# MIAMI-DADE TRANSIT EFFICIENCY REVIEW

Miami-Dade Transit (MDT) operates and maintains over 800 vehicles to provide transit service to the nearly 270,000 customers who board Metrobus, Metrorail, and Metromover each weekday. Customers expect to receive safe, reliable, efficient, and courteous transit service. MDT strives to meet those customer expectations and continually works to improve the level and quality of transit services provided by Metrobus, Metrorail, and Metromover.

MDT has focused extensive efforts in the past year not only to evaluate effectiveness in providing high quality transit services but also to determine financial and organizational needs for the future. MDT engaged the services of the Center for Urban Transportation Research (CUTR) at the University of South Florida to assist in documenting rail rehabilitation needs and to develop a five-year approach to dealing with those needs. Metrorail's performance was compared with four other heavy rail systems using the Federal Transit Administration's (FTA) Section 15 data. Efforts to conduct the same type of evaluation are currently ongoing for Metromover operations.

FTA has established a close working relationship with MDT. FTA's extensive knowledge and understanding of other transit systems has become a valuable asset in assisting MDT in evaluating progress and charting future direction.

In order to determine what efficiencies might be gained in today's operating environment, the current level of effectiveness must be determined. What is MDT's performance based on MDT's internal assessment, and are those existing performance standards realistic? How does MDT's performance compare with that of other agencies? What efficiencies, if any, can be gained based on today's available resources?

## Internal Assessment

MDT uses a variety of tools to measure success not only in meeting customer expectations but also in evaluating MDT's continual improvement. In 1997, a study of customer satisfaction was completed for Metrorail and Metrobus. The study showed that 80% of Metrorail passengers were satisfied or very satisfied with Metrorail service, indicating a high level of customer satisfaction. The same study also showed that the level of Metrobus customer satisfaction was on the increase. A review of Metrobus passenger complaints in fiscal year 1999 with those in fiscal year 1997, as reflected in Table 1, shows reduced numbers of complaints in all areas with the exception of those regarding fares/transfers, where complaints rose from 17 to 121 and accounted for 24% of all complaints received. Nonetheless, complaints related to service accounted for 51% of all complaints in 1997 and 43% of all complaints in 1999 with a 6.4% increase in the total number of complaints.

**Table 1 - Metrobus Passenger Complaints**

| *Category* | *FY 1997* | *FY 1999* | *+/-%* |
|---|---|---|---|
| Driver Safety | 30 | 24 | -20.0% |
| Operator/Employee Behavior | 95 | 77 | -18.9% |
| Equipment | 21 | 18 | -14.3% |
| Fares/Transfers | 17 | 121 | 611.8% |
| Planning/Scheduling | 72 | 50 | -30.6% |
| Service | 246 | 222 | -9.8% |
| Total | 481 | 512 | 6.4% |

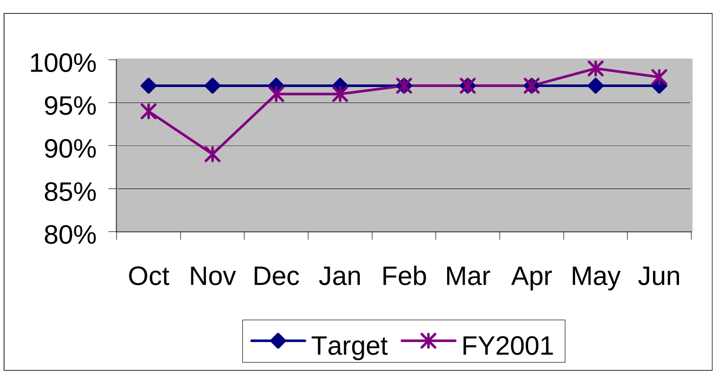
MDT also provides a report of system performance on a monthly basis in the form of the Transit Services "Monthly Performance Report" that contains detailed performance information concerning the rail fleet, the mover fleet, special projects/accomplishments, the bus fleet, and the individual bus divisions. Several areas of performance are measured against targets, which MDT developed to gauge the quality of performance.

