Massachusetts Bay Transportation Authority

Evaluation of MBTA Paratransit and Accessible Fixed Route Transit Services Contract #A29PS01







Final Report

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Introduction

In March of 2005, the Massachusetts Bay Transportation Authority (MBTA) contracted with TranSystems Corp. and Planners Collaborative to conduct a comprehensive evaluation of its paratransit (THE RIDE) and accessible fixed route transit services. The objectives of this evaluation were:

- *To improve the accessibility and usability of the MBTA's paratransit and fixed route services.*
- *To ensure compliance with the Americans with Disabilities Act (ADA) transportation requirements.*
- *To develop service monitoring procedures that are responsive to customer needs.*
- *To improve communications between the MBTA, riders with disabilities, and seniors.*

The initial task of the evaluation involved reviewing the MBTA's policies and procedures related to accessibility. For fixed route rail and bus services, this included an examination of the MBTA's Facility Design Manual and fixed route vehicle specifications. For THE RIDE, this initial task involved an examination of service policies and procedures as well as requirements in contracts with service providers. Current MBTA policies and procedures were compared to federal and state requirements regarding accessibility. Two Technical Memoranda were then prepared. Technical Memorandum #1 examined THE RIDE service policies and contract requirements. Technical Memorandum #2 examined fixed route facility and vehicle accessibility policies. Both memoranda provided observations and recommendations regarding accessibility and regulatory compliance. These memoranda were delivered to the MBTA in August of 2005.

The second major study task involved gathering information about actual operating practices. For fixed route services, this included gathering information about station accessibility, the maintenance of accessibility features such as elevators and bus lifts and ramps, the status of on-board and external stop announcements, and the provision of information and communications about accessible services. For THE RIDE, this second task involved first-hand observations of the service provision and the collection of information about telephone access, trip reservations and scheduling, on-time performance, travel times, and other key service performance measures. Two more technical memoranda were then prepared. Technical Memorandum #3 provided information about THE RIDE operations and performance. Technical Memorandum #4 presented observations and recommendations regarding fixed route rail and bus accessibility. These two memoranda were delivered to the MBTA in November of 2005.

An extensive effort also was made to obtain public input on the accessibility and usability of MBTA services from seniors and persons with disabilities. Five open public meetings were held throughout the MBTA region to get feedback on fixed route and THE RIDE services. Five focus groups also were facilitated to get additional rider input on THE RIDE services. Public input was then detailed in Technical Memorandum #5, which was delivered to the MBTA in January of 2006.

Based on the information collected, first-hand observations, and public input received, key service issues were then identified for both fixed route services and THE RIDE. A detailed

Monitoring Plan was then developed to strengthen the MBTA's oversight and management of accessible services. This Monitoring Plan was finalized in August of 2006 and was outlined in Technical Memorandum #6.

The TranSystems study team then worked with the MBTA to implement the recommended service monitoring procedures for THE RIDE. Strengthened monitoring activities were implemented from September 2006 through February 2007. Two additional Technical Memoranda (#7 and #9) were prepared which summarized monitoring activities and outcomes. Technical Memorandum #7 detailed monitoring activities from September 1 through November 30, 2006. Technical Memorandum #9 described monitoring activities from December 1, 2006 through February 2007.

The original scope of work called for the TranSystems study team to also assist the MBTA in implementing strengthened monitoring activities for fixed route operations. This portion of the study was affected, however, by a legal development in 2006. On April 10, 2006, the MBTA entered into a Settlement Agreement with the Boston Center for Independent Living (BCIL) related to a civil class action concerning fixed route service accessibility. The Settlement Agreement calls for detailed actions that included expanded monitoring of bus and rail accessibility. The Agreement also called for a specific process and contract for implementing and carrying out the required monitoring activities. While many aspects of the Monitoring Plan developed through this study may be used to assist the MBTA in implementing the terms and conditions of the Settlement Agreement, responsibility for the actual implementation of these activities became the purview of the new contract developed as part of the Agreement. As a result, the TranSystems study team did not work with the MBTA to implement the recommended fixed route monitoring plan – this is being done under the separate Settlement Agreement contract.

Finally, this study examined the advisory committee process used by the MBTA to obtain ongoing input from seniors and riders with disabilities. Recommendations for strengthening this process were developed and included in a "stand-alone" report (Technical Memorandum #8), which was delivered to the MBTA in January of 2007.

Throughout this two-year study, TranSystems worked closely with a Project Advisory Group (PAG) which reviewed and provided feedback on activities and products. The PAG also provided general study guidance. The PAG included key staff from the MBTA as well as representatives of the MBTA's Access Advisory Committee (AACT), the RIDE Advocacy Project (RAP), the Massachusetts Executive Office on Transportation (EOT), and the Massachusetts Executive Office on Elder Affairs (EOEA). The following members of the PAG were instrumental in the success of this project:

- Loretta J. Williams, RIDE Advocacy Project
- Pam Rogers, RIDE Advocacy project
- Kathryn Piccard, Access Advisory Committee to the MBTA
- Cheri Lieberman, Access Advisory Committee to the MBTA
- James F. Oliver, Access Advisory Committee to the MBTA
- Emmett Schmarsow, Massachusetts Executive Office of Elder Affairs

- Michael Gleba, Massachusetts Executive Office of Transportation
- Erik Scheier, MBTA Project Manager
- Alan Castaline, MBTA Operations
- Wendy Stern, MBTA Operations
- Kevin McGuire, MBTA Operations
- Robert Rizzo, MBTA Office of Transportation Access
- Kathy Cox, MBTA Office of Transportation Access
- Carol Joyce-Harrington, MBTA Office of Transportation Access
- Barbara Boylan, MBTA Construction
- Michael Festa, MBTA Construction
- Anna Barry, MBTA Railroad Operations
- Tom Foster, MBTA Railroad Operations
- John Lewis, MBTA Maintenance
- John McSweeney, MBTA Operations Support
- Stephen Williams, MBTA Operations Support
- Jeff Parker, MBTA Subway Operations
- Richard Leary, MBTA Bus Operations

This report provides a summary of the study activities, findings and recommendations. Section 1 describes evaluation activities related to accessible fixed route services. This includes reviews of station accessibility, vehicle accessibility, bus and rail operations, and public communications. Public input received concerning fixed route services is included in this section. Suggested monitoring activities for fixed route operations also are provided. Section 2 then presents evaluation activities related to the MBTA's THE RIDE service. This includes a review of THE RIDE policies and procedures and on-site observations of THE RIDE operations. Public comments received regarding THE RIDE service are included. The monitoring plan that was developed for THE RIDE also is described. As a summary of study activities, this report describes the study activities, the key findings and observations, and the key recommendations. More detailed data collected as part of each phase of the study are included in the nine Technical Memoranda noted above.

Recommendations for the MBTA's consideration are included throughout this report. In the Executive Summary, recommendations are presented in **bold text**. In the rest of the report recommendations are presented in **underlined, bold text**. This method of identifying recommendations is not used in the Monitoring Plan sections of the report (Section 1.5 and 2.6) since almost all elements of the plans are recommendations for changes in monitoring procedures.

It is important to note that the observations of service accessibility that are summarized in this report were made in 2005 and recommendations were made to the MBTA throughout the study. Many of the recommendations made in this report therefore have already been implemented or addressed by the MBTA.

Executive Summary

The evaluation found that the MBTA has historically had very extensive and aggressive programs to provide accessible fixed route and THE RIDE services for riders with disabilities. The MBTA committed to purchasing all accessible fixed route buses as well as providing THE RIDE services in the mid-1980s – several years prior to the passage of the Americans with Disabilities Act (ADA) when both types of services began to be required. Throughout the 1980s and 1990s, the MBTA also undertook extensive modernization of its rail systems and made improvements to station accessibility as part of these system upgrades. After the passage of the ADA, the MBTA adopted a very aggressive key station program, naming a high percentage of its rail stations as "key stations" and programming them for accessibility. The MBTA also adopted a policy of providing THE RIDE services to a broader area and to more riders than the "minimums" called for in the ADA and for providing same-day trips as well as pre-scheduled trips. Some of the notable achievements of these policies are:

Fixed Route Achievements:

- 181 of the MBTA's 280 rail stations (65%) are accessible
- 80 of the MBTA's rail stations have been designated as "key stations" to be made accessible. This was more than any other transit system in the country.
- 100% of the MBTA's bus fleet is now lift or ramp-equipped and accessible to riders with disabilities. The fleet consists of 993 buses with 597 (60%) ramp equipped and 396 (40%) lift equipped.
- The MBTA is adding public address (PA) systems and variable message signs (VMS) at many stations to improve public information. PA systems are installed in 66 stations. VMS systems have been installed in 26 stations. Coordinated public address and variable message signs (PAVMS) systems have been added to two stations
- Almost all commuter rail stations have LED signage.
- In 2007, the MBTA initiated a GPS based program to provide automated public address announcements of all train arrivals at the MBTA's 126 commuter rail stations.
- Automated stop announcement technology is being added to fixed route buses. 81% of the bus fleet is now equipped with PAVMS technology to assist with stop announcements.
- A secret rider monitoring program of stop announcements and an aggressive disciplinary policy related to stop announcements has been implemented.

THE RIDE Achievements:

- 65,000 people are registered to use THE RIDE and almost 25,000 use it regularly.
- Over 1.4 million rides were provided in FY2006.
- Service is provided throughout 62 communities, exceeding the requirements of the ADA.
- A fare of $2.00 has been maintained (lower than the ceiling allowed by the ADA).
- In many communities, the days and hours of THE RIDE service are more extensive than that of fixed route services.

- Same day trips and trip changes are accommodated whenever possible, again exceeding the ADA requirements.
- State-of-the-art technologies, including scheduling software, on-board computers (MDTs) and satellite tracking systems (AVL) have been added to vehicles to improve service reliability, monitoring and efficiency.

Recent challenges facing the MBTA in its efforts to serve riders with disabilities have largely been related to maintaining and monitoring the extensive accessible infrastructure and services that were created and implemented. On the fixed route side, while many accessibility features exist and programs are extensive, the evaluation found that some of these systems and programs are aging and are not always working as intended. As a result, the MBTA's services are not as usable as they could be for riders with disabilities. The review of system accessibility conducted in 2005 as part of this evaluation found that:

- There are at least 15 different elevator suppliers throughout the system. The greater the number of elevator types inevitably makes elevator maintenance a greater challenge.
- Of the 113 MBTA station elevators, 47 (42%) were 15 years old or older (the age at which elevators are typically replaced).
- Between January 1 and March 31, 2005 elevator availability was only 90% with weekly averages ranging from 86% to 95%.
- Elevator inspection and reporting was not centralized.
- Elevator maintenance was being performed during operating hours, which made the stations inaccessible to riders with disabilities.
- Maintenance efforts in 2005 were weighted to servicing problem elevators and away from regular preventive maintenance inspections. Approximately 67 % of the service calls studied were repeat calls to the same elevator with three or more service calls made to 40% of the elevators serviced.
- Although elevators were being inspected every eight hours by Transportation Inspectors, the information that they gather from first hand observation was not captured in the MBTA's Maintenance Control and Reporting System (MCRS) in an accurate and consistent manner. As a result, public information on the MBTA's elevator hotline and website about elevator availability was inconsistent.
- There did not appear to be an official policy or procedure to provide alternative service when an elevator is inoperable.
- There appears to be no mechanism for daily inspection of elevators at commuter rail stations and for tracking the status of elevators at stations not owned by the MBTA.
- The MBTA did not appear to track buses with inoperable lifts/ramps being used in service. Of 83 lift/ramp defects reported by drivers in July of 2005, the vehicles appeared to be subsequently used in service 48.2 % of the time
- Monitoring from October to December 2004 showed that 74.4 percent of stops were announced for bus, 81.9 percent for the Green Line and Mattapan Trolley, 90.2 percent for Rapid Transit, and 81.7 percent for Commuter Rail. The external announcement rate was much lower, 69.6 percent.

Since the evaluation in 2005, the MBTA has taken significant actions to begin to address these issues. Since September 1, 2005 the MBTA reports elevator availability of 96% and above. The

MBTA recently hired an engineering firm to review the status of the MBTA's elevators and develop a program for elevator overhaul and replacement. On April 6, 2006 the MBTA Board of Directors approved a 2007 - 2011 Capital Improvement Program, containing a budget of $122 million for replacement or upgrade of station elevators and escalators. Procedures to improve the tracking and reporting of elevator condition also have been implemented and the accuracy of public information has improved.

The following recommendations were developed during the course of the study to assist the MBTA in its efforts to continue to improve the accessibility and reliability of fixed route services: The MBTA has addressed or begun to address many of these recommendations.

The MBTA should establish an elevator replacement program designed to avoid operation of elevators beyond their effective life.

The MBTA should consider the American Public Transportation Association's (APTA) "Heavy Duty Transportation System Elevator Design Guidelines" in development of specifications for future elevator procurements.

The MBTA should consider consolidated elevator procurement for all elevators needed within a specific time frame (3-5 years) as a means of reducing the number of elevator types and suppliers.

The Operations Support Manager of elevator maintenance should be given responsible for all MBTA owned and operated elevators including those under warranty.

The MBTA should emphasize preventive maintenance to minimize potential problems, particularly with an older complement of elevators.

The Operations Support Manager should include random field inspections of the elevator repairs as they are being performed by the elevator maintenance technicians as part of the verification process.

Consideration should be given to performing preventive maintenance during non-service hours in order to avoid disruption to customers.

The MBTA should develop a procedure for regular (daily) inspection of all commuter rail elevators, including those for which other entities have maintenance responsibility, and a procedure for timely reporting to MBTA public information staff and the responsible entity the status of all elevators at commuter rail stations served by the MBTA.

All information on elevator status, including daily inspection reports by Station Inspectors and reports from the maintenance contractor, including scheduled maintenance, should be reported through the Maintenance Control and Reporting System (MCRS) in a timely fashion and the elevator status should be updated in the MCRS.

More accurate and detailed monitoring and tracking of elevator status should be performed and recorded. Recorded information should include times and dates of each action from initial reports of inoperable elevators to restoration of operation in MCRS.

The MBTA should consider the use of personal data assistants (PDA) by Station Inspectors to more methodically capture the inspection results and reduce the amount of communication. Such systems are currently used for facility management in other organizations, such as Harvard University. The Inspector would record the inspection results on a Daily Station Report in the PDA and transmit the report directly to a module in the MCRS system either with a wireless transmission or through a hard wire connection within the transit system.

The MBTA should institute a quality control procedure to assure that information on elevator status is consistently reported on both the elevator hot line and the MBTA web site.

Real time reports that identify elevator status through the MCRS should be developed and made readily available to MBTA public information staff.

To facilitate tracking and reporting progress on the status of corrective actions, it is recommended that inquiry access to the MCRS be provided customer service staff and the MBTA's Accessibility Specialist. Such access will provide real time information needed by customer service staff and save staff time by avoiding phone calls, e-mails, or other inter-departmental communication to obtain the needed information.

The MBTA's PA Announcer should review the MCRS every half-hour during the service day to check for changes in the status of elevators.

The MBTA should consider installation of elevator status information on variable message signs located so they can be read by a passenger before entering the station. Means for obtaining alternate route information or assistance should be located near the VMS.

The MBTA should aggressively pursue its program to install a coordinated PAVMS system in its stations in order to better provide information to all riders.

Variable message signs on passenger platforms should be placed above and perpendicular to the platform in order to maximize their visibility to waiting passengers.

The practice for providing alternate service when an elevator is unavailable should be incorporated into a formal procedure to avoid miscommunication and expedite provision of alternative transportation service when appropriate. This procedure should address how information about alternate service will be effectively communicated to riders.

Portable lifts at all accessible stations should be cycled daily by Transportation Inspectors to assure that they are in good operating order. Inoperable lifts should be recorded in

daily station reports and reported to maintenance staff for repair or replacement in a timely manner.

Portable lifts should be stored in designated areas at stations, with the areas selected to provide ease of use and to avoid blocking pathways. Portable lifts should be accessible and usable in all weather conditions.

It is recommended that the Railroad Operations Snow Removal Plan be revised to specifically mention clearing paths of travel between platforms and the public way (streets, sidewalks, parking lots).

On commuter rail, PA systems and bridge plates should be inspected on a regular schedule.

The MBTA should continue its program of replacing older buses with low-floor buses equipped with ramps and PAVMS.

The stop announcement "secret rider" program should be expanded to include riders who use wheelchairs and who regularly use the system to monitor appropriate use of lifts, ramps, bridge plates, kneelers and securement systems.

PAVMS equipment and wheelchair securements should be explicitly included on daily vehicle inspection forms to reinforce the importance of their inspection to providing accessible service.

The MBTA should develop reports that clearly identify daily use of vehicles with inoperable lifts. The reports should be used to withhold buses with inoperable lifts from service after three days and to assist in setting maintenance priorities

To improve stop announcement performance, continue the program to install simultaneous PA/VMS systems on all passenger vehicles. Explore and adopt methods of automatically adjusting message volume or timing in response to ambient noise levels.

It is recommended that the MBTA consider moving the portion of the Office of Transportation Access (OTA) that monitors fixed route accessibility issues from operations and to either the Customer Service Support Center or the Office for Systemwide Accessibility. This is proposed since customer service and service monitoring are primary functions of this part of OTA. This would permit OTA to pursue service improvements on behalf of customers with, but independently of, operating departments. The portion of OTA that manages THE RIDE should remain part of operations.

The MBTA's current Design Manuals were also reviewed as part of the evaluation. Generally, the manuals were found to address most USDOT ADAAG and MAAAB design requirements. A few issues were noted, though. Current standards for curb cuts do not appear to include the recent USDOT requirement that a tactile warning be provided within the area of the curb ramp. Additionally, the Design Standards don't address station name signs at depot buildings or station entrances and the associated need for raised letter and Braille signs at such locations. It was also

noted that the Manuals did not include bus stop design requirements. Finally, it was noted that the Design Manuals also cite exact slope requirements, which does not allow for construction variances. The following recommendations are therefore made in this report:

The design standards should be updated periodically to reflect current regulatory requirements, such as tactile warnings at curb ramps, and developments in design and construction techniques and materials.

