prerun inspections are a lack of funds to pay for additional personnel time (principally supervisory time) and a lack of knowledge about how to operate and enforce inspection programs. The benefits of using prerun inspection programs include improved vehicle reliability, safer vehicles, and improved maintenance efficiency. Transit agencies should develop and use prerun inspection programs to improve vehicle reliability and possibly lower overall maintenance costs. If an agency does develop a program, management must offer visible support for the program; otherwise, inspections are unlikely to be performed properly.

Prerun inspection procedures are often cited as a key element of vehicle reliability programs, yet little has been written on the subject. Presented in this paper are the results of two surveys of transit bus inspection procedures in the United States. The goal is to document current practice and to summarize the characteristics of successful prerun inspection programs.

STUDY PROCEDURES

The study was conducted in two phases involving mail questionnaires and telephone interviews. The agencies consulted were selected to represent medium-sized systems (45 to 1,000 vehicles). Initial contact was made with system managers via letters stating the project's research goals and requesting participation in the project. A short questionnaire, printed on the back of a postcard, was included with each letter. In all, 119 letters and questionnaires were mailed, and 66 (56 percent) responses were received. The information obtained from the mail-out questionnaires was used to determine whether or not an agency had an inspection program. Questions were also asked about how drivers viewed the task and the use of prerun inspection forms.

The second phase of the study involved telephone interviews, which sought more specific information on prerun inspections. During this phase, 57 managers were interviewed by telephone. An open-ended questionnaire was used, and interview questions were tailored to the responses of the mail-out survey. Most interviews lasted between 20 and 35 min. Material used in the performance of prerun inspections,

such as checklists, runcards, and company memoranda, were requested during each of the interviews:

OVERVIEW OF CURRENT INSPECTION PROGRAMS

Prerun vehicle inspections of some sort are conducted by most of the systems that responded to the survey. The general reasons for conducting inspections are that they

- Contribute to the safety of operators and passengers,
- Help maintain vehicle performance and reduce road calls,
- Increase efficiency, and
- Document body damage and improve driver accountability.

(In California and New York, prerun inspections are conducted to comply with state legal codes, which require vehicles to be maintained at a specified operating level).

Methods of prerun inspection vary greatly from system to system. Some systems utilize a formal checklist that must be completed and signed by drivers on a daily basis. Others merely provide drivers with verbal instructions during initial training and orientation sessions. Some systems' prerun checklists cover over 25 items, and others focus on only 10 or fewer items. All checklists typically require inspection of brakes, tires, lights, steering, doors, horn, and general vehicle condition. Supervision and disciplinary procedures vary from system to system.

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CHARACTERISTICS OF THE SYSTEMS CONTACTED

Table 1 gives the fleet sizes of the systems that were contacted and those that responded. The sizes of the fleets for the systems participating in the

TABLE 1 Number and Size of Systems Surveyed

System Size (number of vehicles)	Number of Systems Contacted	Number of Systems Responding ^a
<100	56	23
101-150	17	9
151-200	6	5
201-400	22	10
401-600	5	4
>601	5	6
Data not available	8	0
Total	119	57

^aThese systems responded to the postcard questionnaire and took part in the phone interviews.

study ranged from a high of 997 to a low of 47 vehicles. The largest group of responses was received from systems with fleets of fewer than 100 revenue vehicles. Although the data appear to imply that smaller systems were more willing to take part in the study, this is not the case because smaller systems made up a majority of the 119 transit systems originally contacted.

MAIL-OUT QUESTIONNAIRE RESULTS

Responses to the brief mail-out survey are given in Tables 2 through 4. As shown in Table 2, most systems that responded require prerun inspections and others have optional programs. As given in Table 3, however, most managers said that their drivers conduct superficial inspections. Table 4 gives documentation requirements. Twenty-nine of the 57 systems (51 percent) require driver sign-off on checklists or logbooks even if no defects are detected.