Review of the most recently distributed report for the period from October 2000 to June 2001 provides the following assessment of Metrorail, Metrobus, and Metromover performance:

**On-Time Performance**

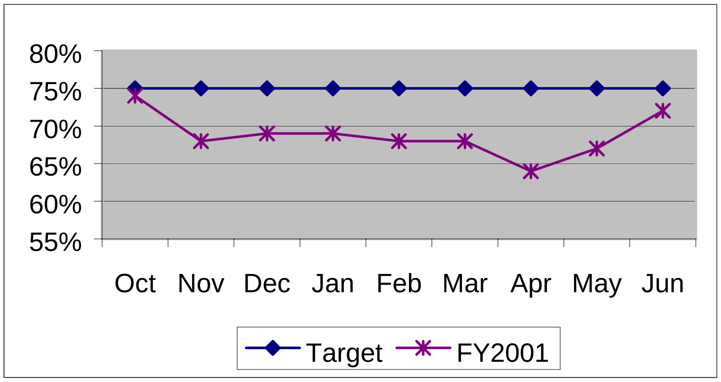
**Figure 1 - Metrorail On-Time Performance**

***Achieved Target 5 of 9 Months***




(On-Time Performance = 30 Seconds Prior to
2.5 Minutes After Schedule Time)

**Figure 2 - Metrobus On-Time Performance**

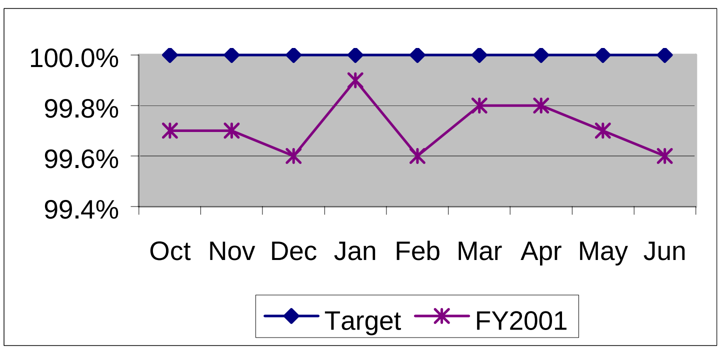



(On-Time Performance = 0-5 Minutes Late)

## Service Delivered

**Figure 3 - Metrorail Service Delivered**

***99.6 to 99.9% of Service Targeted***

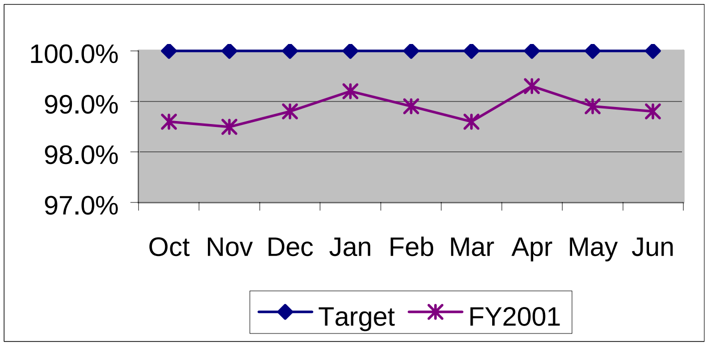



(Service Delivered = Stations Actually Served/

Stations Scheduled to be Served)

**Figure 4 - Metromover Service Delivered**

***98.5 to 99.3% of Service Targeted***




(Service Delivered = Stations Actually Served/
Stations Scheduled to be Served)

## Service Disruptions

**Figure 5 - Metrorail Service Disruptions**

***2.22 to 5.44 per 1,000 Miles of Scheduled Service***

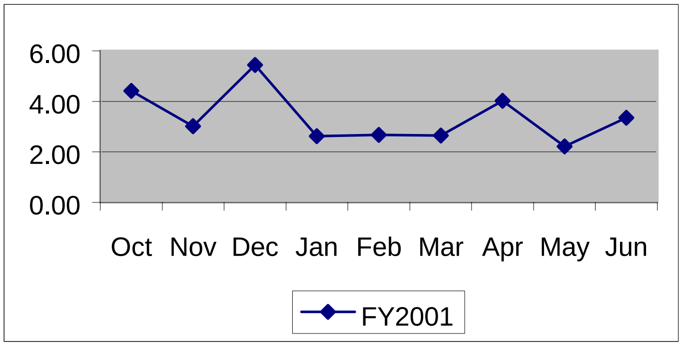
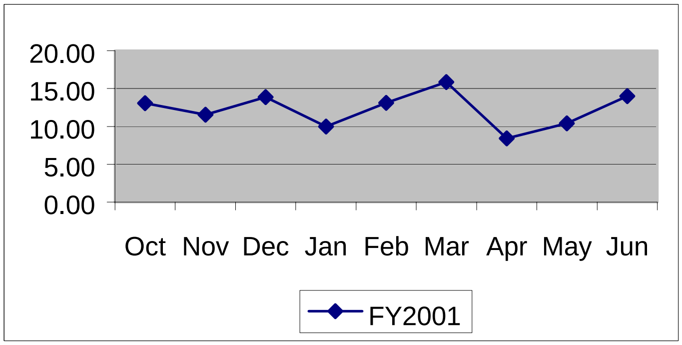