The MBTA should develop standards for bus stops and shelters for use with local communities

To allow for construction variances, the MBTA Design Manuals should consider even more conservative standards than those included in regulations.

All plans for construction or modification of passenger areas in facilities and on passenger equipment should be submitted to the MBTA's accessibility specialist for review.

For THE RIDE, a major challenge has been accommodating the growth of the program and allocating adequate resources for the service. From FY2003 to FY2006, THE RIDE ridership grew from 1,178,119 trips per year to 1,458,824 trips per year (a 24% increase). Funding pressures have led to efforts to keep contracted costs as low as possible and to add more trips to each vehicle run. In an operating environment with significant traffic and weather conditions, this service growth, combined with tight resources, has sometimes had an impact on service reliability.

In an effort to upgrade to more reliable, state-of-the-art technologies to assist with service growth, THE RIDE also experienced service issues as it transitioned to these new systems. The changes in systems and technologies were implemented in the Fall of 2004, just prior to the beginning of this evaluation. Some of the key observations made in the Spring of 2005, following the transition, were:

- On-time pick-up performance, which ranged from 91-98% prior to the transition, decreased to 85-90%.
- On-time drop-off performance for trips with appointments ranged from 80-86% depending on the service provider.
- Rider complaints between FY2004 (the year prior to the transition) and FY2005 (the year of the transition) increased by 56%.

In addition to the issues related to the transition to new technologies, the evaluation also identified a number of service provider operating issues in the Spring of 2005. Key operating issues included:

- High driver turnover (38-40% per year) at two of the four service providers.
- A shortage of drivers at some service providers and few or no extraboard drivers to provide coverage when there were unscheduled "call-outs."

- Closed runs on the day of service and many trips that had to be same-day dispatched and added-on to already tight schedules.
- Understaffing in the reservations, scheduling and dispatching areas at some providers that was resulting in long telephone hold times and less than ideal management of runs.

In response to the 2005 review findings, the MBTA worked with service providers to address operating deficiencies. Reservations and dispatch capacity was added at several provider sites. Run structures were revised to provide better shifts for drivers and more total take home pay. Over time, each of the service providers also gained expertise in using the new technologies to better schedule and manage services. Staff in the MBTA's Office of Transportation Access also re-doubled their efforts to monitor daily operating issues and performance, to work with providers to correct issues where possible, and to impose contract damages if service issues were not corrected and performance fell below established contract standards.

In recent months, the evaluation found that THE RIDE service quality has improved significantly. In the first eight months of FY2007, on-time performance has improved to 91%, with 7.7% of trips being 15-30 minutes late and only 1.3% of all trips being more than 30 minutes late. Telephone hold times improved with less than 5% of callers being on hold for more than two-and-a-half minutes. Rider complaints also have decreased to pre-transition levels. These improvements have been due in large part to the re-doubled efforts of the MBTA staff and contracted service providers to identify and solve operating issues and to fully-utilize the new technologies provided by the MBTA in the Fall of 2004.

A remaining service issue identified by the evaluation was on-time drop-offs. Between December 2006 and February 2007, on-time drop-offs for trips with appointments still ranged from 76-91% depending on the service provider. It was noted that the MBTA's contracts with the four service providers include standards, incentives and disincentives for on-time pick-ups, but did not include similar standards, incentives and disincentives for on-time drop-offs. As a result, it appeared that contractor schedulers and dispatchers were focused primarily on picking riders up on time. A key recommendation of this evaluation is that:

The MBTA develop an on-time drop-off performance standard for THE RIDE. To the extent possible, this standard should be applied as part of the current contracts. Incentives and penalties related to on-time drop-offs should be added to future service provider contracts.

Another continuing issue identified was driver turnover, experience, availability and run coverage. Dispatcher turnover also has been an issue. While actions taken in 2006 and 2007 have led to some improvements, it is recommended that:

The MBTA continue to work with service providers to ensure that a stable, experienced workforce is available to carry out the service. Consideration should also be given in future contracts to placing a high premium on contractors whose proposals demonstrate the ability to provide a stable and experienced workforce, particularly drivers and dispatchers.

The study also found that MBTA staff are diligent about investigating and resolving rider issues and complaints. A significant amount of time is spent investigating rider complaints, and service providers are regularly asked to implement corrective actions, including employee retraining and disciplinary actions. Some ongoing issues, though, such as circuitous routing and untimely service are the result of underlying systematic issues such as employee turnover or scheduling and dispatching procedures. Information received through rider complaints could be used more effectively to document and address these system issues. The study therefore recommends that:

The MBTA fully utilize information provided by riders through the comment and complaint process to document and address systematic issues in service delivery. It is important that complaint investigations not only addressing individual rider issues, but assist in identifying and correcting broader system problems.

The evaluation also noted that THE RIDE has several unique design features that must be carefully managed and monitored to ensure ongoing service quality. Unlike many other large transit systems, THE RIDE not only accommodates pre-scheduled, advance reservation trips, but also to gives riders the flexibility to make same-day schedule changes and to request additional trips on a same-day basis. This has provided an important level of mobility that allows riders to be more independent, but it also can put pressures on the service operations. It was noted that same-day add-ons to existing schedules can sometimes cause riders to experience longer than planned on-board ride times. Same-day add-ons also can affect on-time drop-offs. Another key recommendation of this evaluation is that:

The MBTA closely monitor the amount of same-day service provided by contracted service providers and its impact on ride times and on-time drop-offs.

Work with service providers to ensure that they have adequate dispatch capacity and capabilities, as well as vehicle and driver capacity to handle the number of same day changes and add-ons accepted.

The MBTA discuss with the community the impacts of same-day service changes and same-day trip reservations on service quality.

The evaluation also noted that the MBTA pays contracted THE RIDE service providers based on the number of trips completed. This method of payment encourages service providers to be as efficient as possible and helps to ensure lower overall program costs. At the same time, it creates an incentive for the service providers to provide as many trips as possible with as few vehicle-hours and drivers as possible. This can lead to overly ambitious schedules, acceptance of more same day trips as may be advisable, and service quality issues.

The design of THE RIDE also has contracted service providers controlling all aspects of the operation – trip reservations, scheduling, dispatch and vehicle operations. Again, while this is cost-effective, it makes it especially difficult to monitor the actions of the service providers to ensure that trips are booked, scheduled and delivered appropriately.

The payment method and service design chosen by the MBTA has its merits and can be run effectively, but requires close program monitoring. Several special reports were developed as part of the evaluation to assist MBTA THE RIDE Contract Administrators with monitoring efforts. The TranSystems evaluation team also assisted MBTA staff in increased service monitoring efforts between September of 2006 and February of 2007. To ensure that an appropriate level of monitoring is continued in the future, it is recommended that:

The MBTA THE RIDE staff continue to use the special reports developed in 2006 and 2007 to closely track trip scheduling and service delivery.

The MBTA increase the number of THE RIDE Contract Administrators (CAs). Currently, four CAs handle all customer complaints, review and process invoices for over $40 million in service, and monitoring the four service providers operating a fleet of 530 vehicles. The evaluation found that eight CAs are needed to adequately carry out all of these functions.

Finally, the evaluation noted that the method of trip booking and scheduling by THE RIDE service providers also is somewhat unique. Trip times are not confirmed at the time that riders call to make trip requests. Instead, the requested time is entered into the system and all trips are then scheduled the evening before the day of service. Automatic call-backs are made to riders to inform them of their actual scheduled pick-up times. The times given in the callbacks can be up to 30 minutes different from the requested times and can sometimes be 1-2 hours before appointment times. Riders who are not pleased with the times given often call the morning of service to request schedule changes. This again adds pressure on the dispatch function and on the delivery of service.

It was noted that this type of trip booking and scheduling has been in place since the program started in 1977. It is well entrenched with riders and service providers. New technology introduced in 2004 also has improved the efficiency of the call-back process. Still, it is recommended that:

The MBTA consider evaluating the impacts of "real-time scheduling," used in most other transit systems, that allows changes to requested trip times to be negotiated with riders at the time they call.

Overall, the evaluation found that significant improvements have been made since 2005 in the reliability and usability of both accessible fixed route and THE RIDE services. Detailed Monitoring Plans have been developed for both fixed route and THE RIDE services. The plans are summarized in Sections 1.5 and 2.5 of this report. With the implementation of these plans and diligent, ongoing service monitoring, the MBTA should be able to ensure that improvements in services for riders with disabilities continue in the future.

Section 1. Accessible Fixed Route Transit Services

This section describes the consultant team's evaluation of the MBTA's program for accessible fixed route services. Section 1.1 provides a general description of the MBTA's fixed route services. Section 1.2 presents a review of MBTA planning design and program status for passenger stations and equipment relative to the requirements of the U.S. DOT ADA and Massachusetts Architectural Access Board (MAAB) regulations. Rider and public input on accessible fixed route services received through public meetings is summarized in Section 1.3. A summary of observations and analysis of fixed route operations and maintenance, made during the initial evaluation of the services by the TranSystems study team in the Spring and Summer of 2005, is presented in Section 1.4. Finally, the Monitoring Plan developed for fixed route service is detailed in Section 1.5.

1.1. Overview of MBTA Fixed Route Services

The MBTA provides mass transportation services to a population of almost 4.7 million people over an area of 3,200 square miles in 175 Greater Boston communities. The MBTA operates commuter rail, rapid rail, surface rail, commuter boat, bus rapid transit, bus trackless trolley and vans serving approximately 1.1 million passengers a day.

Commuter rail service is operated from Boston terminals at North and South Stations to Boston's suburbs and nearby cities. A fleet of 457 coaches and locomotives operate over five north-side and seven south-side routes serving 124 stations. Rapid rail transit is operated with a fleet of 408 vehicles over 38 route miles on the MBTA's Blue, Orange and Red Lines to 53 stations. Surface rail or light rail operates over 26 route miles in the Green Line central subway and four Green Line surface routes and on the Mattapan Line using 220 passenger vehicles. Silver Line Bus Rapid Transit (BRT) service runs in subway and on surface streets serving 14 stations with 17 buses. The MBTA also contracts for water ferry service on five routes. The MBTA provides service on 204 bus routes and 4 trackless trolley routes with 964 buses and 68 trackless trolleys. A fleet of sedans and accessible vans is used to provide service for the MBTA's Americans with Disabilities Act (ADA) complementary paratransit service, which is addressed in Section 2 of this report.

1.2. Evaluation of Accessible Fixed Route Service Facilities and Passenger Vehicles

One of the initial tasks in the evaluation involved a review of fixed route facilities and vehicle specifications for compliance with the requirements of the U.S. Department of Transportation (USDOT) ADA and Massachusetts Architectural Access Board (MAAB) regulations. The review addressed the status of the MBTA's Key Station Program, facility design standards, vehicle design specifications and communications equipment and compared each to the ADA regulatory requirements.

The ADA requires that "new" stations, "key" stations and station alterations be "accessible to, and usable by, people with disabilities, including individuals who use wheelchairs." The regulations specify time limits for making facilities accessible and adopt the ADA Accessibility Guidelines (ADAAG) as the standard for accessible design.

The ADA also requires that any vehicle purchased after August 25, 1990 be readily accessible and usable by individuals with disabilities including individuals who use wheelchairs. The ADA regulations further specify accessibility requirements for buses, rapid rail, light rail and commuter rail vehicles.

It is important to note that while the ADA regulatory requirements are relatively detailed, they are continuously being interpreted and refined by the USDOT and/or the courts. How the regulations apply to each transit system's unique design features often must be determined on a case-by-case basis by the USDOT and the courts. Therefore, the information in this report should not be interpreted as an actual finding of compliance or non-compliance with the regulatory requirements. Instead, this report includes the opinions of the consulting team on the apparent consistency of the current service policies and standards with regulatory requirements and recent USDOT and court interpretations of the applicable laws and regulations. In some cases, there are still questions given the current level of guidance and interpretation that has been provided by the USDOT or the courts. Where this is the case, this report identifies the issue as a matter of interpretation.

A review of the MBTA's plans and programs for station and passenger equipment accessibility was undertaken as part of the study. A technical memorandum (Memorandum #2) detailing the analysis, findings and recommendations was prepared and provided to the MBTA on August 2, 2005. Technical Memorandum #2 contains a discussion of each regulatory requirement, an analysis of MBTA station and passenger vehicle programs, and findings and recommendations regarding status. This section of the final report provides a summary of the information presented in Technical Memorandum #2. The information is organized in two parts - stations and vehicles.

Stations

Station information is discussed in four parts. The first part addresses the program for passenger station accessibility. Part two discusses accessible design. Parts three and four address two station elements that are important to the utility of stations by people who have disabilities. These station elements are elevators and public address variable message sign systems.

Key & New Station Program

This section addresses federal accessibility requirements for transit stations and the status of the MBTA's program in meeting those requirements.

USDOT ADA Regulatory Requirements

The USDOT ADA Regulations (49 CFR Subpart C) require that all transit stations built after January 25, 1992 be accessible and usable by people with disabilities, including people who use wheelchairs and that all new commuter rail stations built after October 7, 1991 also be accessible. Similarly, station alterations after these dates are to be accessible.

The regulations further required that key stations be accessible by July 26, 1993. If the transit agency wanted an extension to this deadline such a request was to be included in the Key Station Plan. Transit agencies were required to develop key station plans and submit them to FTA by July 31, 1992. For key stations in light rail and rapid rail systems, the FTA Administrator could grant an extension to the July 26, 1993 deadline, for a period up to July 26, 2020, provided that two-thirds of the key stations are made accessible by July 26, 2010. For key stations in commuter rail systems, the FTA Administrator could grant an extension to the July 26, 1993 deadline for a period up to July 26, 2010. Key stations were to be identified by the transit agency through a public participation process including consultation with people with disabilities who would be affected by the plan. The regulations also include criteria for identification of key stations.

Current MBTA Program

In the MBTA Key Station Plan, for joint or multimodal stations, the MBTA identifies the station component for each line as a separate station. As a result, stations such as Park Street, which has both a Green and a Red Line component, are counted as two stations. Consistent with this method of counting stations, the MBTA currently has 280 rapid rail, light rail, commuter rail, and bus rapid transit stations. System-wide, 181 stations or 65% are accessible to persons with disabilities, including persons who use wheelchairs. A summary of all MBTA stations is found in Table 1.1. Table 1.1 also lists the number of stations by mode and rapid rail line.

Table 1.1 - MBTA Station Summary

Line	Stations	Accessible	% Accessible
Red*	30	21	70%
Orange	19	19	100%
Green	70	25	36%
Blue	12	8	67%
Commuter	125	84	67%
Silver	24	24	100%
Systemwide	280	181	65%

** Includes Mattapan high-speed line*

Level of accessibility varies from line to line on the commuter rail system. New commuter rail lines and stations are fully accessible. Middleborough and Plymouth are new lines, while the Framingham Line was extended to Worcester in the past five years. Station accessibility by commuter rail line is presented in Table 1.2.

Table 1.2 - % Accessible Commuter Rail Stations by Line (Excluding North & South Stations)

Line	% of Accessible Stations
Newburyport/Rockport	82%
Haverhill/Reading	46%
Lowell	50%
Fitchburg	29%
Framingham/Worcester	56%
Needham	100%
Franklin	63%
Fairmount	50%
Attleboro/Stoughton	92%
Middleborough/Lakeville	100%
Plymouth	100%

Planning for Key and New Stations - Key Station Plan

On July 15, 1992, the MBTA published its Key Station Plan for rapid rail, light rail and commuter rail stations. The Plan identified 80 stations as key stations. The Key Station Plan included a schedule to make all key stations accessible by specified dates between 1993 and 2011. Through Voluntary Compliance Agreements, the Federal Transit Administration (FTA) subsequently approved extensions to schedule completion dates for 41 of those stations. Currently, 74 out of the 80 or 92% of all key stations are accessible. A summary of the key stations is listed in Table 1.3 below.

Table 1.3 - Accessible Key Stations, 2005

Line	Stations	Accessible	% Accessible
Red	14	14	100%
Orange	11	11	100%
Green	27	23	85%
Blue	6	4	67%
Commuter	22	22	100%
System-wide	80	74	92%

Design has been completed and funding programmed for all of the remaining 6 key stations that are not yet accessible to persons with disabilities. As presented in Table 1.4, four are in construction; and two are I design.

Table 1.4 - Progress Report as of mid-2005 – Programmed Key Stations

Station Name	Line	Mode	Plan Schedule	VCA Schedule	Current Status	Expected Completion
Government Center	Blue	RRT	30-Jun-02	31-Dec-03	Design	TBD
State Street	Blue	RRT	30-Jun-07	31-Dec-07	Construction	July-09
Arlington	Green	LRT	30-Jun-98	31-Dec-03	Construction	April-09
Copley	Green	LRT	30-Jun-05	31-Dec-05	Construction	April-09
Government Center	Green	LRT	30-Jun-99	31-Dec-03	Design	TBD
Kenmore	Green	LRT	30-Jun-98	31-Dec-03	Construction	Jan-08

With 65% of its stations accessible, the MBTA has a high proportion of accessible (key) stations compared to older rapid rail and light rail systems. It also has more key stations than any other system in the country. Although the MBTA has completed modification to 74 of its 80 key stations, completion of key station modifications lags behind the schedule in the MBTA's Key Station Plan. However, modifications to the remaining six key stations are scheduled for completion before 2010. This is well ahead of the USDOT ADA Regulatory requirement that two-thirds of light and rapid rail key stations and all commuter rail key stations be accessible by July 26, 2010.

Design

This section of the report addresses the federal and state requirements for design of accessible transit stations and MBTA's procedures for addressing those requirements.

USDOT ADA Regulations

For consistency of design, the USDOT incorporated the ADA Accessibility Guidelines (ADAAG) into the USDOT ADA regulations as standards for station design. Principal design elements addressed by ADAAG are:

- Accessible parking and passenger drop off - including location, quantity, dimensions and signage;
- Accessible route - including pathway dimensions, surfaces, obstructions, grades, ramps, curb ramps, interior doors, lifts and elevators and signage;
- Entrances - including doors and signage;
- Ticketing and Automatic Fare Vending - including access and usability by people with disabilities;
- Passenger platforms - including path of travel, vehicle access such as lifts or mini-high platforms and signage;
- Public Address Systems - including variable message signs;
- Telephones including TDDs and signage; and
- Areas of Rescue Assistance in new stations.