TELEPHONE INTERVIEWS

Telephone interviews indicated that some systems have more success with inspection procedures than others and identified several differences in check-

TABLE 2 Type of Prerun Inspection Program

System Size (number of vehicles)	Mandatory	Optional	None	No Answer
<100	18	3	1	1
101-150	8	0	1	0
151-200	4	1	0	0
201-400	9	1	0	0
401-600	3	1	1	0
>601	5	0	0	0
Total	47	6	3	1

TABLE 3 Thoroughness of Driver Prerun Inspections

System Size (number of vehicles)	Thorough	Superficial	None	No Answer
<100	10	11	1 ^a	1
101-150	5	3	1	0
151-200	1	3	1	0
201-400	2	8	0	0
401-600	3	0	2	0
>601	1	3	1	0
Total	22	28	6	1

^aInspections performed by mechanics.

TABLE 4 Required Documentation for Inspections

System Size (number of vehicles)	Must Always Sign off	Sign-off—Defects Only	No Sign-off Required	No Answer
<100	10	9	3	1
101-150	6	1	2	0
151-200	0	1	4	0
201-400	8	1	1	0
401-600	3	1	1	0
>601	2	2	1	0
Total	29	15	12	1

TABLE 5 Approaches to Prerun Inspection Programs

Program Description	Approaches						
	1	2	3	4	5	6	7
Program in use	Yes	Yes	Yes	Yes	Yes	Yes	No
Performed by	D	D	D	D	D	M	NA
Checklist used	Yes	Yes	Yes	No	No	Y-1 N-2	NA
Degree of supervision	C	O	None	O	None	None	NA
Number of systems	8	11	6	13	14	3	2

Note: NA = not applicable, D = drivers, M = mechanics, C = constant, and O = occasional.

list use and management supervision. Table 5 gives a typology of agency programs.

Fifty-five of the systems contacted by telephone reported having mandatory or optional prerun inspection programs in place. Most agencies ask drivers to perform inspections, but only about one-half of the systems issue daily checklists to drivers; checklist use is more common in small systems than in large systems.

During the telephone interviews, managers who use checklists stated that daily prerun inspection forms are desirable because they

- Serve as an inspection enforcement tool;
- Document the operating condition of the vehicles for safety purposes;
- Assist in the identification of damage;
- Contribute to the effectiveness of fleet maintenance;
- Serve as guides for the inspection of key items before pull-out (especially for those systems with different types of buses in their fleets); and
- Alert operators to minor defects detected by previous drivers of the same vehicle.

Other managers gave a variety of reasons for not issuing checklists including

- Lack of knowledge regarding the efficacy of checklists for their operations,
- Low priority for prerun inspections,
- Inclusion of inspection procedures in training and rule books,
- Reliance on disciplinary action,
- Excessive time requirements,
- Inability to process paperwork, and
- Lack of funds for printing checklists.

The most notable result of the telephone interviews is the diversity of the procedures used in administering prerun programs. Table 6 gives these data by showing how checklist and supervision choices have been made in systems of various sizes. It indicates that only 9 of the 57 systems employ constant supervision to ensure that the inspection is performed properly by operators or mechanics.

TABLE 6 Comparison of the Use of Checklists and the Degree of Supervision

System Size (number of vehicles)	Degree of Supervision		
	Constant	Occasional	None
<100			
Checklist	4	5	6
No checklist	0	5	3
101-150			
Checklist	3	1	0
No checklist	0	2	2
151-200			
Checklist	0	1	0
No checklist	0	1	3
201-400			
Checklist	2	1	0
No checklist	0	2	5
401-600			
Checklist	0	1	0
No checklist	0	1	2
>601			
Checklist	0	2	0
No checklist	0	1	2
All systems			
Checklist	9	11	6
No checklist	0	12	17

Forty-six systems reported using a minimal amount of supervision or said that supervision had been eliminated from their programs. Several reasons for low levels of supervision were offered:

- Prerun inspection procedures are not regarded as an important element in the preventive maintenance program;
- Follow-up discipline for superficial performance is sufficient to ensure proper completion;
- Personnel engaged in completing prerun inspections accept the task and there is no need for supervision;
- Limited funds prohibit the use of supervisors;
- New York and California legal codes are a sufficient inducement; and
- State highway patrol crews monitor the inspection.

During the course of the interviews, respondents were asked to classify their inspection programs as either successful or not successful. As given in Table 7, 34 transit agencies stated that they had

TABLE 7 Success of Inspection Program

System Size (number of vehicles)	Successful	Not Successful
<100	13 ^a	11
101-150	5	2
151-200	3	2
201-400	6	4
401-600	2	2
>601	5	0
Total	34	21

^aPerformed by mechanics at three systems.

successful prerun inspection programs. These systems reported the following benefits:

- Maintenance of a high degree of safety for the operators and passengers;
- Minimization of the number of road calls resulting from minor defects;
- Lessening of damage caused by operating faulty equipment;

- Reductions of equipment failure attributed to operating conditions; and
- Increased accountability for damage.