**Figure 6 - Metromover Service Disruptions**

***8.43 to 15.87 per 1,000 Scheduled Vehicle Hours***



**Weekday Peak Vehicle Requirement (PVR) Availability**

**Table 2 - Metrobus Weekday PVR Availability**

***Achieved AM PVR 1 of 9 Months***

| | *Target* | *AM PVR 470* | *PM PVR 488* |
|---|---|---|---|
| Oct | 100.0% | 98.78% | 97.19% |
| Nov | 100.0% | 99.97% | 99.66% |
| Dec | 100.0% | 98.46% | 99.30% |
| Jan | 100.0% | 99.99% | 99.75% |
| Feb | 100.0% | 99.95% | 99.98% |
| Mar | 100.0% | 99.98% | 99.88% |
| Apr | 100.0% | 100.00% | 99.92% |
| May | 100.0% | 99.95% | 99.82% |
| Jun | 100.0% | 99.95% | 99.80% |

**Table 3 - Metrorail Weekday PVR Availability**

***Achieved PM PVR 5 of 9 Months***

| | *Target* | *AM PVR 90* | *PM PVR 90* |
|---|---|---|---|
| Oct | 100.0% | 88.00% | 96.80% |
| Nov | 100.0% | 91.70% | 99.50% |
| Dec | 100.0% | 94.50% | 99.60% |
| Jan | 100.0% | 99.90% | 100.0% |
| Feb | 100.0% | 98.70% | 100.0% |
| Mar | 100.0% | 99.30% | 100.0% |
| Apr | 100.0% | 96.80% | 100.0% |
| May | 100.0% | 99.30% | 99.60% |
| Jun | 100.0% | 97.20% | 100.0% |

**Table 4 - Metromover Weekday PVR Availability**

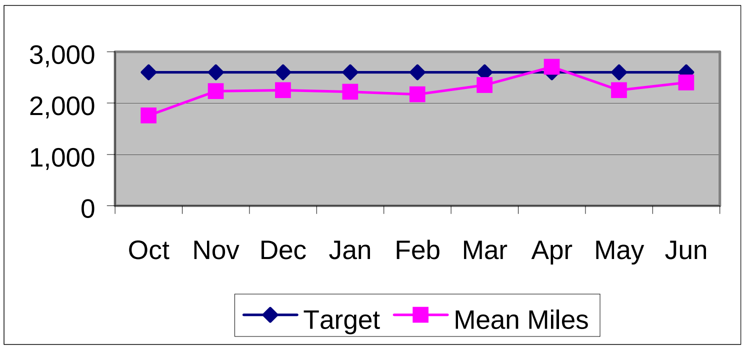
***Achieved 7 of 9 Months AM and 100% PM PVR***

| | *Target* | *AM PVR 15* | *PM PVR 13* |
|---|---|---|---|
| Oct | 100.0% | 98.50% | 100.0% |
| Nov | 100.0% | 100.0% | 100.0% |
| Dec | 100.0% | 100.0% | 100.0% |
| Jan | 100.0% | 100.0% | 100.0% |
| Feb | 100.0% | 100.0% | 100.0% |
| Mar | 100.0% | 100.0% | 100.0% |
| Apr | 100.0% | 98.70% | 100.0% |
| May | 100.0% | 100.0% | 100.0% |
| Jun | 100.0% | 100.0% | 100.0% |

**Mean Miles Between Roadcalls**

**Figure 7 – Metrobus Miles Mechanical Between Roadcalls**

***Achieved Target 1 of 9 Months***

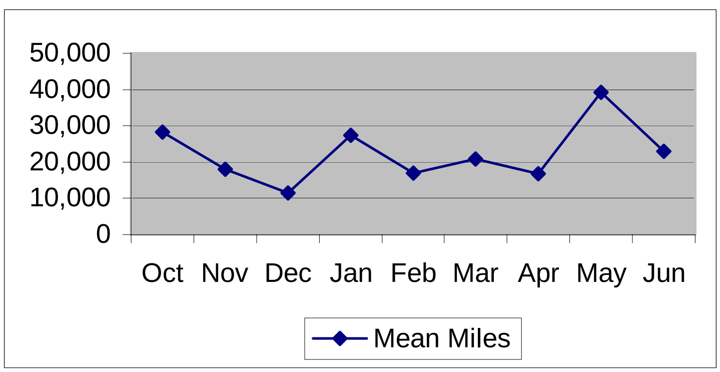



(Miles Between Mechanical Roadcalls = Total Miles/

Total Mechanical Revenue Service Interruptions)