With respect to further requirements related to public address systems, ADAAG 10.3.1 (14) states that "where public address systems are provided to convey information to the public in terminals, stations, or other fixed facilities, a means of conveying the same or equivalent information to persons with hearing loss or who are deaf shall be provided." Among the means of conveying equivalent information are visual displays such as fixed signs, variable message signs, or for route identification, destination signs on vehicles. Variable message signs can include automated LED signs or manually changed sign boards. In ADA Station reviews this requirement has been applied to information needed by people to effectively use the transit service and includes stop and route identification, elevator outages, or other service disruptions that would significantly affect a person's trip. The requirement has not been applied to unessential information such as advertisements or public service announcements. An example of acceptable equivalent information would be fixed signs identifying the name of transit stops as the equivalent of an announcement of the stop name using a PA system.

The regulation (49 CFR SS 37.9 (c)) further requires that bus stop pad construction within control of the transit agency comply with ADAAG.

Massachusetts Architectural Access Board Regulations

The Massachusetts Architectural Access Board (MAAB) has regulations (521 Code of Massachusetts Regulations) that govern accessibility elements of design of buildings and facilities. With respect to transit passenger facilities, the design requirements are very similar to those of the USDOT. A notable exception is the design requirements for newly constructed commuter rail and light rail stations. The requirements for access in these instances are less flexible than those of the USDOT regulations. At such stations, access shall be provided to all passengers and to all cars of the train by means of a full length raised platform.

Additionally, any reconstructed, altered or remodeled stations serving commuter rail coaches shall afford access to at least two coaches of a train by means of a raised platform at least 45 feet in length with overhead shelter from rain and snow along their full length and at all access ramps.

Section 18.5.3.2 of the MAAB Regulations requires that "platforms at reconstructed, remodeled or altered stations serving light rail transit vehicles shall afford access to at least one car by means of a raised platform." The platform must be 5 feet wide, 8 feet long with a 3 foot zone for the light rail car door. Note that the regulations do not specify a height requirement or level boarding for light rail systems, only that the platform be raised for the entire length for new stations and that mini-high platforms are acceptable for reconstructed stations.

Where constraints result in gaps between the passenger platform and vehicle door of more than 1 inch vertical and 3 inches horizontal, a bridge plate designed to eliminate such gaps shall be made available at every passenger door of the vehicle. For light rail stations, where the above-cited gaps are exceeded, a device, or ramp, used to bridge the gap must not result in a slope greater than 1:12 (8.3%) unless the run or span is less than 3 inches.

MBTA Design Procedures

Compliance with ADAAG and MAAB design standards are addressed through a requirement that the professional architect or engineer responsible for station design, through a contract with the MBTA, certify that the design complies with the requirements of the regulations. In addition, design plans are reviewed by MBTA professional staff as they are being developed with station accessibility included in the review. Plans are also reviewed by the MBTA's Senior Accessibility Specialist.

The MBTA developed a Commuter Rail Design Standards Manual and Design Standards for rapid rail and subway stations. According to MBTA staff, the Commuter Rail Design Standards were last updated on April 19, 1996 and the Design Standards for rapid rail stations were also last updated in 1995. Also according to MBTA staff, the MBTA has no formal design standards for bus stops.

The Commuter Rail Design Standards Manual addresses pathways, ramps, parking, passenger platforms and signage. ADAAG and MAAB requirements, including the requirement that all new stations have full length high platforms, are incorporated into the design standards.

With respect to level boarding for people using wheelchairs, commuter rail systems have a unique challenge. Commuter rail passenger track is often shared with freight service, which uses wider cars than commuter coaches. In some instances the freight operation includes "wide load" cars. Sharing the same track with wide freight cars can impede construction of high platforms at commuter rail stations. This problem was encountered with construction of the Worcester Line. In that instance, state legislation was passed to supersede the MAAB regulations.

The new stations on the Worcester Line (Ashland, Southborough, Westborough, Grafton) were built with mini-high platforms in accordance with state legislature Chapter 303 of the Acts of 1998 that states:

> **SECTION 1.** Notwithstanding the provisions of any general or special law, rule, regulation or agreement to the contrary, a platform constructed by the Massachusetts Bay Transportation Authority at commuter rail stations in the towns of Ashland, Southborough, Westborough and Grafton may consist of low platforms and mini high platforms.

The FTA has made regular visits to the MBTA to conduct assessments of key stations to determine compliance with the ADAAG. Sixty-three of the 80 key stations have been assessed during these reviews with follow up assessments of 12 stations. Findings identifying non-compliance of specific station elements were identified during these reviews.

From these reviews there appeared to be a pattern related to the following design elements:

- Many curb ramps have excessive slopes and cross slopes;

- Platform station signs and tactile signs were often missing or not mounted correctly with ADAAG requirements.

The MBTA Commuter Rail Design Standards Manual for Stations and Parking appears to address most USDOT ADAAG and MAAAB design requirements. In general, the standards appear to effectively incorporate ADAAG and MAAB requirements. In one instance, the MBTA standards are more rigorous than the regulatory requirements with the MBTA standard for a ramp an 8% maximum slope, which is more gradual than the regulatory requirement of 8.3%.

To address the excessive curb ramp slopes during FTA reviews, the MBTA should consider even more conservative standards. Such an approach would make even greater allowance for construction variances. Some designers specify running slopes of 1:13.3 (7.5%) rather than the required 1:12, and cross slopes of 1:67 (1.5%) rather than the required 1:50 (2%).

A few areas of the design standards requiring updating were identified. The provision in current standards for curb cuts does not appear to include the recent USDOT requirement that a tactile warning be provided within the area of the curb ramp. Additionally, the Design Standards don't address station name signs at depot buildings or station entrances and the associated need for raised letter and Braille signs at such locations. **The design standards should be updated periodically to reflect current regulatory requirements, such as tactile warnings at curb ramps, and developments in design and construction techniques and materials.**

It also was noted that the MBTA has not developed formal design standards related to bus stops. A limitation to use of urban transit systems throughout the country is access to the system via local sidewalks and bus stops.

Local sidewalks and bus stops are for the most part under the jurisdiction of local governments, limiting the MBTA's ability to affect improved accessibility. The MBTA could, however, actively work with local communities and developers to promote better bus stop and streetscape accessibility.

Several other cities and transit systems have developed bus stop design standards. The St. Louis Metro System has developed design guidelines for accessible bus stops to promote improved accessibility in conjunction with local roadway and development projects. The guidelines include requirements for clear curb space and platforms for deployment of lifts and ramps. Some transit properties have developed unique specifications for bus stop sign posts to make them more easily identifiable by people with visual disabilities. In Eugene, OR, the posts are a distinctive shape. In Broward County, FL, bright yellow posts are used in conjunction with a passenger activated light to signal a waiting passenger. **The MBTA should develop standards for bus stops and shelters for use with local communities.** These standards could identify ADAAG requirements as well as other desirable practices on bus stop and streetscape access and could be shared with developers and local communities. Adoption of bus stop design standards and encouragement of their use by local communities and developers in conjunction with roadway/sidewalk projects should help to promote increased bus use through improved access.

To address accessible design of its facilities the MBTA has selected a firm to update its 1990 "Guide to Access." The work scope includes addressing current state and federal requirements for accessible design as well as bus stops. The contract is scheduled to commence in the Spring of 2007.

Elevators

The MBTA operates a total of 113 elevators at all rapid rail (including all elevators at Back Bay Station), light rail, and Silver Line stations. An inventory of the elevators is provided in Attachment A.

In addition to the 113 elevators in rapid rail, light rail and Silver Line Stations, the MBTA maintains commuter rail station elevators at Lynn and Framingham Stations. Elevators at Anderson, Lowell, Providence, Route 128 and Worcester Commuter Rail Stations are maintained by other agencies.

Both maintenance and design problems, such as emergency communications, elevator controls, and signals, were identified with elevators during the FTA reviews of 63 key stations. In mid-2005 the MBTA was advancing a funded program of System Elevator Upgrades. The upgrades included intercom and emergency rescue features as well as other elements of the elevators. It appears that the MBTA's program was addressing problems raised during the FTA reviews.

MBTA managers of elevator maintenance indicated that the industry standard for the useful life of an elevator is typically 15 to 20 years. The life can be affected by exposure to weather, amount and type of use. Elevators in public transit systems will typically have a shorter useful life than elevators in office buildings. Of the 113 MBTA station elevators, 47 (42%) are 15 years old or older. Of this group, 19 elevators are 20 years old or older and seven are 25 years or older. The oldest elevators are on the Red line northwest extension that opened in 1984. **The MBTA should establish an elevator replacement program designed to avoid operation of elevators beyond their effective life.** On August 1, 2006 the MBTA awarded a contract for the design of four new or redundant elevators and five replacement elevators. In addition, the MBTA has recently hired an engineering firm to, among other things, review the status of the MBTA's elevators and develop a program for elevator overhaul and replacement. On April 6, 2006 the MBTA Board of Directors approved a 2007 - 2011 Capital Improvement Program, containing a budget of $122 million for replacement or upgrade of station elevators and escalators.

To address the harsh operating environment of transit elevators, the American Public Transportation Association (APTA) has developed "Heavy Duty Transportation Elevator Design Guidelines," dated July 26, 2004. The objective of these guidelines is provision for the design and construction of elevators which can provide safe, reliable service in the harsh, heavy usage, high abuse environment of transportation systems. **The MBTA should consider the APTA "Heavy Duty Transportation System Elevator Design Guidelines" in development of specifications for future elevator procurements**.

Also, there are at least 15 different elevator suppliers throughout the system. The greater the number of elevator types inevitably makes elevator maintenance a greater challenge. Multiple elevator types require service personnel to be familiar with many types of equipment and storing a wide variety of parts needed for maintenance.

In conjunction with efforts to develop a capital program for elevator replacement, it is suggested that the MBTA consider ways of reducing the number of elevator types it operates and maintains. This might be done by purchasing new and replacement elevators as a system procurement rather than as individual elevators for each station improvement project. Central system purchase might be done through a competitively bid contract to supply elevators as needed for a period of years (5 years) with a specified initial purchase amount. For example purchase 10 elevators with an option to purchase a number of additional elevators in the future within the period of the contract. **The MBTA should consider consolidated elevator procurement for all elevators needed within a specific time frame (3-5 years) as a means of reducing the number of elevator types and suppliers.**

Public Address- Variable Message Signs (PAVMS)

With respect to ADA requirements, PA and VMS can be very helpful in assuring that requirements for route announcements at stations serving more than one route are met. Specifically, systems that provide automatic audible announcements of train arrivals can effectively address this requirement. Although signs on trains identify the routes for people who have hearing impairments, variable message signs provide another method of doing so. PAVMS systems can also be an effective way of communicating equivalent service information to people who have hearing or sight impairments as well as the general public. During FTA's reviews of 63 MBTA key stations, a consistent observation was that the variable message signs do not provide equivalent visual text message to the audible message announced on PA systems. Continued advancement of the PAVMS system installation at passenger platforms and lobbies should improve communications to all of these transit customers. **Variable message signs should be placed above and perpendicular to the passenger platform in order to maximize their visibility to waiting passengers.**

VMS equipment can also be helpful in informing the public of elevator outages. To minimize disruption to the customer's trip, VMS equipment listing out of service elevators should be located on the accessible path of travel before the customer passes through the station's fare gate and at or before the customer encounters an elevator. To get assistance in identifying an alternative travel route the VMS could be coupled with direct access, or intercom access, to a customer service agent. A system of this type is used by the Bay Area Rapid Transit District (BART) in San Francisco.

The MBTA provides audio announcements at stations at approximately 175 rapid rail, light rail and bus way locations with more than 300 audio amplifiers, and 2,000 loud speakers. Announcements can be either pre-recorded or made live. Pre-recorded announcements can be made automatically at scheduled times. Announcements can also be made at individual locations, at groups of locations or system-wide. Announcements can be made from a central paging console, three remote consoles and 20 remote paging telephones.

In mid-2005, the system had a working variable message sign at one station. The sign was programmed to provide simultaneous visual and audio messages. A second sign was to be converted to do the same. These two stations were Davis and North Quincy, both on the Red Line. The messages were controlled from a Local Control Unit at the MBTA's Operations Control Center at 45 High Street. The system was designed with capacity to store 100 pre-programmed messages. Messages can be sent to a maximum of 15 zones. Stations are grouped into zones, including one zone for all stations, to conform to the 15-zone limit. A new message to a single station zone can be displayed in about 3 minutes. VMS at 24 remaining stations are inoperable. The signs are manufactured by two companies:

- Sunrise Systems, Inc. – Model EMX-2000/6T/112 (weather resistant unit); and
- INOVA model MR 16.192SSB 60 mcd (indoor unit).

Accordingly, the MBTA had two stations with simultaneous audio and video messages. **The MBTA should aggressively pursue its program to install a coordinated PAVMS system in its stations.** In 2005, the MBTA planned to install a new system of simultaneous visual and audio messages. This effort included replacement of the Control Unit at the MBTA Operations Control Center and development of six communications centers with VMS signs on platforms and in lobbies at Airport, Aquarium, Back Bay, Downtown Crossing, North and Porter Stations. Future adaptation of stations to simultaneous messaging and installation of Ethernet was planned for stations as they are modernized or newly constructed. To address audibility of messages with trains entering stations the MBTA is considering programming an automated delay in making audio announcements when noise levels are high. The new system may use some components of an existing system that is largely inoperable. On August 25, 2006 the MBTA modified its contract for installation of PA systems at nine stations such that the PA system volume would adjust to ambient noise levels and would have the capability of providing the same message both audibly and through visual display. As of March 2007 speakers and microphones had been installed at Airport and North Stations and work was ongoing at Aquarium, Back Bay, downtown Crossing and Porter Square Stations. The MBTA is advancing coordinated PAVMS capabilities for 21 additional stations in phase III of its system-wide acoustical design program.

All elevators have an intercom that either connects to the stations collector's booth, the Message Center (located in the OCC) or the Hub Stations. Intercoms for public use are also provided in the stations. These intercoms are currently directed to the MBTA Police Department. As stations are rewired for Automated Fare Collection collector's booths will be closed and the intercoms will be redirected to the MBTA Police Department for emergencies or Customer Service Agents at hub stations for service information.

The MBTA has 175 PA systems serving the 66 stations 26, variable message signs that serve 39% of the stations, and 2 coordinated PAVMS systems that serve 3 % of the stations.

In addition to the rapid rail and light rail subway system, the MBTA's commuter rail system is equipped with LED station signs. Almost all commuter rail stations have LED signage. The exceptions are the following lightly used stations: Foxboro, Plymptonville, Hastings, Silver Hill and Mishawum.

Passenger Vehicles

Vehicle information is presented with a general discussion followed by a discussion of each of the fixed route travel modes, bus, commuter rail, light rail and rapid rail. The general discussion addresses the requirements for vehicle accessibility and the MBTA approach to equipping vehicles with coordinated audio and visual messages. The sections by travel mode address vehicle accessibility and communication systems.

General

The MBTA operates five modes of fixed route passenger service: bus and trackless trolley (Silver Line and fixed route buses and trolleys), commuter rail (Purple Line), rapid rail (Blue, Orange and Red Lines), light rail (Green Line, Mattapan Trolley), and boat. Commuter rail, boat service, and some bus service are operated through contracts with private operators. The MBTA owns the vehicles for the service it operates directly as well as the contracted commuter rail service. The contract bus and boat operators own the vehicles for those services. Since the USDOT ADA regulations are not in effect for boat service, it is not further addressed in this memorandum.

This section addresses accessibility requirements and MBTA's overall program with respect to the requirements.

USDOT ADA Regulatory Requirements

The regulations require that operators of fixed route systems acquiring new passenger vehicles after August 25, 1990 ensure that the vehicle be readily accessible and usable by individuals with disabilities, including individuals who use wheelchairs (49 CFR §37.71). This requirement also applies to private entities primarily engaged in the business of transporting people, such as MBTA contracted service providers. The requirement does not apply to ferries and other passenger vessels.

The regulations (49 CFR §37.93) also require that, as of July 26, 1995, at least one car per train be accessible.

Current MBTA Program

All vehicles purchased since August 25, 1990 appear to meet the general requirement that the vehicle be readily accessible and usable by individuals with disabilities

A review of access-related fixed route complaints filed by customers during the first calendar quarter of 2005 revealed that none of the 88 complaints appeared to relate directly to vehicle design. Eighteen complaints related to vehicles and 33 to public information. In the 18 vehicle-related complaints, 22 issues were cited. Ten (10) related to vehicle operation and 12 to access equipment: 6 for vehicle lifts, 3 for ramps, and 3 for kneelers. These equipment related complaints could be the result of operations, maintenance, equipment design, or all three.

Of the public information complaints, there were 23 regarding stop and route announcements. Although these are likely related to operator performance, faulty public address equipment could be a contributing cause. Nine of the announcement complaints were for rapid rail service, 8 for commuter rail, 4 for bus, and 2 for light rail service.

With new vehicle purchases and overhauls, the MBTA is installing PAVMS equipment on its passenger equipment. These systems should be superior to the use of PA by itself in that they are designed to provide clear and consistent messages on stop announcements, route identification, and stop request confirmations to customers.

Additionally, the MBTA in some instances is installing PA systems which vary volume based upon ambient noise levels to provide an audible message during noisy train operations. MBTA staff is also considering technology that will automatically delay announcements during periods of high ambient noise levels (when trains are entering or leaving stations) so as to avoid excessive and competing noise.

The MBTA should continue its program to install Public Announcement Voice Messaging Systems (PAVMS), with simultaneous automated audio and vidual internal stop announcement, and stop confirmation capability and external audio route announcements on its passenger fleet. The MBTA should continue to explore means of automatically adjusting volumes and/or delaying messages to provide audible messages when ambient noise levels are high.