The remaining 22 systems cited several reasons to explain the low evaluations they gave of their inspection process. These included:

- A general disregard of prerun inspections as a result of customary nonenforcement;
- A low level of awareness of the usefulness of inspection programs;
- Insufficient funds to pay for daily checklists, supervision, and enforcement;
- Lack of knowledge regarding the proper enforcement of an inspection program; and
- Union contract constraints that reduced the degree of contribution the drivers could make to prerun inspections. (The most common restraints are work rules that confine mechanical tasks to mechanics and pull-out time limits.)

GAINING DRIVER COOPERATION

Driver attitudes varied considerably among the systems. Interviews indicated that driver attitudes are related to the importance placed on inspections by management, supervision of inspections, use of daily checklists to document inspections, and use of disciplinary measures to sanction faulty performance. The response of most managers to questions about driver involvement was "if management enforces the program, drivers complete it; and if management does not enforce the program, drivers do not complete it." Unfortunately, many systems do little to actively enforce their prerun inspection program. For example, 14 systems said they do not issue daily checklists and have not developed formal enforcement procedures because management regards prerun inspections as a low priority.

Four systems reported good driver cooperation in the absence of active management enforcement. The reasons for cooperation in the absence of formal programs include

- Use of simple "walk-around" inspection procedures;
- Assignment of drivers to the same buses on a daily basis;
- Driver interest in locating defects before pull-outs to avoid bus changes during runs; and
- Driver interest in not being blamed for damage caused by someone else.

Five of the nine systems that issue daily checklists to their drivers and that employ a constant degree of supervision over the task reported positive driver cooperation but the remaining three agencies did not. Driver cooperation in the five systems was explained as follows:

- Drivers want to operate safe equipment;
- Drivers believe that identifying defects will result in proper maintenance;
- Driver of the Year Award programs are used as an incentive for the operators to diligently perform all duties properly; and
- Management reinforces positive driver attitudes by emphasizing the importance of the task.

The three systems that reported poor driver cooperation said that they had recently adopted strong enforcement measures, now issue daily checklists, and are providing constant supervision to improve driver performance. Eleven systems were found to issue

daily checklists to drivers and use occasional spot supervision as an enforcement measure. These systems reported that the majority of their operators accepts the task. Further, the managers of these systems said that the level of performance they have achieved is attributed to the inspection procedure being an established part of driver job requirements.

Some managers maintained that current disciplinary measures are not strong enough to ensure compliance. Six systems reported that although daily checklists are issued to their drivers for prerun inspections, no supervision is provided. The managers of these systems said that their drivers regarded prerun inspections as being useful, but they reported that drivers usually do not perform the inspections. These agencies said that they do not supervise the activity because they do not believe it is worth the effort. Therefore, it is not surprising that the drivers have a good opinion of the procedure but rarely do it; driver attitude and behavior simply reflect those of management.

Fourteen systems said that they do not issue daily checklists, do not use any method of supervision, and leave the inspection solely to the driver. The few agencies in this category that nevertheless mandate prerun inspections rely on strictly enforced disciplinary measures to ensure that the inspection is completed. For example, one system keeps lists of road calls for 30 days to identify the drivers that accumulate the most. Three road calls within 30 days lead to an operator's suspension.

SETTING UP A PRERUN INSPECTION PROGRAM

The development of a prerun inspection program involves

- Union constraints on prerun inspections,
- The personnel classification that will be responsible for the inspections,
- The degree of formality that the inspections will assume,
- The documentation that will be required, and
- The degree of supervision to be used.

As given in Table 5, transit systems have approached their prerun inspection methods in different ways. The four major approaches identified in the survey work were labeled 1, 5, 6, and 7 in Table 5. Approaches 1 and 5 are driver-oriented, and Approach 6 is mechanic-oriented. Approach 7 is the null case.