**Figure 8 - Metrorail Mean Miles Between Roadcalls**

***11,479 to 39,233 Miles***




(Roadcalls – Service Interruptions)

**Mean Miles Between Failures**

**Figure 9 - Metrorail Mean Miles Between Failures**

***Achieved/Exceeded Target 6 of 9 Months***

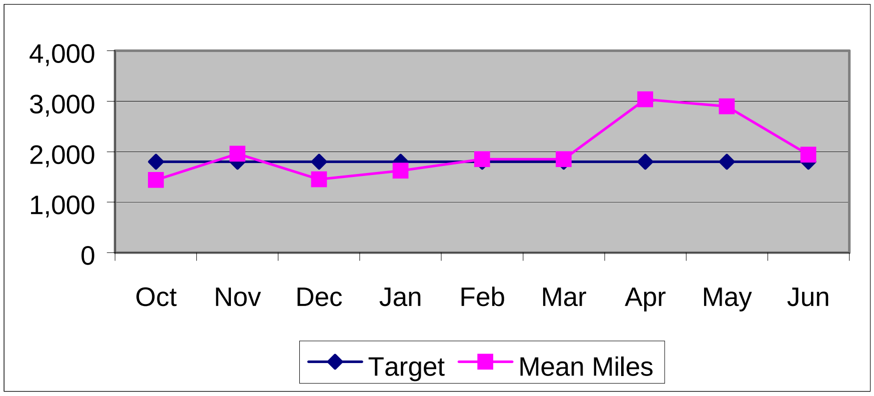
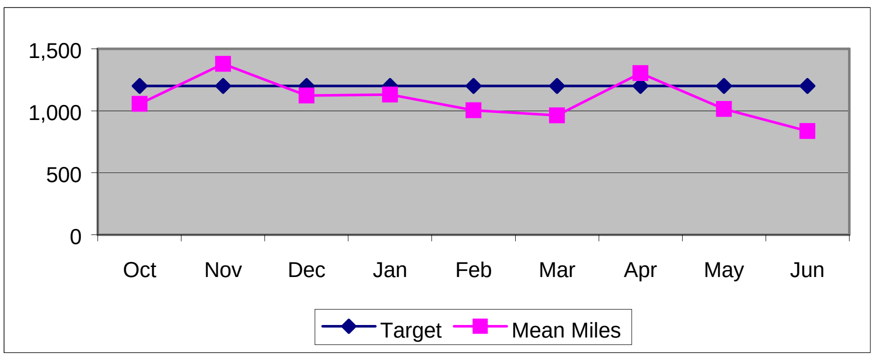


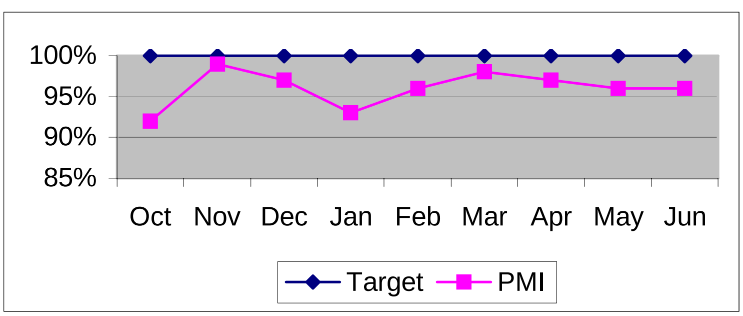

**Figure 10 - Metromover Mean Miles Between Failures**

***Achieved/Exceeded Target 2 of 9 Months***




**Preventive Maintenance Inspection (PMI) On-Time Adherence**

**Figure 11 - Metrobus PMI On-Time Adherence**




(PMI On-Time Adherence = # PMI Performed on Time/
Total # PMI Scheduled for Completion)

## Transit Agency Performance

CUTR, under contract with the Office of Public Transportation Operations, Department of Transportation, State of Florida, conducted a performance evaluation of Florida's Fixed-Route Transit Systems based on data from the 1998 National Transit Database (NTD) Reports. Following are summaries of the "Quality of Service" summaries for Motorbus, Rail, and Mover data presented in Technical Memorandum, Part II, Fixed-Route Peer Review Analysis, 1998.