Buses

USDOT ADA Regulatory Requirements

The USDOT ADA regulations further specify requirements for buses to be considered accessible. These requirements address:

- Vehicle Lifts, Ramps & Securement Devices – All vehicles are required to have a level change boarding device and at least one securement device on vehicles 22 feet or less in length and two securement devices on vehicles greater than 22 feet in length;
- Doors, Steps & Thresholds – Design must meet specifications for clearance and traction;
- Priority Seating Signs – A sign should identify one set of forward facing seats at the front of the bus as designated priority seating for people with disabilities;
- Interior Circulation, Handrails & Stanchions – Handrails & Stanchions must be designed and located to assist people with disabilities without obstructing route of travel;
- Lighting – Specifies lighting requirements for step wells and doorways;
- Fare Box – Fare box must be placed forward to avoid obstructing vestibule;
- Public Information System – Public address (PA) systems for internal communication are required on fixed route vehicles longer than 22 feet;

- Stop request – On vehicles longer than 22 feet serving multiple stops a control must be provided next to the securement area to request the vehicle stop. Auditory and visual indications are required to indicate that the request has been made;
- Destination Route Signs – Where destination signs are displayed, illuminated signs must be displayed on the front and boarding side of the vehicle.

Current MBTA Program

Table 1.5 below summarizes the accessibility features of MBTA's existing bus and trackless trolley fleet. The MBTA bus fleet is now 100% accessible. All buses are equipped either with lifts, or with ramps on low floor vehicles and trolleys. The fleet consists of 991 buses with 595 (60%) ramp equipped and 396 (40%) lift equipped. The 396 older RTS buses purchased between 1994 and 2004 are equipped with lifts. An overhaul program is underway for the 396 RTS buses. One hundred and twenty-five (125) buses are undergoing a major overhaul, and the remaining 271 are undergoing a less intensive overhaul. Lifts are being replaced on the 125 buses and reconditioned on the 271 buses. As of December 31, 2004, lifts had been rebuilt or replaced on 365 of the buses.

As of mid-2005, seven hundred and fifteen (715) of the buses were equipped with, or were being equipped with Public Address Variable Message Signs (PAVMS) systems. These systems provide the capacity for audible and visual automated stop announcements, automated route announcements at stops serving more than one route, and confirming stop requests inside of the vehicle. All of the buses purchased since 1999 plus 125 RTS buses undergoing a major overhaul are, or will be, equipped with the PAVMS system.

All buses are accessible and have PA systems as required by the regulations. Specific design elements have not been reviewed because they have not been cited as problems and are normally addressed in all bus design specifications as standard requirements. Additionally, information on private carrier contract service providers was not included in this review.

For service reliability low floor buses equipped with ramps are preferable to lifts as a level change device. Lifts are a more complex device and as such are more prone to mechanical failure. Ramps, with their simpler operation, can be deployed manually and should work with the exception of being damaged. **The MBTA should continue its program of replacing older buses with low-floor buses equipped with ramps and PAVMS.**

Table 1.5 – MBTA Bus Fleet

Year of Manufacture	Make	Type	Series	Number	Boarding	
					Ramp	Lift
Bus						
1994-1996	RTS	Diesel	0001-0400	396	0	396
2003-2004	NABI	CNG	2000	299	299	0
1999	New Flyer	CNG	6000-6001	2	2	0
2002	New Flyer	CNG	6002-6016	15	15	0
2003-2004	Neoplan	60' CNG	1018-1044	27	27	0
2004	Neoplan	ECD	0401-0575	175	175	0
Total				914	518	396
Trackless Trolley						
2004	Neoplan		4100	28	28	0
Total				28	28	0
Silver Line						
2003	Neoplan	60' CNG	1001-1017	17	17	0
2003-2004	Neoplan	60' Dual Mode	1101-1132	32	32	0
Total				49	49	0
Total				991	595	396

CNG – Compressed Natural Gas
ECD - Emission Control Diesel

Commuter Rail

USDOT ADA Regulatory Requirements

The regulations require that commuter rail vehicles either comply with design requirements for level boarding or shall provide other means of vehicle access, such as lifts or ramps or wayside mini-high platforms or portable lifts. Other requirements for commuter rail passenger vehicles are:

- Doorways – Doorways and passageways must meet clearance requirements, have auditory and visual signals for closing and level entry vehicles must be coordinated to achieve limits in the gap between the vehicle entrance and the station platform;
- Mobility Aid Accessibility – Vehicles purchased after January 25, 1992 shall provide a level change mechanism such as a lift or ramp or at stations, wayside mini-high platforms or portable lifts that can be used to provide access to each new passenger vehicle. The regulations further specify the design requirements for access devices;
- Interior Circulation, Handrails & Stanchions – Handrails & Stanchions must be designed and located to assist people with disabilities without obstructing route of travel;

- Floors Steps and Thresholds – Floor surfaces must be slip-resistant and step edges shall be marked with a band of color;
- Lighting – Specifies lighting requirements for step wells and doorways and outside lighting for operation at unlit passenger platforms;
- Public Information System – PA systems for internal communication are required;
- Priority Seating Signs – A sign should identify seats as designated priority seating for people with disabilities;
- Rest Rooms – Requires that when provided, rest rooms be accessible to people who use wheelchairs and specifies dimensional requirements;
- Between Car Barriers – Where vehicles operate in a high platform mode barriers must be provided to prevent people from stepping off of the station platform between cars;

Current MBTA Program

Commuter rail passenger vehicles are not equipped with level change devices for people who use wheel chairs. Vehicle access is provided by level entry at high platform stations. At accessible low platform stations, vehicle access is by means of mini-high platforms and manually deployed bridge plates used to span the gap between the platform and the vestibule of the rail coach. In addition to accommodating level entry, all commuter rail passenger vehicles are equipped with steps for general boarding at low platform station areas.

The MBTA commuter rail fleet consists of 377 passenger vehicles. The oldest vehicles are 27 years old, but these were overhauled in 1995-6. In mid-2005, the 15 year-old Kawasaki vehicles were programmed for an overhaul. This overhaul is scheduled to take place during the period 2008-2010 in the MBTA's 2006-2011 Capital Improvement Program.

In addition to the vehicles listed, the MBTA is in the process of purchasing an additional 33 Kawasaki coaches. Twenty-eight will provide capacity for service expansion on the Greenbush Line and 5 are being purchased with Rhode Island Public Transit Authority funds to provide capacity for service to T.F. Green Airport in Rhode Island.

According to MBTA Stop Announcement Progress reports to FTA, the new commuter rail coaches are being purchased with interior PA systems that adjust the volume of the announcement based upon the ambient, or background, noise level in the vehicle.

The 67 MBB cars are equipped with rest rooms. These restrooms and other standard dimensional requirements have not been reviewed for compliance with ADA as part of this effort.

Table 1.6 provides a summary inventory of the MBTA's commuter rail fleet.

Table 1.6 - Commuter Rail Fleet

Year Manufactured	Year Overhauled	Make	Model	Series	Number
1987		Bombardier	A Cars	300	40
1989-1990		Bombardier	B Cars	600	106
1978-1979	1995-1996	Pullman		200	57
1987-1988		MBB		500	67
1990-1991	2005	Kawasaki	Bi-level	700-749	75
1997		Kawasaki	Bi-level	750-766	17
2001		Kawasaki	Bi-level	767-781	15
Total					377

The gap between passenger platform and car entry may not meet regulatory requirements. Otherwise, no issues were identified based on a limited review of the commuter rail fleet. Installation of PAVMS on commuter rail coaches should improve customer communications.

Light Rail

USDOT ADA Regulatory Requirements

The regulations require that light rail vehicles (LRV) designed for use on new systems operating on dedicated right-of-way are required to provide level boarding. Vehicles used in street operation, or similar environments, shall provide other means of vehicle access, such as lifts or ramps or wayside mini-high platforms or portable lifts. Other requirements for LRVs are:

- Doorways – Doorways must meet clearance requirements, be identified with the International Symbol of Accessibility (ISA) unless all vehicles are accessible, have auditory and visual signals for closing and level entry vehicles must be coordinated to achieve limits in the gap between the vehicle entrance and the station platform;
- Priority Seating Signs - A sign should identify seats as designated priority seating for people with disabilities and identify designated wheelchair or mobility aid locations;
- Interior Circulation, Handrails & Stanchions - Handrails & Stanchions must be designed and located to assist people with disabilities without obstructing route of travel;
- Floors Steps and Thresholds – Floor surfaces must be slip-resistant and step edges shall be marked with a band of color;
- Lighting – Specifies lighting requirements for step wells and doorways;
- Mobility Aid Accessibility - Vehicles used in street operation, or similar environments, shall provide other means of vehicle access, such as lifts or ramps or wayside mini-high platforms or portable lifts. If wayside devices are provided they must be capable of providing access to each new vehicle;

- Between Car Barriers – Where vehicles operate in a high platform mode barriers must be provided to prevent people from stepping off of the station platform between cars;
- Public Information System - PA systems for internal communication are required.

The MBTA Light Rail fleet consists of four vehicle types: the PCC cars operated on the Mattapan High Speed Line; Boeing-Vertol LRVs, Kinki Sharyo LRVs and the newly purchased Breda low-floor cars are used on the Green Line.

The SLRVs, Type 7 and PCC cars have stairs for boarding. They are not equipped with lifts or other means for boarding and alighting by people who use wheel chairs. These vehicles require mini-high platforms and portable lifts at stations for access by people who use wheel chairs.

The Type 8 (Breda) cars are low floor vehicles equipped with ramps to accommodate boarding and alighting passengers who have mobility impairments. In mid-2005, there were approximately 41 out of a total order of 100 Type 8 cars in service on the Green Line. The 115 Type 7 cars were being modified for operation in trains with the Type 8 cars. This will permit one accessible Type 8 car to be operated in two or three car trains with Type 7 cars.

The Type 8 cars are equipped with internal VMS signs and automated stop announcement technology. The same technology was being purchased for the Type 7 Green Line LRVs. Upon completion of the program, all but the PCCs assigned to the Mattapan High Speed Line and the Breda LRVs will be equipped with automated PAVMS systems. The Type 8 Green Line LRVs also have PA systems that adjust volume to ambient noise levels.

Table 1.7 lists the existing light rail fleet by car type.

Table 1.7 - Light Rail Fleet

Line	Year Manufactured	Make	Model	Series	Number	Access	
						Ramps	Steps
Green	1976-1983	Boeing-Vertol	SLRV		55		55
Green	1986-1988	Kinki-Scharyo	Type 7	3600	95		95
Green	1997	Kinki-Scharyo	Type 7 (2)	3700	20		20
Green	1998-2004	Breda	Type 8	3800	41	41	40
Total					211	41	210
Red	1945-1946	Pullman Standard	PCC	3000 3200	10	0	10
Total					221	41	220

The Type 8 cars with low floors and ramps used at elevated station platforms appear to comply with the USDOT ADA requirements for vehicles used in street operation. A Type 8 car on all trains operating to accessible Green Line Stations provides access to trains for people who use wheel chairs, and for these vehicles appears to comply with the requirements that at least one car

per train be accessible. Twenty of the Type 7(2) cars were manufactured in 1997 and must be readily accessible and usable by individuals with disabilities, including individuals who use wheelchairs in accordance with the USDOT ADA regulations. Use of these vehicles by people who use wheelchairs would be required if all wheelchair positions in the Type 8 cars are occupied. Since these vehicles have high floors, an alternative means of access, such as lifts or mini-high platforms is required at accessible stations.

Rapid Rail

USDOT ADA Regulatory Requirements

Rapid rail vehicle requirements are similar to those for buses:

- Doorways – Doorways must meet clearance requirements, be identified with the International Symbol of Accessibility (ISA), have auditory and visual signals for closing and must be coordinated to achieve limits in the gap between the vehicle entrance and the station platform;
- Priority Seating Signs - A sign should identify seats as designated priority seating for people with disabilities
- Interior Circulation, Handrails & Stanchions - Handrails & Stanchions must be designed and located to assist people with disabilities without obstructing route of travel;
- Floor Surfaces – Floor surfaces must be slip-resistant;
- Public Information System - PA systems for internal communication are required. PA systems are also required for external announcements for stations serving more than one route unless provided in the station;
- Between Car Barriers – Barriers must be provided to prevent people from stepping off of the station platform between cars.

Current MBTA Program

The Rapid rail fleet serving the Blue, Orange and Red Lines provides vehicle access by level entry. Table 1.8 lists the existing rapid rail fleet by car type.

Much of the rapid rail fleet is about 25 years old, with 24 Red Line cars over 35 years old. Ninety-four Blue Line cars are being purchased to replace the current fleet of 70 cars built in 1979. The additional equipment will permit operation of six-car trains and result in increased Blue Line capacity. In addition to the Blue Line investment, the MBTA is implementing programs to overhaul and or upgrade components of the remainder of the rapid rail fleet. Future plans call for replacement of the Red Line #1 vehicles and the Orange Line #12 cars.

Table 1.8 - Rapid Rail Fleet

Line	Year Manufactured	Make	Model	Series	Number
Blue	1979	Hawker-Siddeley	#4	600	70
Orange	1981	Hawker-Siddeley	#12	01200-01319	120
Red	1969	Pullman Standard	#1	01500	24
	1970	Pullman Standard	#1	01600	50
	1988	UTDC	#2	01700	58
	1994	Bombardier	#3	01800	86
	Total				218
Total					408

The Number 3 Red Line cars and the Blue Line cars that are being purchased are equipped with PAVMS systems which provide coordinated visual and audible automated announcements. Orange Line cars are equipped with hand held microphones with amplifiers to increase volume as needed.

Given the age of the MBTA system, and due to track curvature, track settlement, wheel wear, uneven vehicle suspension or other conditions, there may be locations where the gap between the passenger door and the platform do not meet ADA requirements. Due to a lawsuit, information on this issue was not available during this review. Use of sacrificial rubber bumpers to extend the station platform, as used by WMATA in Washington, DC, is one potential means of addressing this problem to the extent that it may exist.

1.3. Public Input Regarding Fixed Route Service

As part of the evaluation, public input on fixed route service accessibility was obtained from several sources. These included:

- Rider testimony at MBTA Board and advisory committee meetings
- Comments received at six public hearings held as a part of the evaluation; and

Affidavits

Affidavits from a total of 100 persons with disabilities were received at the meeting in Boston. A review of these statements indicated that many were signed in 2003 and 2004 and described incidents that occurred between 2000 and 2004. To get a better sense of recent issues, we identified 40 affidavits that described service issues from late 2004 through 2005.

The majority of these statements described issues related to using the fixed route system. They detailed problems with elevators, bus lifts, and employee attitude and assistance. Several other issues were also noted. Each of the 40 statements described numerous incidents and problems. A summary of the fixed route issues noted in these affidavits is provided in Attachment B.

Public Meetings

A series of six public meetings throughout the MBTA service area were held in the fall of 2005. The main objective of these public meetings was to get feedback on the effectiveness of accessible fixed route and paratransit services and to identify the major accessibility issues in each mode.

Meetings were held in each of four suburban regions – Lynn (North), Newton (Northwest), Norwood (Southwest), and Quincy (South) – as well as in downtown Boston. A mix of meeting times was used to allow for input from riders who work during the day as well as from seniors and other riders who might be less likely to attend an evening meeting. One meeting was held in the evening (6-8 pm), two during the late afternoon (4-6 pm), and two during the mid-afternoon (2-4 pm).

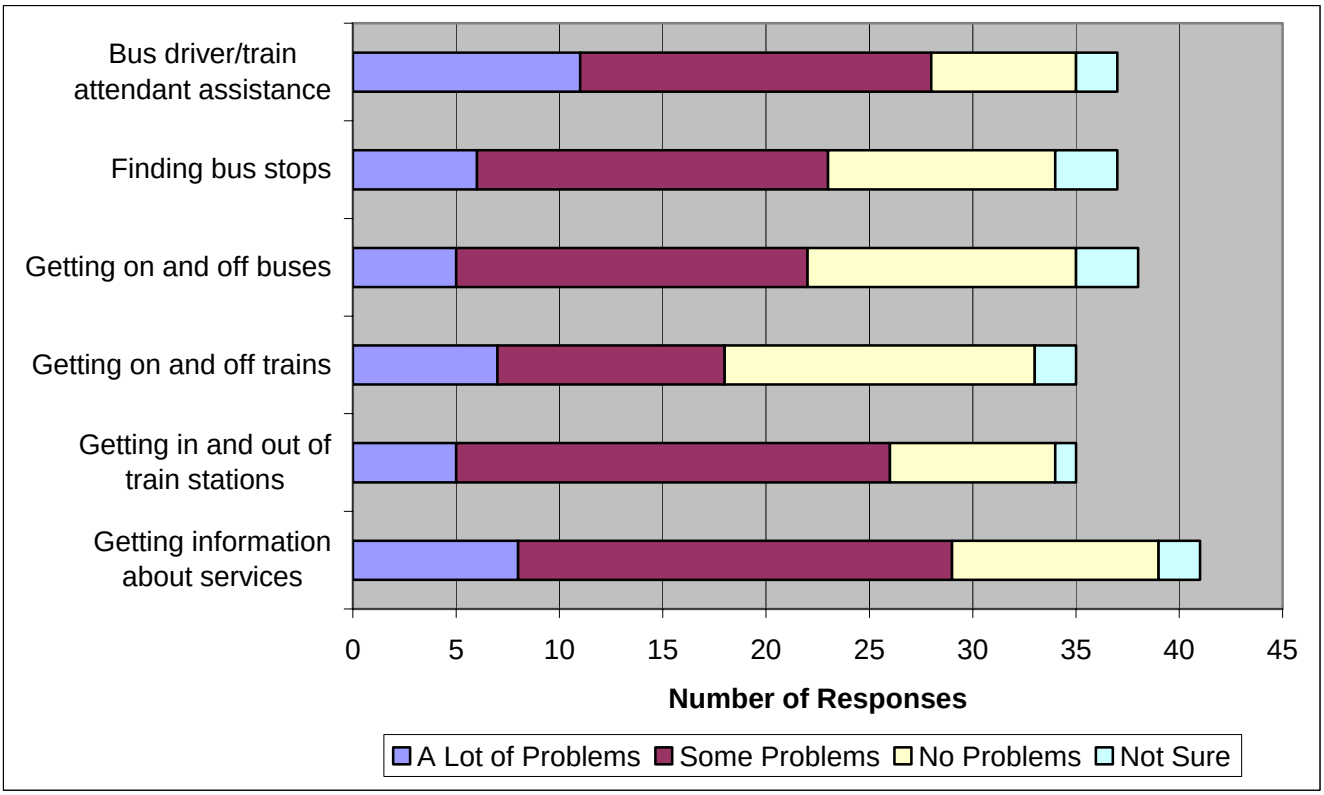
Following the five planned public meetings, one additional meeting was held with agency staff and riders on the North Shore. This meeting was held at the request of the Independent Living Center of the North Shore and Cape Ann (ILCNSCA), which contacted project staff and noted that some riders in the area had been unable to attend the meeting in Lynn. This additional meeting was held on December 13, 2005.