APPROACH 1: DAILY CHECKLISTS AND CONSTANT SUPERVISION

The eight systems that typify this approach stated that inspections are important components of their overall preventive maintenance program. To ensure driver compliance, the systems issue daily checklists to their operators. In addition, the systems monitor driver performance with constant supervision. Seven of these systems reported that operators making unnecessary road calls resulting from superficial prerun inspections are subject to disciplinary measures. The disciplinary procedure typically consists of a three-step process as follows:

1. An informal memorandum is given to the driver notifying him that his failure to properly inspect his vehicle had resulted in a road call and that this event had been noticed by the agency.
2. A second occurrence results in having the unnecessary road call recorded on the operator's record.

3. For the third occurrence within a year, the driver is suspended for several days.

These systems noted that they rarely suspend a driver for road calls attributed to superficial inspections because drivers seldom make more than 2 unnecessary road calls within a year.

To better illustrate how the Daily Checklist-Constant Supervision approach works, the experience of one system is described next. The agency in question has had a prerun inspection program since it began operation 8 years ago. The stated objectives of the program are to (a) maintain the working conditions of the older buses, which make up a majority of the fleet, (b) comply with state regulations requiring periodic inspections of all buses, and (c) obtain longer service lives from all vehicles. The drivers are issued checklists by dispatchers as they are assigned to their buses. The checklist, which was developed by the manager in conjunction with maintenance personnel, consists of 25 items that the drivers are to inspect. The checklist requires drivers to indicate whether or not each item is in proper working condition. The checklist focuses on mechanical operability, safety, and cleanliness. The completed inspection checklist is turned in to the dispatcher before starting the run. The checklist is kept on file for a period of approximately 90 days to satisfy state requirements. Periodic reviews of the checklist's accuracy and currency are conducted by the state highway patrol. Each driver is allotted 10 min to perform the inspection. (Time and motion studies of the entire inspection procedure have indicated that the actual time needed is approximately 6 min, but the drivers' union would not accept this time frame. Consequently, a 10-min inspection period was agreed on by both management and the union.)

If an item is found to be defective during the inspection, the driver notes it on the checklist and informs the dispatcher of the problem. The dispatcher, in turn, notifies the maintenance shop. At this point, if the defective item can be repaired in time for the scheduled pull-out, a service crew is dispatched to the bus. According to the system's operating policy and union rules, drivers are not allowed to repair any defective items.

The transit manager reported that even during inclement weather, and with the vehicles parked outside, the drivers inspect the vehicles without complaint. Positive driver response was attributed to two factors: (a) the Driver of the Year Award program, which recognizes drivers who perform all duties as diligently and professionally as possible, and (b) the assignment of a supervisor to walk the yard while the inspections are performed.

APPROACH 5: NO CHECKLIST AND NO SUPERVISION

Fourteen systems in the survey reported prerun procedures that did not involve daily checklists or performance supervision. These systems relied on either the drivers' self-interest in performing the task or follow-up discipline. Some of these agencies wanted to change their present policy of low enforcement but stated that insufficient funds prevented them from doing so. They said that if additional funds are allocated, they would be able to pay for the time required for operators to properly perform the inspections, the printing of checklists, and supervisory personnel.

Four systems had simply issued aids to drivers to help them memorize items requiring inspection but others reported that they use special enforcement measures. For instance, 6 of the 14 systems in this

category noted that they have disciplinary procedures for unnecessary road calls resulting from superficial prerun inspections or for not informing management of body damage. The actual disciplinary measures are similar to those previously described.

Several variations of enforcement procedures were reported. One agency left supervision enforcement responsibilities to the state patrol because state laws specify that public vehicles must be properly maintained. (Drivers operating unsafe buses risk being ticketed by the state patrol for operating a potentially unsafe vehicle if they do not perform their prerun inspections and are caught with a faulty vehicle.) Another property assigned the maintenance department to perform the inspections because the operators there would not execute their inspections properly without supervision. Last, one system assigned individuals to inspection duty who could not be assigned to their regular duties because of minor injuries. Seven systems of the 14 in this group mentioned contract or union issues associated with operator involvement in minor repairs and the amount of time allocated to inspections.