"Quality of Service" is driven by revenue service interruptions. Guidelines for reporting *Revenue Vehicle Failures Preventing Vehicle From Completing Trip* found in the National Transit Database Reporting Manual are outlined as follows:

> "Report the number of revenue vehicle failures that occur in revenue service and during deadhead miles and hours that affect a vehicle as follows:
>
> - The vehicle did not complete its scheduled revenue trip, or
> - The vehicle did not start its next scheduled revenue trip
>
> Revenue Service (Miles, Hours and Trips): The time when a vehicle is available to the general public and there is an expectation of carrying passengers. These passengers either directly pay fares, are subsidized by public policy or provide payment through some contractual arrangement. Vehicles operated in fare free service are considered in revenue service. Revenue service includes layover/recovery time. Revenue service excludes deadhead, school bus service and charter service.
>
> Deadhead (Miles and Hours): The miles and hours that a vehicle travels when out of revenue service. Deadhead include:
>
> - Leaving or returning to the garage or yard facility, or
> - Changing routes when there is no expectation of carrying revenue passengers
>
> Failures are classified as either a major or other failure of a part of the vehicle's mechanical systems. Report all failures that affect the completion of a scheduled revenue trip or the start of the next scheduled revenue trip, including failures that occur during deadheading or in layover.
>
> *Major Mechanical Failure*: A failure of some mechanical element of the revenue vehicle that prevents the vehicle from completing a scheduled revenue trip or from starting the next scheduled revenue trip because actual movement is limited or because of safety concerns. Major mechanical breakdowns include breakdowns of air equipment, brakes, doors, engine cooling

> system, steering and front axle, rear axle and suspension and torque converters.
> *Other Mechanical Failure*: A failure of some mechanical element of the revenue vehicle that because of local agency policy, prevents the revenue vehicle from completing a scheduled revenue trip or from starting the next scheduled revenue trip even though the vehicle is physically able to continue in revenue service. Other mechanical failures include breakdowns of fareboxes, wheelchair lifts, heating, ventilation and air conditioning (HVAC) systems and other problems not included as a major mechanical systems failure."

In the Rail Rehabilitation Phase I Report, CUTR expressed reluctance in comparing agencies' performance based on "failures" because the difference in the definition of failure from one agency to another, as reported by the agencies, appeared to vary dramatically. The guidelines provided above do appear to allow subjective interpretation in the definition of a failure. In fact, MDT has historically reported failures based on the completion of Vehicle Maintenance Reports rather than focusing on those failures that impacted revenue service, which would indeed skew MDT's reporting. Given these concerns about consistency in reporting across agencies, a direct comparison of this data should be done cautiously; however, of more concern than inconsistencies in reporting is the variation in expected performance of the vehicles themselves.

## Part II, Fixed-Route Peer Review Analysis, 1998

### Table 5 – Motorbus Quality of Service

| *MOTORBUS* | *Pittsburgh* | *Minneapolis* | *Baltimore* | *Denver* | *Atlanta* | *Portland* | ***Miami*** | *Dallas* | *Peer Group Mean* |
|---|---|---|---|---|---|---|---|---|---|
| Average Speed (R.M./R.H.) | 13.83 | 13.98 | 10.95 | 18.14 | 12.44 | 12.62 | **12.90** | 12.80 | 13.46 |
| Average Headway (in minutes) | 27.46 | 29.62 | 20.89 | 32.38 | 33.44 | 24.87 | **27.90** | 30.23 | 28.35 |
| Average Age of Fleet (in years) | 6.45 | 6.21 | 9.38 | 8.81 | 7.88 | 8.66 | **7.42** | 11.89 | 8.34 |
| Number of Incidents | 89 | 515 | 1,220 | 195 | 120 | 448 | **688** | 226 | 438 |
| Revenue Service Interruptions | 21,904 | 18,898 | 14,202 | 5,211 | 9,926 | 4,807 | **16,117** | 6,348 | 12,177 |
| Revenue Miles Between Incidents (000) | 287.72 | 45.79 | 14.81 | 128.12 | 220.66 | 48.12 | **35.14** | 79.58 | 107.49 |
| Revenue Miles Between Interruptions (000) | 1.17 | 1.25 | 1.27 | 4.79 | 2.67 | 4.48 | **1.50** | 2.83 | 2.50 |