A total of 152 people attended the six meetings. A summary of the comments received at these meeting regarding fixed route service accessibility is provided in Attachment B.

A brief two page questionnaire was distributed to all attendees of the public meetings. The questionnaire asked attendees to rate their experience with six general areas of fixed route

service. Sixty-seven attendees turned in a questionnaire. The results of the survey are summarized in Figure 1.1.

Figure 1.1 - Fixed Route Access Issues Identified by Public Meeting Attendees



The service areas identified as most problematic were getting information about service; driver train attendant assistance and getting in and out of stations. Twenty-nine of the 41 attendees who completed this part of the questionnaire indicated either a lot of problems or some problems with getting information about services. Twenty-eight attendees cited some or a lot of problems with driver/train attendant assistance. The third most common problem was getting in and out of train stations, followed by locating bus stops and getting on and off of buses.

Summary of Public Input Received

Many of the comments received from riders and the public reinforced earlier understandings. Several comments, though, raised additional issues that were not previously identified

Comments confirmed that elevator condition and reliability, and public information about elevator outages, were major issues. There were many comments related to elevator outages, cleanliness, inaccurate public information about elevator outages, or difficulty getting information about outages and alternative routes. Elevator reliability was one of the most common areas of concern identified at the public meetings. This suggests that elevator reliability, cleanliness and information should remain a high priority of future monitoring and service improvement efforts.

There were also a number of comments about issues related to elevator use. There were concerns about the path-of-travel to elevators - the major issue being that elevators were in remote, isolated locations that were hard to locate and a security concern. Several people with vision disabilities said they had difficulty using the elevator buttons and controls. More standardization of button and control layouts was suggested. Riders also commented that some elevators did not adequately signal or identify the floor levels served, making it difficult to use the elevators. These additional issues should be considered in future design and construction.

One rider with limited fine-motor skills suggested that the elevator hotline have a voice activation option to give riders with this type of disability an easier option for getting information. Options on the hotline could be accessed by either pressing a certain phone button or saying a particular word.

There were also a number of comments on poor reliability of escalators. One suggestion was made to repair and service escalators during hours when stations are closed.

Reliability of bus lifts and ramps was another common topic of comment. There were a large number of comments on broken lifts, malfunctions of lifts that caused serious safety problems, and operation of buses with inoperable lifts on routes that were designated as accessible. Commenters generally felt the new low-floor ramp-equipped buses were a better option, but three people commented on the limited space on the low-floor buses, and several noted issues with using low-floor buses if drivers did not kneel the bus to lessen the slope of the ramp. The need for improved entrance hand-rails on these buses was also noted. One person with a vision disability said that the outer-edge of the ramps is not detectable. This input seems to support continuation of the MBTA's program to replace lift equipped buses with low-floor, ramp-equipped buses. Comments also indicate a need for additional attention to bus design, including interior space.

While the working condition of accessibility equipment was a major concern, driver performance, assistance, and sensitivity was a more significant issue. The most common specific concerns were that drivers did not adequately secure riders who use wheelchairs; that drivers did not kneel buses when requested; drivers did not curb buses even though there appeared to be space to do so; drivers did not properly enforce the priority seating policy and request other riders to move; drivers pulled away from stops before riders were seated or drove too fast; and drivers did not appear to notify dispatchers when they told waiting riders that the lift did not work. Driver related issues mentioned less frequency included: drivers passed by customers who use wheelchairs; did not provide assistance up and down the ramps, and refused to deploy lifts for riders who had an ambulatory disability but did not use a wheelchair. Riders who are blind noted issues with drivers not pulling up to designated stops (making orientation difficult) and leaving them off in the street in an unsafe setting.

General comments about driver sensitivity and attitude were received from a significant number of commenters. While several people noted that most drivers were very good, and two people commended drivers' general performance, there were a substantial number of comments on rude or insensitive treatment by drivers.

The comments on drivers suggest that increased efforts to monitor driver performance and to provide additional training, retraining or other remediation are needed.

Comments on gaps between passenger platforms and train entrances, confirms that this is a problem for many customers.

Several commenters noted other, less obvious difficulties using rapid rail and light rail services. People who had issues with balance said that train operators, particularly on the Green Line, close doors too soon and that having doors close on them is a real concern. Other issues included inoperable wayside lifts on the Green Line, doors that only open half way on rapid rail cars and Green Line operators passing customers waiting on raised platforms. These comments suggest a need for monitoring of wayside lift condition and train operator performance, particularly on the Green Line.

Several people commented on difficulties related to commuter rail mini-high platforms. Most people were concerned about the long walking distances are at some stations. One person also said that he has difficulty knowing which car to board at North Station to then have access to the mini-high platform where he disembarks.

There were a large number of customer comments on public announcements including on-board stop announcements, external bus announcements at bus stops identifying the bus route, and in-station announcements. Several commenters noted that stop announcements had been improving and specifically cited the new automated announcement systems as an improvement. Many people indicated, at the time of the public meetings, that announcements were still inconsistent and sometimes inaudible or unclear. All of these comments support continuation of the MBTA's program to install automatic Public Address (PA)/ Variable message sign (VMS) systems on buses and trains. Comments appear to suggest that continued monitoring of announcements is needed.

Additional comments related to stop announcements that should be considered further include: the need to announce, at certain stations, which side of the train to exit to get to elevators; increased attention to in-station platform announcements, particularly on the Red Line; checks of PA systems (including the volume) by bus drivers and train operators; and in-station and on-vehicle announcements about elevator outages.

Several people raised concerns related to bus stop accessibility. Riders who are blind noted problems with bus stop detectability. It was suggested that a simple, inexpensive and uniquely textured item be attached to bus stop poles (at a standardized height) so people who are blind could identify a stop. Riders also noted the need for more benches and shelters at bus stops. Others noted that bus stop signs were sometimes missing.

The most common general comment concerned the complaint process and resolution of fixed route issues. Several people noted a lack of response or inadequate responses to complaints. Some people also mentioned difficulties in settling issues that involved damage to their wheelchairs.

Other access issues raised in the public meetings, included: a need for more obvious priority seating signage on rapid rail cars; concerns about the accessibility of the new fare system for people who have vision disabilities; the possible impact of the new fare system on staffing at stations (a lack of staffing being a particular issue for riders with disabilities who may need to seek assistance); and a need to do more in the way of general public information and announcements. Several people indicated a need for better public information in general, while two people suggested more frequent general announcements concerning policies related to serving riders with disabilities. It was felt that this might serve to educate the public about the needs of riders with disabilities and improve public understanding of stop announcements, lift and ramp use, and other policies and practices.

1.4. Accessible Fixed Route Service Observations

This section of the report addresses the maintenance and operation of stations and passenger equipment as related to provision of service that is accessible and usable by people who have disabilities. This section of the report is organized in three major areas:

- **Stations** – this section focuses on the maintenance of station features necessary for independent use by people with disabilities. Elevator equipment and Public Address/Variable Message (PA/VMS) were specific areas of focus.
- **Vehicles** – particular areas of focus were maintenance of lifts and ramps and operator training
- **Public Communication** – three areas of communication were addressed in this section: the usefulness of public information materials in permitting people who have disabilities to independently use transit service, the adequacy of stop announcements and route identification at stops shared by multiple routes; and real time service information that affects the ability of people who have disabilities to effectively use transit service.

As applicable for each of these areas, this section of the report presents regulatory requirements, MBTA policies and procedures relative to the regulations and analysis of performance. These issues are more fully presented in Technical Memorandum #4 – Fixed Route Service Access, November 4, 2005.

The overarching requirements for system maintenance and operation are addressed in federal and state regulations as presented below.

USDOT ADA and Massachusetts Architectural Access Board (MAAB) Regulatory Requirements

The USDOT regulations implementing the Americans with Disabilities Act of 1990 (ADA) requires that all accessibility components of the transit system be maintained in operating condition. 49 CFR Part 37, Section 37.161 Maintenance of Accessible Features, states that:

> *(a) Public and private entities providing transportation services shall maintain in operative condition those features of facilities and vehicles that are required to make the vehicles and facilities readily accessible to and usable by individuals with disabilities. These features include, but are not limited to, lifts and other means of access to vehicles, securement devices, elevators, signage and systems to facilitate communications with persons with impaired vision or hearing.*

The Massachusetts Architectural Access Board (AAB) has also adopted a number of regulations regarding accessibility to transit stations. The AAB is a regulatory agency within the Massachusetts Executive Office of Public Safety. Its legislative mandate states that it shall develop and enforce regulations designed to make public buildings accessible to, functional and safe for use by, persons with disabilities.

Stations

The discussion of station maintenance is organized with one section for each transit mode with elevators and PAVMS discussed separately.

Bus Rapid Transit (BRT)

The new Silver Line BRT system consists of 24 stations, three in subway, and 21 surface bus stops. All Silver Line service is provided using low floor buses equipped with ramps for wheelchair access. Vehicle ramps can be operated manually if the automated deployment fails. The Silver Line currently operates on two separate alignments. All stations on the southern section between Dudley Square in Roxbury and Downtown Boston are on surface streets. The northern section, from South Station to South Boston and Logan Airport has subway stations at South Station, Courthouse, and World Trade Center. The remaining stations in South Boston and at Logan Airport are surface stops.

The use of ramp equipped low floor vehicles should assure full station accessibility for people with mobility impairments at all of the 21 surface stops. Since ramps can be operated manually when there is a mechanical failure, people with mobility impairments should receive the same level of service as the general public. Access to the three subway stations is dependent on operation of the station's elevators. Maintenance of elevators is addressed in a later section of this report.

Commuter Rail

The MBTA's commuter rail system consists of 125 stations, 84 (67%) of which are accessible. Accessible stations allow people with disabilities to board with level boarding either via mini-high platforms or full length high platforms. Bridge plates are used at all accessible stations to span the gap between the station platform and the entry vestibule in the passenger car. Horizontal gaps that exceed three inches result from preserving clearance for freight cars which are wider than passenger cars. Excessive gaps can also result from stations on curves and wear to track and vehicle suspension systems. Bridge plates are stored on most coaches for use at stations with normal horizontal gaps between platforms and car vestibule of up to 6". These bridge plates are 11" deep. For stations that have larger gaps, such as stations on curved track, the bridge plates are chained to the mini-high platform. Theses bridge plates can be up to 30 inches deep.

Stations that require elevators for access to passenger platforms are listed below. Lynn station is an elevated station accessible by one active elevator. Framingham also has two elevators that serve a bridge between the passenger platforms on either side of the tracks.

Table 1.9 - Commuter Rail Elevator Responsibility

Line	Station	Number of Elevators	Maintenance Responsibility
Rockport	Lynn	1	MBTA
Lowell	Lowell		Lowell RTA
Lowell	Anderson		Mass Port Authority
Worcester	Worcester		Worcester RTA
Worcester	Framingham	2	MBTA
Providence	Route 128	2	Amtrak
Providence	Providence		Amtrak

Public Address (PA) systems are provided at North Station, South Station and Back Bay Stations. According to MBTA managers these PA systems are not operational. Variable message signs (VMS) are provided at all but several stations that have low passenger volumes. The VMS at North and South Stations are controlled by station personnel. The signs on the north side of Boston are centrally controlled by north side Commuter Rail dispatchers. Signs on the south side are controlled by a south side dispatcher.

Inspections and Maintenance

Principal responsibility for station inspections belongs to the MBTA's commuter rail service contractor. Contractor personnel inspect each station at intervals of approximately two weeks. In addition if there is a complaint regarding station conditions, the contractor will inspect the station. The contractor uses forms to record the results of inspections. The inspections include checks of elevators and VMS equipment. If an elevator deficiency is identified the contractor will notify the cognizant party as listed in Table 1.9. For MBTA maintained elevators, the contractor will notify the MBTA's Maintenance Control Center (MCC). MBTA Commuter Rail Transportation staff will also inspect stations as an element of contract oversight. Oversight inspections focus on stations where construction work is being performed, stations that have had maintenance problems and heavily used stations. These stations are inspected about once a month. Other stations are sampled randomly about twice a year. Although less structured than contractor reviews, the MBTA reviews do include cursory inspections of elevators and VMS. Problems with stations are also identified and reported by train personnel and by the public. **It is recommended that station inspections conducted by the MBTA be scheduled at regular intervals with observations recorded on a form that is compatible with that of its operating contractor.**

The accessible commuter rail stations are generally not subject to mechanical failure (preventing boarding) due to few elevators in the system and level boarding via mini-highs or full length platforms. Vehicle access via level boarding and mini-high platforms with bridge plates provides a reliable method of train boarding.

When problems are identified with elevators and other elements that are the responsibility of others to repair, there appears to be no mechanism for tracking the repair. **The MBTA should consider a methodical tiered inspection of stations with major stations (North, South, Back**

Bay and Route 128 inspected daily), and medium and small stations inspected at greater intervals. Also, if MBTA staff used the same station inspection forms used by the contractor that would permit a comparison with the contractor's most recent inspection form and serve as a better evaluation tool than notes on the condition of the station.

Procedures for snow removal are addressed in the MBTA's Railroad Operations Snow Management Plan. The MBTA goal for the commuter rail system is to have all stations and parking lots clear within 24 hours after the cessation of snowfall.

Snow removal begins when a snow emergency is declared (when 2 inches have accumulated and 4 inches are forecast or in icy conditions). Platforms are treated first and parking lot driveways second. The plan makes no reference to paths leading to/from platforms. The plan includes crew assignments for each of the MBTA stations and commuter parking lots. The crews are a combination of MBTA Commuter Rail contractor staff, parking lot tenants, town public works departments, other public agencies, MBTA facilities staff and private companies. The commuter rail contractor has principal responsibility for stations, while parking lots are usually the responsibility of others. Within 48 hours of the storm the MBTA section chiefs and their counterparts for the contractor meet to review, among other things, the general conditions of station platforms and parking lots.

It is recommended that the Railroad Operations Snow Removal Plan be revised to specifically mention clearing paths of travel between platforms and the public way (streets, sidewalks, parking lots).

Light Rail

The light rail system consists of the Green Line with four branches and the Mattapan Trolley which operates from the Ashmont Red Line Station to Mattapan Square using Presidential Conference Committee (PCC) cars manufactured in 1945-1946.

The Green Line has 70 stations, of which 25 (36%) are accessible. Accessible stations have low platforms, raised (mid-level) platforms or mini-high platforms. Currently both high floor and low floor vehicles operate on the Green Line. At most accessible stations with low level and raised platforms, access to high floor light rail vehicles by people who use wheel chairs is provided using portable lifts. All accessible stations have portable lifts. In addition Lechmere, Brookline Village and Heath Street Stations have mini-high platforms. At stations with mini-high platforms bridge plates are used to span the gap between platform and the entrance of the high floor car. The raised platforms are designed for use with ramp-equipped low floor vehicles. Low floor vehicles (Type 8 cars) have ramps that extend out from the vehicles to the raised (mid level) platforms. The ramp slope is too steep for use at stations with low-level platforms.

Use of raised platforms with ramp equipped low floor vehicles (the Type 8 car) should reduce time for boarding and alighting passengers and facilitate Green Line access for people who use wheelchairs.

The MBTA operates train sets of one, two or three cars. The eventual goal is that at least one Type 8 car per train will provide accessibility by way of the vehicle mounted ramp. As of mid-2005, 40 out of the 210 light rail vehicles (LRV) in service were low floor. Use of portable lifts, or mini-high platforms was still needed to board most trains at accessible stations. Even after one car per train is accessible with ramps and low floors, the portable lifts, mini-high platforms or other means will have to be maintained at accessible stations served by the 20 Type 7 cars built in 1997. Access to those vehicles may be needed in the event that there are no available positions for wheelchairs on the Type 8 car/s on the same train.

The Mattapan Trolley operates with 10 restored PCC cars. The two terminal stations, Ashmont and Mattapan, are accessible using portable lifts. The other stations on the Mattapan Line are not accessible.

Inspection, Maintenance and Operation

Portable lifts and mini-high platforms are the principal accessibility features at surface stations. PA systems at the surface stations on the Green Line are currently disabled.

MBTA Inspectors inspect Green Line central subway stations (Lechmere to Prudential and Kenmore) daily. The procedures for inspection and maintenance of stations, including accessibility features are the same as described in the Rapid Rail discussion below.

If not currently done, portable lifts should be cycled daily at all accessible stations during station inspections to assure that they are in good operating order.

Outdoor pathways at stations must be kept clear of snow and ice to be accessible and usable by people with disabilities. MBTA procedures for snow removal are addressed in its "Snow Plan." The most recent version of the plan is for the years 2004-2005.

Removal of snow and ice at leased MBTA parking facilities on the rapid and light rail systems is the responsibility of the facility operator. During snow emergencies, supervisors for each line (Blue, Green, Orange and Red) are to communicate directly with the MBTA Superintendent of System Services.

Snow removal is activated by a National Weather Service "storm watch" or prediction of two or more inches of snow. If the snow plan is activated between 6:00 PM and 12:00 midnight the parking operator's equipment and crews are required to report on site by midnight. At all other times the crews are required to report on site when the plan is activated. The crews are to remain on site until all snow, slush and ice has been removed. Crews are to clear all travel lanes and to apply salt as needed.

The MBTA's cleaning contractors are responsible for snow removal at stations platforms, public walk ways and out door areas of rapid rail stations, the Mattapan Line, Riverside Line and Green Line subway. The MBTA's Maintenance of Way Department is responsible for snow removal at surface Green Line stations on the Beacon Street, Commonwealth Avenue and Huntington Avenue Lines.

Rapid Rail

The rapid rail system has 53 stations: 22 Red Line (not including Mattapan high-speed line), 19 Orange Line, and 12 Blue Line. Currently, 47 (85%) of these stations are accessible.