One system that requires drivers to perform inspections provided further details about how agencies adopting the No Checklist-No Supervision approach operate their prerun inspection program. This system has required drivers to perform the inspections for approximately 20 years. The success of its program was attributed to management's attitude regarding prerun inspections. The system's drivers perform inspections after receiving their daily bus assignments. They are not issued checklists because they are expected to have memorized the items requiring inspection. In addition, there is no supervision of the inspections. Because the inspections are not supervised, drivers who do not perform the inspection can only be disciplined if their bus requires a road call for an item that should have been identified during the prerun inspection. The disciplinary procedure consists of a counseling memorandum for a first occurrence followed by a written reprimand for a second occurrence. Disciplining of drivers does not occur often because of the positive driver attitudes regarding the inspections and because minor defects are automatically charged to the driver.

Drivers at this system are not allowed to fix any defect they find, no matter how trivial it might appear, because of the union contract. If a driver finds a defect, he drives the vehicle to a special site on the property where it is inspected by maintenance personnel. The manager estimated that 3 or 4 out of the property's 200 buses are held for maintenance work each day because of defects or damage identified during the prerun inspections. Not all buses with defects are held out from service; if defects are not safety-related and the bus is needed for peak-hour service, the dispatcher has the authority to place the bus in service as a "tripper."

Drivers are required to note defects or damage that occurs during a run on a special defect card. After the driver ends a run, he completes the defect card and leaves it on the bus. These cards are then checked by service crews who notify the maintenance department of items needing attention. In addition, the information is included in vehicle history files for later use by the maintenance department in tracing chronic defects.

APPROACH 6: INSPECTIONS PERFORMED BY MECHANICS

Three systems among the 57 surveyed had mechanics perform prerun inspections. Each of these systems has different reasons for using mechanics. One man-

ager said that his drivers do not want to perform prerun inspections and that he chose to use mechanics in their place. Another said it is more efficient to have mechanics perform inspection because they are better able to repair defects. The third noted that when drivers are assigned to the same bus on a daily basis, minor defects are not reported because drivers do not want their bus to be sidelined; therefore, mechanics must perform the inspections to ensure that they are properly completed.

All three systems stated that their drivers are informed during the initial training period of the items that the mechanics will check during the prerun inspections. Although the agencies require the mechanics to perform the task, they do allow their drivers the option of performing a second, more casual inspection. Two of the three systems within this group issue daily checklists to the mechanics to document the inspections. The system that does not issue checklists has them available for use but does not require them to be turned in.

The one system that best typifies the mechanic-oriented approach has fewer than 100 revenue vehicles. The system views prerun inspection as an important contribution to the maintenance of the coaches, and the inspections are considered by the manager to be working satisfactorily. The mechanics who perform the prerun inspections are part of the regular maintenance staff. They receive no formal inspection training because the transit agency does not consider this function to be overly complex.

The system's mechanics arrive approximately 1 to 1.5 hr before pull-out time to complete the inspections. To aid them in this task, the mechanics are issued checklists that describe the items to inspect on the different buses within the system's fleet. The inspection procedure requires the inspection of only those items that can be easily checked, such as mirrors, windshield wipers, and horns. The mechanics are allowed 10 min per bus to perform the inspection. If a defect is found, the mechanics decide whether the problem is serious enough to sideline the bus or if it can be corrected in time for scheduled pull-out. There is no supervision of the mechanics when they perform the inspection. On completion of the inspections, the buses are moved to a pull-out area for the drivers. At this time, drivers have the option of performing a second prerun inspection. This option is left entirely up to the drivers although the agency would prefer that they do it.

APPROACH 7: NO PRERUN INSPECTIONS PERFORMED

Prerun inspections were not performed at two of the agencies contacted. The transit managers at these properties were uncertain if such inspections had ever been used.

The manager of one system attributed his current situation to the union contract, which does not allow drivers to perform any task other than driving. The union's view regarding inspections is that it is a task strictly for the maintenance department to perform. However, the agency's mechanics do not perform prerun inspections because of a manpower shortage within the maintenance department. The manager of this system favored the institution of a prerun inspection program because of excessive road calls attributed to minor farebox and door defects. He stated that most of the defects can be identified before the bus leaves the garage. Hence, if the agency had a prerun inspection program, it is believed that maintenance costs would be lowered.