## Table 6 – Rail Quality of Service

| *RAIL* | *Pittsburgh (LR,IP,IPP)* | *Baltimore (HR,LR)* | *Denver (LR)* | *Atlanta (HR)* | *Portland (HR)* | ***Miami (HR)*** | *Dallas (LR)* | *Peer Group Mean* |
|---|---|---|---|---|---|---|---|---|
| Average Speed (R.M./R.H.) | 14.41 | 21.17 | 10.69 | 29.10 | 14.96 | **25.68** | 15.44 | 18.78 |
| Average Headway (in minutes) | 7.65 | 5.67 | 7.44 | 2.09 | 10.53 | **2.47** | 8.81 | 6.38 |
| Average Age of Fleet (in years) | 11.24 | 19.44 | 3.94 | 13.88 | 12.07 | **16.00** | 2.00 | 11.22 |
| Number of Incidents | 108 | 134 | 13 | 188 | 77 | **104** | 24 | 93 |
| Revenue Service Interruptions | 615 | 325 | 78 | 393 | 23 | **220** | 85 | 248 |
| Revenue Miles Between Incidents (000) | 16.37 | 49.50 | 52.34 | 143.53 | 20.50 | **58.39** | 108.47 | 64.16 |
| Revenue Miles Between Interruptions (000) | 2.87 | 20.41 | 8.72 | 68.66 | 68.63 | **27.60** | 30.63 | 32.50 |

(Heavy Rail and Light Rail Vehicles are not interchangeable; Miami HR data should only be compared with Atlanta and Portland; the Peer Group Mean is invalid for HR comparison)

## Table 7 – Mover Quality of Service

| *MOVER* | ***Miami*** | *Detroit* | *Jacksonville* | *Peer Group Mean* |
|---|---|---|---|---|
| Average Speed (R.M./R.H.) | **10.89** | 11.60 | 10.89 | 11.13 |
| Average Headway (in minutes) | **6.24** | 3.75 | 9.92 | 6.64 |
| Average Age of Fleet (in years) | **7.93** | 12.00 | 1.00 | 6.98 |
| Number of Incidents | **14** | 0 | 2 | 5 |
| Revenue Service Interruptions | **1,029** | 0 | 84 | 371 |
| Revenue Miles Between Incidents (000) | **64.01** | n/a | 14.31 | 39.16 |
| Revenue Miles Between Interruptions (000) | **0.87** | n/a | 0.34 | 0.61 |

For purposes of performance, MDT's Metrobus fleet can be categorized into three vehicle types: articulated buses, Flex buses, and NABI buses. Articulated buses reported the lowest mean miles between failures while the new NABI buses reported the highest mean miles. The full benefit of the improved mean miles of the new buses will not be felt until the older buses become a smaller percentage of the total fleet. Resources do not exist to raise the mean miles of the older buses to the level of the newer buses. This situation illustrates the point made above regarding variation in vehicle performance. When MDT's mean miles between failures is calculated for the fleet, it is based on the combination of the following vehicles' performance. Comparison of MDT's mean miles to another fleet with a different inventory is of questionable value; however, comparison of same year, specific series could be beneficial.

**Table 8 – Metrobus Fleet Characteristics**

| *Type* | *Year* | *Quantity* | *Floor Type* | *Radiator* | *% of Fleet* | *Type % of Fleet* | *Mean Miles Between Roadcalls* |
|---|---|---|---|---|---|---|---|
| Flx | 1987 | 18 | Standard | | 3.1% | | 2,000 |
| Flx | 1988 | 31 | Standard | | 5.3% | | 2,000 |
| Flx | 1990 | 93 | Standard | | 15.9% | | 2,000 |
| Flx | 1992 | 15 | Standard | | 2.6% | | 2,000 |
| Flx | 1993 | 73 | Standard | | 12.5% | | 2,000 |
| Flx | 1994 | 30 | Standard | | 5.1% | 44.5% | 2,000 |
| Artic | 1994 | 40 | Standard | | 6.8% | | 1,500 |
| Artic | 1995 | 26 | Standard | | 4.5% | 11.3% | 1,500 |
| NABI | 1997 | 50 | Standard | Old | 8.6% | | 3,500 |
| NABI | 1998 | 19 | Low | Old | 3.3% | | 3,500 |
| NABI | 1999 | 93 | Low | Old | 15.9% | | 3,500 |
| NABI | 2000 | 96 | Low | New | 16.4% | 44.2% | 3,500 |

This situation is even further compounded in Metrorail comparisons due to the wider range of mean miles now available in new rail cars. Metropolitan Atlanta Rapid Transit Authority (MARTA) indicated they have three series of rail cars: 310, 311, and 312. Projected mean miles between failures for the three series are 4,500 miles, 11,000 miles, and 50,000 miles respectively. MARTA defines and reports three types of failures in revenue service for each series vehicle:

- Less than 3 minutes (no customer impact)
- 3 to 8 minutes (minimal customer impact)
- 8 minutes or greater (significant customer impact; almost always offload passengers)

MARTA originally calculated mean miles between failures for the entire fleet; however, the new series 312 cars fell so far short of the projected 50,000 miles between failures that now the 312 series vehicles are reported individually, and only 310 and 311 series vehicles are combined. The mean miles between revenue service failures of 3 to 8 minutes for the 310 and 311 series vehicles was recently reported as 7,500 miles.