All Orange Line stations are accessible. Nineteen Red Line stations are accessible. The three inaccessible stations are: Fields Corner, Shawmut, and Wollaston and all but Wollaston are currently being modified to provide full accessibility.

Eight of the Blue Line stations are accessible. The four inaccessible stations are Bowdoin, Government Center, Maverick, and State. Bowdoin will be closed permanently with the reconstruction of a new Government Center Station. Accessibility improvements at State and Maverick are currently under construction. As per the MBTA 2006-2011 Capital Investment Program, Government Center is scheduled for construction between 2005 and 2008.

Almost all rapid rail stations have elevators to provide access to train platforms. Many of the subway stations have mezzanines requiring a passenger to take two elevators: one from street to mezzanine and one from mezzanine to the train platforms.

The MBTA provides audio announcements at stations at approximately 175 rapid rail, light rail and bus way locations with more than 300 audio amplifiers, and 2,000 loud speakers. The MBTA is installing coordinated public address-variable message signs (PAVMS), which permit both auditory and visual communication of service messages, at North, Airport, Aquarium, Porter Square, Downtown Crossing and Back Bay Stations. The MBTA is in the process of replacing the existing signs with new signs compatible with the new system, which includes Head End equipment. Future plans include installation of PAVMS at other stations as they are modernized and funding becomes available.

Inspection & Maintenance

Inspection of PAVMS equipment and other station features are among the duties of Inspector's. Inspectors are also responsible for responding to incidents in assigned stations, addressing unsafe conditions that may arise, assisting with service problems, and overseeing handling of station revenue. Inspectors, who work in the transportation department, report to the Supervisor of the transit line to which they are assigned. Inspectors are assigned to two to four stations with the number varying based upon proximity of stations to each other and time of day, with evening Inspectors covering more stations than day time Inspectors.

Inspectors inspect stations, including elevators, elevator components, escalators, public address system, lighting, other safety features and all station areas. The report is used to guide the inspection and report the results. Problems not specified on the report form, such as snow and ice on pedestrian paths or vandalism, are reported in the Additional Comments Section of the report. Procedures for snow and ice removal are also addressed in the MBTA's Snow Plan. One daily report is completed for each station. The report is temporarily stored in the Inspector's office, or safe area. The Inspector for each shift uses the same report, entering the time of each

inspection and the Inspector's badge number and signature. Inspectors turn in completed Station Reports to the Line Supervisor at the end of the work day; and the reports are stored at the Supervisor' facility. Each Inspector is assigned a portable radio for communications.

When the Inspector reports to work before the beginning of the service day, he/she inspects all of the assigned stations. The inspection is completed before the station is opened for service. If the Inspector identifies a problem he/she notifies the Maintenance Control Center (MCC) by portable radio. The MCC is a seven day per week, twenty-four hour per day communications control, receiving, and dispatch center for all transit system maintenance functions. For some problems, including elevators out of service, MCC provides the Inspector with a work order number, which the Inspector records in the Station Report. In addition to the initial daily inspection the Inspector's procedure is to spot check the station, including elevators, each hour during the service day, if he/she is available to do so. In practice, spot checks are often made less frequently than hourly since the Inspector gives priority to addressing incidents, safety problems, service issues, etc. Any time a problem is observed during the hourly checks, the Inspector reports the problem to MCC by radio. During such checks if the elevator is off and the Inspector discovers, upon calling MCC, that it had not been reported as out of service, the Inspector will test the elevator and, if it is working return it to service. Inspectors, beginning shifts later in the day, inspect each of their assigned stations, as was done by the morning Inspectors, update the Station Report information and enter the time, badge number and date. Through the day, two or three Inspectors may be assigned to one station.

Collection and reporting of information gathered through inspections requires multiple handling of information to enter station defects into the MCRS system. The Inspector observes the station, enters the information onto the station report, reports the information to MCC by radio, and MCC enters the information into MCRS. **It may be worth considering the use of personal data assistants (PDA) to more methodically capture the inspection results and reduce the amount of communication. The Inspector would record the inspection results on a Daily Station Report in the PDA and transmit the report directly to a module in the MCRS system either with a wireless transmission or through a hard wire connection within the transit system**. Use of personal data assistants (PDA) by station inspectors to record and report the results of station and elevator inspections directly into maintenance system software could reduce potential error caused by multiple handling of information and expedite reporting of elevator status. The direct data entry would also reduce the labor effort of recording it more than once. Additionally, the electronic PDA reports will provide a record affirming station elements that pass inspection rather than limiting the reports in MCRS to exceptions, or station elements in need of attention thereby providing more complete reporting.

When facility and station equipment problems are reported to the MCC they are entered into a Maintenance Control and Reporting System (MCRS). Through the use of this system, maintenance supervisors issue work orders assigning staff to inspect and repair each identified deficiency.

Snow removal procedures for rapid rail stations are addressed in the paragraphs on Light Rail station maintenance. Elevator inspection and maintenance is more fully discussed later in this section.

Elevators

The MBTA operates a total of 114 elevators at all rapid rail, light rail, and Silver Line stations, including all elevators at joint commuter rail stations in Boston. Additionally there are elevators at 7 other commuter rail stations. Six of the commuter rail stations and their elevators are maintained by parties other than the MBTA. The MBTA maintains the active elevator at Lynn Commuter Rail Station.

Maintenance of most elevators less than one year old is the responsibility of the manufacturer under warranty. For all other subway system elevators, the MBTA contracts for elevator and escalator maintenance services. The elevator maintenance contractor is responsible for maintenance of all MBTA subway system (light rail subway and rapid rail stations) and the commuter rail stations as identified above.

Inspection, Maintenance and Operations – As discussed in the Rapid Rail Facilities section of this report, the MBTA Inspector has primary responsibility for inspecting and reporting inoperable elevators. If the Inspector identifies a problem, he notifies the MCC by portable radio and MCC enters the information on the inoperable elevator into the MCRS system. During the day anyone, including the general public, can report a broken elevator by calling a number listed at each elevator.

In addition to MBTA Inspectors, the MBTA maintenance contractor is required to thoroughly inspect all ADA fixtures, appliances, devices, components and equipment and perform repairs identified during these inspections, as required. Contractor inspections are performed on a monthly basis (Systematic Preventative Maintenance, Service, Repair, Inspection and Testing Work III.A.1. and B.1). Preventative maintenance (PM) inspection and repair is conducted only during regular MBTA service hours. Regular PM requires the elevator to be out of service for several hours. According to MBTA managers the PM inspections are also performed during service calls. At most accessible stations removing an elevator from service makes the station unusable for people who use wheelchairs. **Consideration should be given to performing preventive maintenance during non-service hours in order to avoid disruption to customers.**

The contractor's maintenance data for the month of June 2005 was reviewed to identify the pattern of maintenance on MBTA station elevators. MBTA managers indicate that the reported information is not fully reliable and does not include all service performed. The MBTA is working with the contractor to more reliably record and report maintenance activities. Although the information in the contractor's report is not perfectly accurate it does provide some indication of performance. Of the total number MBTA elevators approximately 10 % were under warranty and not the responsibility of the maintenance contractor. According to the contractor's report, of the remainder approximately 80% received service and approximately 20% of the elevators did not receive PM service during the month of June.

Based on the contractor's report, for each elevator serviced there was an average of more than 3 service calls. Approximately 67 % of the service calls were repeat calls to the same elevator with three or more service calls made to 40% of the elevators serviced. *It appears that based*

upon this limited review maintenance efforts are weighted to servicing problem elevators and away from regular preventive maintenance inspections. Aggressive preventive maintenance can often avoid problems that result in elevator outages. Accordingly **it is suggested that the MBTA emphasize preventive maintenance to minimize potential problems, particularly with an older complement of elevators.**

Among the most serviced elevators were Back Bay (17 days), Park (11 days), Lynn (10 days), Quincy Adams, Quincy, JFK-UMass, Mass Ave., Forest Hills, and Wood Island.

Other PMs are not reported to the MCC and accordingly not entered into MCRS. Because of the time lag from initiation of PMs to publicly announcing the elevator as out of service the PM would often be completed before the public announcement is made. Additionally, elevators may be available for public use for some of the period that PMs are being performed. Since PMs are not reported to MCC, there is no record of them in the MCRS reports.

The elevator maintenance contractor is required to coordinate all work efforts with MCC. The contractor has direct access to the MCRS module for elevators. The contractor frequently reviews MCRS for work orders for elevator repairs entered by the MCC. Work orders effectively instruct the contractor to inspect and repair elevator defects. The contractor has 24 hours to complete repairs to elevators from the time the contractor is notified.

The contractor performs the repair and documents any and all contract service work into MCRS. This includes closing the work order in MCRS within 15 minutes of completion of the repair.

Maintaining the inventory of elevator parts for the MBTA elevators presents a challenge. The elevators have been manufactured by 15 different makers, and some of the elevator models are quite old. Stock items do not typically cause a delay in returning elevators to service. However obtaining special order parts can cause a delay in returning an elevator to service. Because of the age and uniqueness of the elevators, parts are sometimes difficult to find. Also, street elevators generally have a greater maintenance needs than weather protected interior elevators.

There is no official policy or procedure to provide alternative service when an elevator is inoperable. However, OCC staff indicated that when a customer, who uses a wheelchair, requests assistance from a station employee, and a reasonable alternative route is not available, the MBTA would dispatch a full size bus to transport the customer. Additionally, during long term elevator outages the MBTA provides alternate transit service. **The practice for providing alternate service when an elevator is unavailable should be incorporated into a formal procedure to avoid miscommunication and expedite provision of alternative transportation service when appropriate. This procedure should address how information about alternate service will be effectively communicated to riders.**

Elevator availability rate for the subway system as reported by the MBTA for the first calendar quarter of 2005 (January 1 through March 31) is presented in Table 1.10. The report presents the status of the elevators at 6:00 AM each day, presumably after they have been inspected by the MBTA Inspector. The reports don't reflect elevators that may be removed from service and

Table 1.10 - Elevators Available at 6:00 AM – January 1 – March 31, 2005

Period	Blue			Green			Orange			Red			Total		
	Elevators	Average Unavailable	% Available	Elevators	Average Unavailable	% Available	Elevators	Average Unavailable	% Available	Elevators	Average Unavailable	% Available	Elevators	Average Unavailable	% Available
1/1/05-1/8/05	14	0.13	99%	12	0	100%	40	3.88	90%	41	3.63	91%	107	7.64	93%
1/9/05-1/15/05	14	0	100%	12	0	100%	40	3.71	91%	41	1.43	97%	107	5.14	95%
1/16/05-1/22/05	14	0.43	97%	12	0	100%	40	3.14	92%	41	2.29	94%	107	5.86	95%
1/23/05-1/31/05	14	1.22	91%	13	0.78	94%	40	5.89	85%	41	7.56	82%	108	15.45	86%
2/1/05-2/5/05	14	0.4	97%	13	1	92%	40	6.4	84%	41	7	83%	108	14.8	86%
2/6/05-2/12/05	14	0	100%	13	0.57	96%	40	4.57	89%	41	6.14	85%	108	11.28	90%
2/13/05-2/19/05	14	0.14	99%	13	0.71	95%	40	4.57	89%	41	6.57	84%	108	11.99	89%
2/20/05-2/28/05	14	0.56	96%	13	0.67	95%	40	2.67	93%	41	9.67	76%	108	13.57	87%
3/1/05-3/5/05	14	0	100%	13	0	100%	40	2	95%	41	10.2	75%	108	12.2	89%
3/6/05-3/12/05	14	0.57	96%	13	1	92%	40	2.57	94%	41	7.71	81%	108	11.85	89%
3/13/05-3/19/05	14	0.14	99%	13	0.86	93%	42	3.86	91%	41	7.86	81%	110	12.72	88%
3/20/05-3/26/05	14	0.86	94%	13	0.29	98%	42	3.29	92%	41	7.29	82%	110	11.73	89%
3/27/05-3/31/05	14	1.2	91%	13	0.2	98%	42	0.8	98%	41	10.8	74%	110	13	88%
													0		
1/1/05 – 3/31/05	14	0.43	97%	13	0.47	96%	42	3.64	91%	41	6.78	83%	110	11.33	90%

returned to service during the day for preventive maintenance, as discussed above. During this period overall elevator availability was 90% with weekly averages ranging from 86% to 95%. The best availability was on the Blue Line at 97% with a weekly range from 91% to 100%. The worst performance was on the Red Line with an overall availability of 83% and a weekly range of 74% to 97%.

Since May 2005, the MBTA has implemented a new method of tracking availability of elevators that have been removed from service and returned to service during the day. Since September 1, 2005 the MBTA reports elevator availability of 96% and above. Inspector Reports, Elevator Incident Reports from MCRS, Elevator Maintenance Reports from the MBTA maintenance contractor and MBTA Public Information Elevator Reports were reviewed for all Red Line stations for the week of May 8-14. Two hundred and fifty-two (252) Daily Inspector Reports documented 572 elevator inspections during the week for the 36 Red Line elevators. There were no reports for five elevators. The distribution of inspections is presented in the table below. As indicated, most elevators were inspected at least twice a day.

Table 1.11 - Red Line Elevators Transportation Inspections

	Total Elevators	Elevators Inspected/ Day	Total Inspections /Day	Elevators by Number of Times Inspected Per Day				
				None	Once	Twice	Three Times	Avg./Day
Number	36	35.3	81.7	0.7	3.6	17.0	14.7	2.3
%		98%		2.0%	9.9%	47.2%	40.9%	

For the surveyed week, during morning inspections 15 elevators were recorded as inoperable. As part of the MBTA's audit program six additional elevators were reported inoperable for a total of 21. Also, two elevators previously reported inoperable were reported as operational for a net total of 19. During afternoon and evening inspections three additional elevators were identified as inoperable for a total of 22 inoperable elevators.

Table 1.12 - Inspection Results and Maintenance Reports

	Inspections	Inoperable Elevators	Same Status	Additional Inoperable Elevators	Repaired Elevators	Net Inoperable Elevators
AM Inspection (5:00 AM +/-)	214	15	N/A	N/A	N/A	15
Audit Inspection (10:00 AM +/-)	20	10	12	6	2	19
Afternoon & Evening Inspections	358	22	336	3	0	22
MCRS						3
Maintenance Contractor						8

Of these 22 elevators, five appeared in the MCRS report of elevator incidents opened for the Red Line during the week of May 8-14. Of these five elevators, three appeared in the maintenance contractor's report. The maintenance contractor's report also included five additional inoperable elevators as identified by MBTA Inspectors for a total of eight.

Although elevators are inspected every eight hours by Transportation Inspectors, the information that they gather from first hand observation is not captured in the MCRS system in an accurate and consistent manner. If the MCRS system is to be used as the central management tool for reporting elevator status information to the public and to initiate service requests it is essential that the Inspector's information be entered into the MCRS system. In the short term heightened focus on clear communications between the Inspectors and Maintenance Control Center can help to address this problem. **In the long term the MBTA may wish to use a more automated procedure, such as PDA recorded reports, to capture the valuable data collected by Inspectors during station inspections. Such a procedure could result in more timely and accurate tracking of elevator outages**.

When reports of elevator outages are received by the MCC they should be confirmed by the Inspector on site to both avoid unnecessary deployment of maintenance personnel if the elevator is operating and to alert the Inspector to a change in the condition of the facility to which he is assigned. Similarly, **when an elevator is scheduled for maintenance by the maintenance contractor the period of maintenance should be reported to the MCC, recorded in MCRS so the maintenance performance can be tracked**. Also the information could then be shared with the PA announcer so the period of elevator outage can be announced on the Hot Line and Web Site (i.e. the inbound elevator at Kendall/MIT will be out of service for maintenance between 10:00 a.m. and 2:00 p.m.). Finally, the information should be communicated to the Inspector so he/she is aware of the status of assigned facilities and can assist customers accordingly.

When elevator repairs and maintenance are complete, they should be recorded in the MCRS system in a timely manner and **the MCC should confirm the status of the elevator as operational with the Inspector**. Again this will facilitate timely updates to public information through the Hot Line, Web Site and Inspectors.

Table 1.13 - Public Information at Approximately 10:00 a.m.

	Inoperable Elevators	In Inspector Report	Not In Inspector Report	On Hot Line	On Web Site
Inspectors Reports	19	NA	NA	9	10
Elevator Hot Line	13	9	4	NA	11
MBTA Web Site	17	10	7	11	NA

Based upon a review of the Inspector Reports and the MBTA audit, at approximately 10:00 a.m., Inspectors were reporting 19 elevators as out of service. Nine of those elevators appeared on the hot line and 10 on the MBTA's web site. The maintenance contractor report indicates that service was performed on one of the elevators identified by Inspectors as being out of service and identified as operational on the MBTA's web site. Accordingly, one of the elevators

reported as out of service by the Inspector at 5:00 a.m. could have been restored to operation by 10:00 a.m. Based on the Inspector's report, 8-9 inoperable elevators were not reported on the Hot Line and 9-10 inoperable elevators were not reported on the Web Site. Similarly, 4 operable elevators were reported as inoperable on the Hot Line and 7 on the Web Site.

In addition to inconsistency between the Inspectors reports and the public information there were internal discrepancies between the information on the Hot Line and the information on the web site. Of the 13 elevators out of service on the Hot Line, 2 were not included on the Web site. The Web Site listed 6 stations that were not on the Hot Line. In five of these cases where the elevator was reported out of service on the web page, the Current Status per the Inspector Report indicated that the elevator was in service.

Harvard Station elevator #821 was one case on May 12 where the update line reported an elevator out of service but the webpage did not. This elevator had work orders placed by Inspectors on the 8th, 9th, 11th and 12th, and had appeared on both the update line and the webpage on every day observed until the 12th, where it appeared only on the update line. The repair work was assigned at 1:33 p.m. on the 12th and work was completed at 2:52 p.m. the same day.

One other instance where elevator status information did not seem to be consistent was with Quincy Center station Elevator 896. This elevator, which serves the commuter rail platform but is part of the Red Line elevator contract, had work orders placed on every morning from May 8-12. The elevator was not reported as being out of service on the update line or the webpage until May 14.