The manager for the other system indicated that the union contract is the principal obstacle to im-

plementing such a program. His system's contract does not stipulate that drivers cannot conduct prerun inspections; however, it specifies that drivers must be allowed 5 min in which to leave their assembly area and receive their bus assignments. Prerun inspections cannot be completed because of the limited amount of time available for the inspection. Shortages of funds to pay the drivers for the additional inspection time were noted, and the agency does not want to renegotiate the contract to include the inspection provisions. As a consequence, the manager believes that the only way a prerun inspection program can be implemented is to prove that it will pay for itself by reducing overall maintenance costs. In place of prerun inspections, the mechanics of this system start the buses before pull-outs and drive them for a short distance. Any obvious problems are recorded by the mechanics. In addition, the drivers are issued defect cards that are used to inform the maintenance department of problems encountered during their runs.

COMPARISON OF INSPECTION PROGRAMS AND SYSTEM PERFORMANCE

Using Section 15 report data, the preceding four approaches (Checklist and Supervision, No Checklist-No Supervision, No Inspections Performed, and Inspections Performed by Mechanics) were compared on two dimensions of system performance. The specific measures used are mechanical failures per revenue mile and the number of mechanic labor hours per revenue mile. The results are given in Table 8. As can be seen, the number of labor hours per revenue mile increases as the inspection process becomes less formal or structured (i.e., agencies having the lowest mechanic labor utilization use checklists and a constant degree of supervision and agencies with the highest labor utilization do not have any inspection programs at all).

TABLE 8 Comparison of Program Type and System Performance

Program Category	Average Mechanical Failures per Thousand Revenue Miles	Average Labor Hours per Thousand Revenue Miles	
Checklist and supervision Inspection performed by mechanics	0.5360	19.927	(N = 8)
No checklist or supervision No inspection performed	0.4124 0.9449	23.488 27.854 35.432	(N = 3) (N = 14) (N = 1)

The second measure chosen for comparison is the number of mechanical failures per revenue mile. Surprisingly, the agencies with the best performance in this area do not use checklists nor do they utilize constant supervision. This may be because of locational characteristics as many of the agencies in the No Checklist-No Supervision group are located in the southern United States. It might also reflect the fact that some systems do not have road call problems and, therefore, see no reason to institute inspections. The other three groups have indicators closer to what one would expect. That is, the No Inspection Performed category had the highest number of failures per revenue mile and the other two cate-

gories have lower mechanical failures per revenue mile.

CONCLUSIONS

Most transit managers believe that prerun inspections are useful tools for maintaining vehicle safety and operating efficiency. The benefits of prerun inspections are reduced road calls, more complete vehicle histories, increased driver accountability, and improved communication between drivers and maintenance staffs. Unfortunately, many managers feel that they are not realizing the full benefits of driver inspections. This is due to customary neglect of inspections and a lack of knowledge about implementation and enforcement mechanisms.

Systems that emphasize prerun inspections use several approaches to ensure that the task is performed properly. They encourage daily performance, adopt formal checklists, and discipline drivers for failure to comply with established procedures. Promoting inspections during initial orientation periods and communicating expectations about compliance are important for proper performance of the task. Several systems have successfully formalized their procedures via training, checklist documentation, and supervision. These practices result in improved inspections. Follow-up discipline for faulty inspections, although often not severe, demonstrates to drivers that the inspections are part of regular duty and are considered important by management.

The following guidelines were synthesized from interviews with managers experienced in the establishment of prerun inspection programs. The authors recommend that they be followed by systems interested in improving the effectiveness of their own operation.

1. The importance of prerun checks to the system's overall maintenance program should be made explicit to all personnel involved in prerun inspection programs.
2. Detailed checklists should be used on a daily basis.
3. The items selected for inspection should not overburden the inspection staff. Inspection lists should be limited to those items that are most important to the reliability, efficiency, and safety of the bus fleet.
4. Checklists should be turned in by drivers to aid in enforcement of the inspection procedures.
5. Managers should not allow prerun inspections to be performed in a superficial manner. Management should take an active role in the entire prerun inspection process and provide appropriate supervision.
6. Disciplinary consequences for failing to comply with inspection procedures should be made explicit and applied uniformly.
7. Procedures for reporting problems or defects identified during the inspections should be made known to all transit personnel.
8. Quick follow-up procedures for fixing minor defects found during the inspections should be developed.
9. Incentives for the personnel involved in the inspections should be explored to encourage good performance and to improve the "esprit de corps" within the agency.