A similar situation exists at Washington Metropolitan Area Transit Authority (WMATA). WMATA defines a failure as a delay in revenue service of 4 or more minutes. WMATA has four series of rail cars: series 1000, series 2000, series 3000, and series 4000. Current mean miles between failures for the four series are 36,000 miles, 46,000 miles, 77,000 miles, and 78,000 miles, respectively. While the rail car specs were not available, WMATA indicated that their performance exceeds the rail car specs. The fleet mean miles between revenue service failures of 4 or more minutes is 54,000 miles.

Individual differences in defining a revenue service failure and varying performance specs unique to vehicle type preclude the use of these agencies' fleet for quality of service comparison.

Maryland Mass Transit Administration (MTA) has a fleet of 100 rail cars that are almost identical to Metrorail's cars having been jointly procured in the early 1980s. MTA has modified some components on their vehicles and are currently engaged in a mid-life overhaul of their fleet, although they have yet to take receipt of an overhauled car. MTA indicated that the OEM spec was based on hours rather than miles. As a result, MTA recalculated the spec for each system and for the vehicle as a whole, which resulted in a rail car spec of 2,190 miles. MTA's definition of failure is identical to that formerly used by MDT and is defined as a vehicle maintenance report. Revenue service failures are not differentiated from non-revenue service failures. MTA reported a mean distance between all failures of 1,152 in 1997 and 1,100 - 1,200 today, and also indicated that mean miles between failures during periods of snow is approximately half of that reported in the absence of snow.

Given MDT's desire to maintain consistency of reporting across Metrobus, Metrorail, and Metromover, defining a revenue service failure as a delay in revenue service of 2 or more minutes will preclude a direct comparison of Metrorail with MTA heavy rail as will the MTA mid-life overhaul and the planned MDT mid-life overhaul. Nonetheless, MDT can take advantage of the historical data now available. MDT's target mean miles between failures equaled 1,800, a level significantly higher than the 1,100-1,200 reported by MTA. Furthermore, MDT exceeded the 2,190 rail car spec in April and May of this year using the same definition of failure upon which the rail car spec was developed. Metrorail's mean miles between failures from October 2000 through June 2001 are reflected in the following table.

**Table 9 – Metrorail Mean Miles Between Failures**

| *Mean Miles Between Failures* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | June |
| 1,439 | 1,959 | 1,450 | 1,623 | 1,850 | 1,854 | 3,038 | 2,894 | 1,937 |

(Failure = Vehicle Maintenance Report)

In the future, MDT will need to rely on quality of service information from in-house efforts rather than data analysis and trends external to MDT.

## MDT's Performance Standards

CUTR recommended in the Rail Rehabilitation Phase I Report that MDT establish a mechanism to take advantage of the large amounts of data and information collected to discover trends, evaluate results, identify needs, and formulate plans. CUTR also indicated a wider distribution of the data and analysis to the operational entities could assist the operating divisions with their planning, scheduling, and most importantly, their decision-making. The performance data contained in the Monthly Performance Report is invaluable. It shows that while Metrorail achieved targeted on-time performance during 5 of the last 9 months, Metrobus approached their targeted performance only twice. Metrorail delivered 99.6-99.9% of targeted service; Metromover delivered 98.5-99.3% of their targeted service. What the performance data falls short of doing is verifying that the targets established are realistic. Target could be too high to be achievable or too low, and, therefore, meaningless. In the absence of peer properties for comparison, MDT must rely on internal analysis of data to determine trends, identify potential problems, and evaluate the effectiveness of new initiatives.

## Efficiencies

MDT identified the following performance campaigns in the Monthly Performance Report to improve reliability of the Metrobus, Metrorail, and Metromover fleets.