There were three instances where repair work was assigned, but not completed within the 24-hour period stipulated in the elevator maintenance contract. All three of these events took place on May 12. Information on these repairs is provided in the following table:

Table 1.14 - May 12 Elevator Repairs Taking Longer Than 24 Hours

Date	Station	Elevator	Work Assigned	Work Completed	Time to Complete Work
5/12	JFK/UMass	830	4:02 p.m.	5/13, 5:01 p.m.	One day, 59 min
5/12	Quincy Ctr.	871	6:00 a.m.	5/13, 6:24 a.m.	1 day, 24 min.
5/12	South Sta.	927	6:53 p.m.	5/14, 10:48 p.m.	2 days, 3 hrs, 55 min.

Procedures for public communication of elevator status are further discussed in the Public Information section of this report.

Public Address & Variable Message Signs (PAVMS)

With respect to ADA requirements, PA and VMS can be very helpful in assuring that requirements for route announcements at stations serving more than one route are met. Specifically, systems that provide automatic audible announcements of train arrivals can effectively address this requirement. Although signs on trains identify the routes for people who have hearing impairments, variable message signs provide another method of doing so. PAVMS systems can also be an effective way of communicating equivalent service information to people

who have hearing or sight impairments as well as the general public. Continued advancement of the PAVMS system installation at passenger platforms and lobbies should improve communications to all of these transit customers.

VMS equipment can also be helpful in identifying elevator outages. Coupled with direct or intercom access to a customer service agent, VMS equipment can be helpful in quickly identifying an alternative travel route, thereby minimizing a customer's delay in reaching his or her destination. To be effective, such equipment must be located on the accessible path of travel at or before the customer encounters an elevator that could be out of service and before the customer passes through the fare gate of the key station at which they are entering the system. A system of this type is used by the Bay Area Rapid Transit District (BART) in San Francisco. **The MBTA should consider installation of elevator status information on variable message signs located so they can be read by a passenger before entering the station. Means for obtaining alternate route information or assistance should be located near the VMS.**

Passenger Vehicles

The discussion of maintenance and operation of passenger vehicles begins with a presentation of regulatory requirements for maintenance and operation of vehicle features required to make vehicles readily accessible and usable to people who have disabilities. This is followed by a discussion of vehicle accessibility features of each transit mode. The bus discussion addresses lifts and ramps and associated operator training. A brief summary of accessible vehicle features is provided for the other modes.

USDOT ADA Regulatory Requirements

The USDOT regulations implementing the Americans with Disabilities Act of 1990 (ADA) contain requirements that are meant to assist persons with disabilities using fixed route transportation services. Specifically, 49 CFR §37.161 requires that:

> *(a) Public and private entities providing transportation services shall maintain in operative condition those features of … vehicles that are required to make the vehicles … readily accessible to and usable by individuals with disabilities. These features include, but are not limited to, lifts and other means of access to vehicles, securement devices…, signage and systems to facilitate communications with persons with impaired vision or hearing.*

In addition to the general maintenance provisions described above, 49 CFR §37.163 requires public transportation providers to institute regular and frequent maintenance checks of lifts:

> *(b) The entity shall establish a system of regular and frequent maintenance checks of lifts sufficient to determine if they are operative.*
>
> *(c) The entity shall ensure that vehicle operators report to the entity, by the most immediate means available, any failure of a lift to operate in service.*

(d) Except as provided in paragraph (e) of this section, when a lift is discovered to be inoperative, the entity shall take the vehicle out of service before the beginning of the vehicle's next service day and ensure that the lift is repaired before the vehicle returns to service.

(e) If there is no spare vehicle available to take the place of a vehicle with an inoperable lift, such that taking the vehicle out of service will reduce the transportation service the entity is able to provide, the public entity may keep the vehicle in service with an inoperable lift for no more than five days (if the entity serves an area of 50,000 or less population) or three days (if the entity serves an area of over 50,000 population) from the day on which the lift is discovered to be inoperative.

(f) In any case in which a vehicle is operating on a fixed route with an inoperative lift, and the headway to the next accessible vehicle on the route exceeds 30 minutes, the entity shall promptly provide alternative transportation to individuals with disabilities who are unable to use the vehicle because its lift does not work.

In summary, the key element of vehicle operation is lifts and ramps and associated wheelchair securement equipment. These features provide vehicle access to people who have mobility impairments. Also important to use of transit service by people who have disabilities is public address and variable message sign equipment. Such systems can facilitate route and stop announcements and communication of other service information on passenger vehicles. A third vehicle feature that is needed to permit independent use of transit by people who have hearing impairments is signage and lighting that provides route information and identifies accessible entrances and priority seating locations for people who have disabilities.

Current MBTA Program

The MBTA operates five modes of fixed route passenger service: bus and trackless trolley (Silver Line and other fixed route services), commuter rail (Purple Line), rapid rail (Blue, Orange and Red Lines), light rail (Green Line, Mattapan Trolley), and boat. Commuter rail, boat service, and some bus service are operated through contracts with private operators. The MBTA owns the vehicles for the service it operates directly as well as the contracted commuter rail service. The contract bus and boat operators own the vehicles for those services. No U.S. DOT ADA regulations are in effect for boat service and MAAAB Regulations do not address passenger vehicles. Accordingly, boats and MAAAB requirements are not further addressed in this section of the memorandum.

As identified in Technical Memorandum #2, the features of the MBTA fleet that must be maintained to make the passenger equipment accessible to people who have disabilities are described below:

Buses

With the retirement of the inaccessible trackless trolleys in 2005, the MBTA bus fleet is now 100% accessible. The fleet consists of 993 buses with 597 (60%) ramp equipped and 396 (40%) lift equipped.

As of the second quarter of 2005, seven hundred and twenty-two (722) of the buses were equipped with Public Address Variable Message Signs (PAVMS) systems. These systems provide the capacity for audible and visual automated stop announcements, automated route announcements at stops serving more than one route, and confirming stop requests inside of the vehicle. The 396 oldest buses are equipped with PA systems with goose neck microphones. The gooseneck handle has a tendency to break. The Nova bus overhaul being completed by Mid West Bus on 120 older buses requires the contractor to inspect, test and replace components of the PA system. Sixty (60) buses were completed in mid-2005.

Each bus is assigned to operate out of one of six districts (Arborway, Bennett, Cabot, Charlestown, Lynn, and Quincy). Buses are assigned to one of nine garage facilities, including out-of-service buses assigned to the Everett Shop.

A review of access-related fixed route complaints filed by customers during the first calendar quarter of 2005 revealed that of the 88 complaints, 18 related to vehicles. In the 18 vehicle-related complaints, 22 issues were cited. Twelve of the complaints related to access equipment: six for vehicle lifts, three for ramps, and three for kneelers. These equipment related complaints could be the result of operations, maintenance, equipment design, or all three.

Of the 23 stop and route announcement complaints, four were for bus service. Although these are likely related to operator performance, faulty public address equipment could be a contributing cause.

Inspection & Maintenance

Morning drivers are required to perform a pre-trip inspection, or circle check, of his/her assigned bus. The inspection includes cycling of the wheelchair lift. The driver is required to complete a numbered Vehicle Condition Report, "defect card," and turn it in to the pullout Inspector. Drivers use the report to identify any defective items prior to pullout. The form lists safety and operating features. The form also includes a number of features needed for accessibility including destination signs, kneelers, lifts, wheel chair seats and buzzer. However, the list does not include wheelchair securements or the public address system. MBTA managers indicate that operators are required to test the PA systems both during pre-trip inspections and when the vehicle is returned from service. Operators are required to notify the Pullout Starter as to whether or not the lift is operational. The Starter then enters the information on the defective lift into the MBTA's Maintenance Control and Reporting System (MCRS) as a "Service Request." Although it is the MBTA's practice to check the PA system during pull-out it is not included on the "Vehicle Condition Report." Also, with the addition of ramps, a potential impediment to the use of buses by people who use wheelchairs is broken wheelchair securements on the buses. It is recommended that **PAVMS equipment and wheelchair securements be explicitly included on**

daily vehicle inspection forms to reinforce the importance of their inspection to providing accessible service.

If, during pullout a lift/ramp malfunctions and cannot be repaired quickly, the MBTA's policy is to pull the bus out of service and send another with a functioning lift/ramp in its place. If a lift malfunctions on a bus assigned to a "non-dedicated" lift equipped route, an effort will be made to replace the bus; however, buses will be sent out with non-functioning lifts if there is no spare available.

If a lift fails in service the driver is required to report it in accordance with MBTA Special Order #01-51. The order requires all bus operators to report any vehicle defect to an appropriate Inspector, any relief operator or next operator of the vehicle. Upon returning the vehicle to the bus garage the operator is to record the defect on a defect card to be placed on the windshield of the bus and report the defect to the Inspector at the garage. When a defective lift is reported to the Dispatcher as having failed in service, the Dispatcher enters it into MCRS as "Failed in Service."

If a customer or other MBTA personnel notice a problem with a lift or some other component of the bus they can report it to the MCC and it will also be entered into MCRS as a service request. In addition the Office for Transportation Access (OTA) staff can report vehicle problems by entering them into MCRS.

The Maintenance Supervisor for each of three shifts reviews the MCRS at the beginning of the shift and may review the report 2 or 3 times during the 8 hour work shift. Buses that are identified for maintenance are parked in the "work row" when they are returned from operation. According to this procedure buses with reported defects remain in service for less than 8 hours. Until maintenance on the vehicle is initiated they remain in a "pending" category in MCRS. When a work order is issued the maintenance category is changed to "open."

Routine Maintenance - Generally, each garage is responsible for maintaining its own fleet. Several types of maintenance are performed including preventive, routine repair work, and in-service. A common record-keeping system is used and repair and maintenance information is captured in real-time in a centralized computer database.

Routine preventive maintenance is scheduled at 6,000- and 12,000-mile intervals. The 6,000-mile inspection includes a steam cleaning, lubrication, and cycling of the lift and other routine maintenance as may be required. The 12,000-mile inspection also includes a more thorough lift inspection. In addition maintenance personnel inspect PA systems for buses at each 6000 mile interval.

Maintenance workers are available at pullout to troubleshoot problems including wheelchair lift repairs. The MBTA's procedure of assigning a maintenance worker to troubleshoot problems during pull-out minimizes the number of buses with inoperable lifts/ramps in need of minor repair being placed in service.

Other problems with the buses identified during operator inspections or in service are addressed by maintenance personnel. At 9:00 AM each day the Maintenance Supervisor reviews the "priority check sheet" and a "defect log" that he receives from the pull-out Inspector and assigns vehicles to the day foreman for repair, giving priority to safety and mechanical problems, including wheelchair lifts. Cosmetic repairs are given low priority. Minor, non-safety repairs are addressed as vehicles return from service.

The foreman assigns the work, including lifts and non-functioning PA systems, for the shift. He records assignment and performance in the MCRS. The foreman also arranges for vehicles to be pulled in from service as needed for maintenance.

In-service repairs occur when a bus breaks down while in revenue service. If, for example, a wheelchair-lift malfunctions, the driver contacts the Operations Control Center and a maintenance truck is sent to assist the driver, if needed. Some repairs are simple – such as replacing a fuse. Others are more complicated and require the bus to be taken out of service. A "Failures In-service Daily Log" is used to track these types of road calls. The form includes various codes used to describe the problem, the vehicle number, a brief description of the type of trouble encountered, and the current garage assignment for the bus. A "Failure In-service Incident Detail Report" is used to document the repair. A "Vehicle History" report also may be generated to track repairs and to spot repetitive problems.

Based upon the MBTA's progress reports to FTA on lift repairs, 1,028 lift repairs were made during the last calendar quarter of 2004 (October 1 – December 31). Lift repairs as tallied by the MBTA can include multiple repairs made at one time. Based on a sample week as described below, the 1,028 lift repairs indicates that about 870 vehicles received lift repairs during the 3 month period. The result is an average of 10 bus lift repairs per day or approximately 1 % of the fleet. For a sample week of October 1 through 7 the MBTA reported 59 lift repairs on 46 vehicles. Of the 46 vehicles repaired, four were out of service for repair on two occasions during the week and multiple repairs (17) were performed while servicing 8 vehicles. Two of the four vehicles that were out of service on two occasions were out of service for the same work item.

Sixteen (8000 series) of the 46 vehicles from the sample week have been retired by the MBTA. Twenty-six (0001-0400 series) of the vehicles are approximately 10 year old lift equipped buses. Lifts on this series of buses are being overhauled as part of a vehicle overhaul program. Four of the buses are equipped with ramps.

Lift and Ramp Reliability

The USDOT ADA Regulations require that buses with inoperable lifts or ramps not be used in service. The regulations allow an exception to this requirement when there are otherwise insufficient vehicles to meet scheduled service requirements, but even with bus shortages, buses with inoperable lifts or ramps are not to be used in service for more than 3 days.

The MBTA tracks bus lift and ramp repairs through maintenance tracking and reporting software. Among other things the software captures the date of the service request; the date

work begins on the vehicle (the work order is opened), the date that the repair is completed (the work order is closed).

In addition, the mileage on the vehicle is captured at the end of each service day when the vehicle is fueled. The MBTA is transitioning from a manual system, in which the yard man records the mileage manually for later entry into the maintenance system, to an automated system through which the mileage is recorded in the maintenance system automatically when the vehicle is fueled.

From this information reports are produced that indicate the number of days and the mileage between the period that a service request is made and the repair is completed.

During this period, bus service availability and use can vary. Vehicles are inspected by operators before being used in service. Lift and ramp problems are reported to the pull-out supervisor who enters a service request for the vehicle into the maintenance system. If there are sufficient vehicles to meet schedule needs it is MBTA procedure to return the bus to the "work row", an area of the bus facility that buses awaiting repair are stored. If there are an insufficient number of buses to meet schedule needs the bus is used in service and returned to the work row at the end of the driver's shift. Buses commonly remain in the work row until repairs begin. If there are insufficient buses to meet schedule needs buses that are otherwise operational and have no safety defects may be taken from the work row for use in service. When work is initiated on the vehicle a work order number is assigned for the repairs and the work order is opened. Normally, the repair is completed and the work order is closed. On occasion the bus could be returned to service while the work order is still open. This could happen if there are insufficient buses to meet the schedule, the bus can be operated safely, and the repair has been delayed while awaiting a part, or from some other reason. Were this to occur, the bus would be returned to the work row at the end of the operator's shift. Upon completion of the repair the bus is returned to service and the supervisor closes the work order. On occasion there could be a lag between completion of the repair and closing the work order.

The MBTA does not specifically track the period that buses with inoperable lifts/ramps are used in service. From a report on lift repairs, the period from service request to repair can be identified. As a result buses with repair periods exceeding 3 days could potentially be used in service. The report also indicates the miles traveled by the vehicle during the period from service request to repair. Vehicles with repair periods exceeding 3 days with high mileage could have been used in service. As a result, using the current reports, only potential in service buses with disabled lifts or ramps can be identified, actual use can not. **The MBTA should develop reports that clearly identify daily use of vehicles with inoperable lifts. The reports should be used to withhold buses with inoperable lifts from service after three days and to assist in setting maintenance priorities.** Such reports would permit better monitoring and compliance with the requirement that buses with inoperable lifts and ramps be used only when other vehicles are not available and that in no circumstances buses with inoperable lifts/ramps be used in service for more than 3 days. The reports should identify the date the lift/ramp is reported inoperable service and use of the vehicle (mileage) for each day from the service request. Change in daily mileage could be used to indicate bus use, with zero or few miles indicating that the bus was not used in service. A report for all buses that identified daily mileage for the period

of interest for buses with inoperable lifts/ramps would permit identification of days in service. Such a report could be created by modifying the maintenance reports or by exporting data from the maintenance reports to a spreadsheet and creating a report from the exported data. With this information the pull out dispatcher or mechanical supervisor could hold the bus from service unless there are insufficient buses to meet pull out and hold the bus from service if it has been used for 3 days after the date of the service request.

For a sample week of October 1-7, 2004 the MBTA data indicates 50 reports of bus lift problems on 46 vehicles. The 50 reported problems include two reports for four buses. Forty-one of the buses were reported repaired in less than 3 days from the out of service date with 28 repairs made on the "out of service" date. Nine bus lift repairs took more than three days with four taking four days, two repairs in five days, two in six days and one in 19 days. Of the longer repairs, five were on buses that have since been retired and four were on ten year-old buses that are undergoing lift overhauls.

A report on wheelchair lift service for the month of July 2005 was also reviewed. Of the 83 reported lift/ramp defects reported in July, the vehicles appeared to be used in service 48.2 % of the time (based on the reported mileage). The report provided mileage from date of service request to completion of repair. On average, MBTA buses travel approximately 30,000 miles per year or about 100 miles per weekday. Based on a review of mileage data in the report it appears that it is common for buses to travel 200 miles per day. Absent more specific information on daily usage and mileage, it is likely that many of the buses that operated more than 600 miles and some of the buses that operated more than 300 miles were used in service for more than 3 days from the date the lift/ramp was reported as inoperable. About 47.7% of the buses were operated more than 600 miles and 56.8% were operated more than 300 miles.

Table 1.15 - Summary of Lift Service July 2005

	Number	% of Fleet	% of Reported Defects	% of Buses requiring more than 3 days for repair
Fleet Size	946			
Reported Lift/Ramp Defects	83	8.8%		
Bus Not Used	43	4.5%	51.8%	
Bus Used in Service	40	4.2%	48.2%	
More than 3 days for completion of repair	44	4.7%	53.0%	
Average days to completion of repair	8.8			
Average Miles Used	768.1			
Buses Used in Service	36			81.8%
Buses Used More than 300 Miles	25			56.8%
Buses used more than 600 Miles	21			47.7%

It appears that during July 2005 approximately half the buses requiring lift repair were used in service. Data wasn't readily available to determine if there were spares with operable lifts that could have been used instead of these vehicles. Additionally, it appears that approximately half the buses requiring more than 3 days for repair were used in service for more than 3 days.

Driver Training

Bus drivers are trained in proper lift and securement operation during their regular driver-training program and at ADA refresher training. Training is provided on how to operate each type of lift. Operators are instructed to secure the vehicle, turn on the lift master switch and operate the lift in accordance with the control box instructions. Drivers are also directed in the use of the universal tie down system for securing wheelchairs on the bus and are advised that use of the shoulder harness by the passenger is optional. In the MBTA Bus Operations Vehicle Operations Manual (rev 2/2/2004), which is used in bus operations training, drivers are instructed to:

- "Allow persons who request the lift to use it.
- Always allow persons with mobility problems to be seated before moving the bus.
- It is the operator's responsibility to make sure the mobility aid is secure."