- Transit Engineering began bid specification process to identify a consultant to provide specification development and management services for mid-life overhaul and modernization of Metrorail fleet and Phase I Metromover fleet
- Repower of thirty-seven 9300 series buses with a more reliable electronic engine that will reduce engine-related roadcalls
- Improve aesthetic conditions of the buses
- Increase oversight of maintenance activities at all locations to minimize frequency of specific component failures
- Work with vendors to resolve design/manufacturer latent defect challenges and improve vehicle reliability
- Rail Maintenance Control enhancement and re-evaluation of processes used to collect and issue performance and reliability measures
- Implement SWAN System Data Recording to provide for the precise evaluation and identification of major bearing and gear wear failure
- Review report from Adtranz Systemwide Health Check of Metromover
- Maintain Control Failure Analysis to identify trends in equipment failures

While most of the initiatives should enhance performance of the Metrobus and Metrorail fleets, two of the initiatives should also generate cost savings. The first initiative involves warranty reimbursements. Monitoring, overseeing, and maintaining warranty processing in a manner that is conducive to quick turnaround of repairs while at the same time increasing the quality of the product line could reduce overall operating costs and improve reliability. The battery problem with the 1997-1999 NABI buses caused premature failures that negatively impacted reliability and required a significant investment of staff time over the course of a year to obtain an appropriate fix. Allocation of resources to this type of warranty work could have facilitated that process.

The second initiative is the implementation of an ultrasonic stresswave analysis diagnostic tool (SWAN) for precise quantification of wear and failure conditions without time consuming and costly disassembly for inspection. In addition to labor savings from elimination of disassembly, the vehicle is returned to service more quickly, thereby increasing vehicle availability. Bearing and gear defects can be identified in the very early stages and then tracked and removed for repair at the appropriate time. Costs incurred today based on a time schedule rather than on need could be deferred until necessary without compromising safety.

MDT has also made a commitment to FTA to complete an aggressive schedule of short-term and immediate corrective actions, which relies heavily not only on the development of data collection mechanisms but also on the tracking and analysis of the data collected. The Action Plan focuses on:

- Reduction of roadcalls to improve mean miles between failures
- Revision of maintenance procedures to avoid recurring maintenance problems
- Accelerate “G” inspection work
- Identify, control and track deferred maintenance
- Overhaul subsystem components rated “Bad” or “Poor”
- Upgrade “Bad” or “Poor” traction power components and test, install, and maintain the grounding system
- Monitor status of 90-day storage program

Specific baselines will be established for each item, where appropriate, by September 17, 2001, and MDT staff will track progress, initially, on a monthly basis. Efficiencies gained will be measurable and will be incorporated into the status tracking report.

## Resources Required

The myriad of initiatives identified in this report cannot be accomplished without resources. Various knowledge, skills, and abilities are required that currently do not exist at a level sufficient to meet the demands. Additional personnel capable of meeting the following criteria are required:

- Thorough knowledge of principles and practices of transit equipment repair and maintenance scheduling and planning
- Thorough knowledge of the operating, repair, and maintenance characteristics of modern transit vehicles and related equipment
- Considerable knowledge of the principles of management and supervisory principles and practices
- Considerable knowledge of basic shop records and forms used in transit maintenance facilities
- Ability to schedule and plan large volume of repair and maintenance work in a transit maintenance facility to produce the fullest utilization of manpower, equipment and available space
- Ability to understand technical repair diagnoses and estimate time and manpower required to complete repairs
- Ability to establish and maintain effective working relationships with subordinates, superiors, and department officials
- Ability to supervise subordinates in a manner conducive to full performance and high morale
- Knowledge of ability to program EMS and other systems for data extraction/summary
- Ability to utilize computers/software to process/analyze and report data

Specific Bus Maintenance Control Staff Required

- Central Division
  1 Transit Maintenance Production Coordinator
  Source: 1.3 Bus Mechanic Positions (Frozen)
- Northeast Division
  1 Transit Maintenance Production Coordinator
  Source: 1.3 Bus Mechanic Positions (Frozen)
- Coral Way Division
  1 Transit Maintenance Production Coordinator
  Source: 1.3 Bus Mechanic Positions (Frozen)

Specific Rail Maintenance Control Staff Required

3 Transit Maintenance Production Coordinators
Source: 1 Rail Vehicle Electronic Technician (Frozen)
Source: 1 Rail Vehicle Mechanic (Frozen)
Source: 1 Rail Maintenance Worker (Frozen)

Timetable

All positions are required as soon as possible. At the end of this year, the current equipment and parts computer systems will be replaced with an integrated MP5 system. It is critical that these new staff are on board to assist in the transition to the new MP5 system.