Drivers are also instructed to use the kneeling feature:

- "For customers who may have difficulty boarding.
- At the request of any passenger."

Regarding general passenger boarding and alighting drivers are instructed to:

- "Always wait until all passengers are in a safe position and for your elderly or disabled passengers to be seated."

Drivers are reminded the kneeling feature will "activate a light, horn and the interlock." Drivers are told not to operate the kneeler if the doors are positioned above a curb, which could result in damage to the doors.

Drivers are also trained using the MBTA Bus Operations Customer Relations Manual (revised 5/24/2002). A section in the manual directed to elderly customers and customers with disabilities includes instructions for drivers to:

- "Be alert and sensitive to the elderly and customers with disabilities.
- Answer questions clearly and directly.
- Do not move the bus until the customer is seated or is securely holding on to a handrail."

Operations

In accordance with MBTA Bus Control Center (BCC) Standard Operating Procedure 15.0 in case of an in service failure of a lift with the customer on the bus, the BCC is to coordinate the

response by sending an official (Inspector), and a service truck to the vehicle. If the passenger is unable to get off the bus within 30 minutes the MBTA notifies the local fire department and requests assistance. If the customer has not yet boarded the bus, an official (Inspector) will be dispatched to assist the customer. The schedule will be checked to assure that the customer can be picked up in a timely manner. The BCC will contact the operator of the following bus to confirm that it is equipped with an operational lift/ramp. If the following bus cannot serve the customer in a timely fashion a "rescue" bus will be dispatched to serve the customer.

Rule 92 (d) of the MBTA Bus Operations – Rules for Operators and other Employees of Bus Operations stipulate, "Passengers must be in a safe position before moving the vehicle."

Commuter Rail

The 377 commuter rail passenger vehicles are designed for boarding both by steps and level entry. Level entry is accomplished at accessible stations by full length high platforms or mini-high platforms. When platform gaps exceed 3 inches horizontal and 2 inches vertical bridge plates are used to span the gap. Standard bridge plates are stored on almost every coach. If missing from one coach a bridge plate can be taken from another for use in boarding passengers. MBTA standard bridge plates are eleven inches deep and are designed to span a gap of 6 inches. At stations on curves or other station locations where wider gaps must be spanned larger bridge plates are stored at the station, secured to the platform.

According to MBTA Stop Announcement Progress reports to FTA, 33 commuter rail coaches are being purchased with interior PA systems that adjust the volume of the announcement based upon the ambient, or background, noise level in the vehicle. PA equipment is also required on 32 coaches purchased in 1997 and 2001, 57 coaches overhauled in 1995-1996, and 75 coaches scheduled for overhaul during 2005. 89 of the current fleet of 377 coaches are required to have PA systems with the number increasing to 192 upon completion of scheduled purchases and overhauls. The MBTA is considering the possibility of coordinated PA/variable message signs (PA/VMS) for future installation on passenger cars. The new operating agreement for contracted commuter rail service requires the contractor to inspect and test public address/intercom systems (PA/IC) daily. The contractor is subject to assessment of penalties for inoperative or improperly adjusted PA/IC.

Problems with PAs are identified by train crews at the beginning of the day when the PAs are first used in service. If there is a problem with the PA the train crews report it to the Trainmaster. The Trainmaster enters a service request. Maintenance personnel will then schedule the equipment for repair. If the vehicle is due for a 180-day Preventive Maintenance Inspection (PMI) and service, the PA repair will be scheduled with the PMI. Absent in service problems PA systems are tested and repaired during each PMI and PM service.

Of the public information complaints, there were 23 regarding stop and route announcements. Although these are likely related to operator performance, faulty public address equipment could be a contributing cause. Eight of the announcement complaints were for commuter rail service.

Commuter Rail vehicle access is dependent on availability of bridge plates on trains and can be

effected by inoperable PAs. Accordingly, care should be taken to inspect bridge plates and PAs frequently to assure that they are available and operating and to replace or repair missing or inoperable equipment expeditiously. **PA systems and bridge plates should be inspected on a regular schedule.**

In addition to bridge plates and PA systems, other accessibility features that must be maintained to provide accessible service are handrails and stanchions, signage and lighting.

Light Rail

Currently, 40 light rail vehicles are accessible by means of ramps on low floor vehicles. Upon completion of ongoing procurements and vehicle upgrades, 100 of the planned 270 vehicles in the Green Line fleet will be low floor vehicles equipped with ramp access. Access to the remaining 170 vehicles in the Light Rail Transit (LRT) fleet is provided by wayside lifts and mini-high platforms. The ramp equipped Type 8 cars will be operated in trains with cars that have high floors and no ramps. The effective use of ramps as the primary means of access to vehicles requires that the ramps be operational with a high level of reliability. Vehicle ramps should be inspected and repaired in a timely fashion to assure the programs success.

The 10 PCC cars built in 1945-6 used on the Mattapan High Speed Line have no access ramps or lifts. Access on the will continue to be accomplished by the use of portable lifts.

The Type 8 cars are equipped with internal VMS signs and automated stop announcement technology. The same technology is being purchased for the Number 7 Green Line LRVs. Upon completion of the program, all but the 10 PCCs assigned to the Mattapan High Speed Line and the 55 Boeing LRVs will be equipped with this technology, leaving 215 cars equipped with automated PAVMS systems.

Operators on the 55 Boeing LRVs and 10 PCCs not equipped with automated PAVMS will have to make voice stop and route announcements.

According to the MBTA's quarterly reports to FTA on stop announcements it is MBTA's procedure for vehicle operators to test PA systems during pre-trip inspections before vehicles are placed in service. PA's are also inspected by vehicle maintenance personnel as part of each 6,000 mile maintenance inspection. All non-functioning equipment is documented and entered into the MBTA's MCRSII fleet management software system. Once entered into the MCRSII system all non-operating PA systems are scheduled for repair. Public Address equipment is repaired by a contract services provider. Contractor procedures for maintenance are described in MBTA's contract specification No C-43. According to the contract it is the responsibility of MBTA personnel at each Car house, or light and rapid rail maintenance facility, to identify defective equipment and replace the defective equipment on the vehicle. The contractor is required to pick-up the equipment within 4 hours, repair it and return it to the Car house within 7 days. The contractor is responsible to the MBTA's Signals and Communications Department and reports to the MBTA's Manager of Service Contracts.

In addition to ramps and PA systems, other accessibility features that must be maintained to provide accessible service are handrails and stanchions, signage and lighting.

Rapid Rail

The 408 vehicles in the rapid rail fleet serving the Blue, Orange and Red Lines provide vehicle access by level entry with high platforms stations.

Because of the age of the rapid rail fleet, only a small portion of the fleet is equipped with automated PAVMS for stop announcements. The number of PAVMS-equipped vehicles will increase with the purchase of new Blue Line cars. For the remainder of the rapid rail fleet, announcements must be made by voice or PA.

Of the 408 vehicle fleet 332 were purchased before U.S. DOT ADA requirements went into effect. Only the 86 #3 cars on the Red Line are required to have a PA system. These cars are equipped with a PAVMS system. In addition the 1981 Orange Line Cars are equipped with hand held microphones with amplifiers to increase volume as needed. Blue Line cars that are being purchased will also be equipped with PAVMS.

Procedures for inspecting and maintaining PA's on rapid rail vehicles are the same as described above for Light Rail vehicles.

Of the public information complaints, there were 23 regarding stop and route announcements. Although these are likely related to operator performance, faulty public address equipment could be a contributing cause. Nine of the announcement complaints were for rapid rail service.

As with other rail passenger vehicles in addition to PA systems, other accessibility features that must be maintained to provide accessible service are handrails and stanchions, signage and lighting.

Public Communications

The Public Information section of this report first addresses regulatory requirements and customer concerns related to those requirements. The section then addresses three elements of public information: MBTA materials used to provide information needed by customers to plan their travel and use transit service; the program for announcing bus stops and identifying routes at stops shared by more than one route; and real time service information with focus on the status of elevators. Regulatory requirements, MBTA policies and procedures and performance are addressed as applicable.

USDOT ADA Regulatory Requirements

With respect to public communications with people who have disabilities, the ADA regulations (49 CFR Parts 27, 37 and 38, Transportation for Individuals with Disabilities; Final Rule) specify public information requirements under §37.167 (Other service requirements). These are:

> *"(f) The entity shall make available to individuals with disabilities adequate information concerning transportation services. This obligation includes making adequate communications capacity available, through accessible formats and technology, to enable users to obtain information and schedule service."*

In addition the U. S. Department of Transportation regulations implementing the Americans with Disabilities Act of 1990 (ADA) contain two requirements that are meant to assist persons with vision impairments and other disabilities to use fixed route transportation services. Section 37.167, subsections (a) and (b), which apply to public and private entities that operate fixed route systems, require that:

> "…the entity shall announce stops as follows:
> *(1) at least at transfer points with other fixed routes, other major intersections and destination points, and intervals along the route sufficient to permit individuals with visual impairments or other disabilities to be oriented to their location*
> *(2) any stops on request of an individual with a disability."*

Section 37.167(c) requires that:

> *"Where vehicles or other conveyances for more than one route serve the same stop, the entity shall provide a means by which an individual with a visual impairment or other disability can identify the proper vehicle to enter or be identified to the vehicle operator as a person seeking a ride on a particular route."*

Related to circumstances when features of facilities, including elevators, and vehicles that are required to make the vehicles and facilities readily accessible to and usable by individuals with disabilities. Under §37.161 (Maintenance of accessible features: General), the ADA regulations state in part:

> *"(b) When an accessibility feature is out of order, the entity shall take reasonable steps to accommodate individuals with disabilities who would otherwise use the feature."*

When elevators and other accessibility features, are out of service, one of the most critical steps to accommodating individuals with disabilities is provision of current or "real time" information on the service status of such features and also the information needed for the individual to take an alternate transit route or service to his/her destination.

A review of access related fixed route complaints filed by customers during the first calendar quarter of 2005 revealed that of 88 complaints 33 related to public information. Of the public information complaints there were 23 regarding stop and route announcements. Nine of the announcement complaints were for rapid rail service, 8 for commuter rail, 4 for bus and 2 for light rail service.

Public Information Materials

MBTA Policy and Procedures

The MBTA includes ADA communication requirements as a part of its Personnel Policies and Procedures Manual. Under Chapter II, Part B, Human resources Employment Policies, the manual covers Accessibility Guidelines for Public Meetings and Documents. In the policy, it quotes from the ADA and states that there is a duty

> *"to communicate effectively with customers, clients, or participants who have disabilities affecting hearing, vision, or speech. This may be accomplished through provision of auxiliary aids and services for effective communications, such as:*
>
> 1. *Qualified interpreters, note-takers, computer-aided transcription services, written materials, telephone handset amplifiers, assistive listening devices/systems, telephones compatible with hearing aids, closed captioned decoders, open and closed captioning, telecommunication devices for deaf persons (TDD's) videotext displays, or other effective methods of making aurally delivered materials available to individuals with hearing impairments;*
> 2. *Qualified readers, taped texts, audio recordings, Braille materials, large print materials, or other effective methods of making visually delivered materials available to individuals with visual impairments;*
> 3. *Acquisition or modification of equipment or devices; and*
> 4. *Other similar services and actions."*

The policy goes on to state:

> *"The ADA does not require use of the most advanced technology, if effective communication is ensured. Additionally, organizations must provide alternative accessible arrangements if an existing practice or location is not accessible to individuals with disabilities."*
>
> *"To assure full participation in Authority-sponsored meetings, the communication needs of individuals with disabilities must be addressed. Upon request, the Authority shall make written material available in alternative formats (large print, Braille, audio tape, etc.). The Authority will also ensure provision of auxiliary aids (assistive listening devices) at public meetings when necessary to ensure full participation."*
>
> *"When scheduling public meetings, departmental managers and supervisors are responsible for assuring compliance with the above policy and should include ancillary service expenses in their departmental budgets." [The policy goes on to spell out that advance notice is required to obtain an interpreter, and that if one is requested but there is not enough time, then the meeting will need to be postponed.]*

The policy states that when making material available for public meetings at libraries, town halls, etc. departments should provide one copy in both Braille and audio tape formats. Departments

producing public documents such as schedules and maps should ensure the production of such materials in alternative formats as well. The policy also suggests that departments include requirements for alternative formats in procurement documents for vendors.

Materials

The MBTA communicates with the public and its riders through its Web site, through its public information line, and through written material.

The Web site (www.mbta.com) is particularly important for meeting the public information needs of individuals with disabilities as it provides continual updates on elevator and escalator outages and service changes throughout the day.

The Web site can be accessed with text only, an important feature for those with vision impairments who may only be able to read text. The first link available in the left most column of the Web site is for "transit updates," which includes information about elevator and escalator outages by subway line. The same location also provides a phone number which can be used to get recorded messages about elevators and escalators out of service.

The Web site also provides the user with the ability to download PDF files with maps of individual services and to download PDF files with schedules. The maps indicate by the wheelchair icon whether services or stations are accessible.

The maps and schedules that can be downloaded on the Web do not indicate that they can be obtained in accessible formats.

The MBTA provides THE RIDE GUIDE to explain how to use THE RIDE Service. THE RIDE GUIDE comes in large print and indicates on the first page that the information can be made available in alternate formats of Braille or audio as well as electronically. THE RIDE GUIDE is available via the Web site on a PDF file. In summer of 2004 the MBTA also published "Getting Around Boston," a guide to using the MBTA's rapid rail, light rail and BRT services for people of all abilities. The guide includes complete information on accessibility features of stations, including illustrations of major stations, and contact information for those needing additional information.

In mid-2005 the MBTA had also prepared an explanation of its new pass replacement program in alternative formats. In particular, a Braille version was developed in cooperation with the Massachusetts Commission for the Blind.

The MBTA has a folding system map which is issued every few years. The document includes a map of the MBTA region, a full listing of bus routes, schematics of the rapid transit lines and commuter rail, as well as a more detailed map of the inner communities. Accessible stations and bus routes are identified with the International Symbol of Accessibility (ISA). The document also includes phone numbers for further information on accessible services as well as elevator updates. It is not available in an accessible format. Spider line maps, which provide a schematic depiction of the MBTA rail lines, are available in alternative formats.

Schedules are available in accessible formats by calling the MBTA information line. The customer representative will put the caller in touch with the schedule distribution center which will take the request and forward it to operations or commuter rail who will obtain the accessible format as requested. Formats available include Braille, large print, and audio.

In mid-2005 the MBTA operated some buses on some routes that were not accessible to people who use wheelchairs. To address customer needs the MBTA operated a Call-a-Lift program. The program permitted customers to call the MBTA in advance of their trip to schedule so that a ramp or lift-equipped bus could be scheduled for their trip. At the time the information was reviewed in 2005 there was inconsistency in information provided on public schedules and the MBTA system route map on which routes were fully accessible and which required Call-a-Lift service. Since that time all bus routes have been made fully accessible and all public schedules and the system route map have been updated to reflect full accessibility for all bus routes.

The MBTA is doing a good job with providing accessible formats when needed via its Web site, its customer information line, and in other written information. The lack of complaints in this area shows that it is not causing problems to individual customers with disabilities. However, the **MBTA could make it easier for individuals with disabilities to obtain accessible schedule and route information if each printed schedule indicated specifically where to call for accessible information. Specific information on how to obtain accessible schedules and maps might also be added to the Web site in the area entitled "accessible services."**

A suggestion made in Technical Memorandum #4 was that the web page that provided the telephone number for the elevator information line, also have a link to the web location for elevator status. The current version of the web page now has such a link.

Stop and Route Announcements

The USDOT ADA regulations require that stops be announced "at transfer points, major intersections and destination points and intervals along a route sufficient to permit individuals with visual impairments or other disabilities to be oriented too their location." (49 CFR 37.167 (b)(1)). The regulations also require that where vehicles for more than one route serve the same stop the operator must provide a means by which an individual with a visual impairment can identify the route of the bus. (49 CFR 37.167 (c))

Compliance with ADA stop announcement policy continued to be a challenge for the MBTA during the review of performance in 2005. This was illustrated by the relative number of complaints on stop announcements. The 23 complaints during the first quarter of 2005 were the highest for any category other than elevator outages.

The MBTA has been working with its unions for the past 20 years to try to ensure that operators appropriately announce stops and routes. The MBTA stop announcement policy as stated in the Customer Relations Manual (rev. 5/24/2002) appears consistent with ADA regulatory requirements. Page 3-47 of the Customer Relations Manual instructs drivers to:

- "Announce stops, transfer points, landmarks and major intersections.
- Announce route # and destination to outside customers waiting to board the bus."

The MBTA policy and procedures requires drivers to announce stops loudly and clearly. They are to check the PA system as part of their pre-trip inspection before leaving the terminal. They are also to announce stops, transfer points, landmarks and major intersections. These requirements were reiterated in the Bus Operations Special Order #99-02 dated January 14, 1999.

Stop lists for private carriers under contract to the MBTA were completed and submitted to the FTA in the first quarter 2002 ADA review progress report. Revised stop announcement lists for each garage are contained in ADA Announcement Handbook.

Newly hired drivers receive training in the ADA, in disability awareness and in providing passenger assistance to individuals with disabilities. During two years prior to the FTA year 2000 assessment of fixed route ADA compliance, the drivers and supervisors were retrained on ADA. This included all rapid transit personnel. Announcements were to include station name and transfer information. On the Red and Orange Lines, drivers also announced whether doors open to right or left.

The MBTA has had an active monitoring program to promote compliance with MBTA stop announcement procedures since January 1999. The program is directed toward performance of drivers in announcing stops and route destinations. The MBTA goal for compliance was to achieve 100 percent by April of 2001.

Each monitoring observation is performed for one complete one-way bus trip. Trips are selected based on previous observations of poor operator performance in announcing stops and secondly based on a random selection of a bus trip by route by bus garage. Announcing fewer than 50% of the required stops is considered poor operator performance. All monitoring results are reported to the driver's supervisor on the next business day following the observations.

Findings from the MBTA stop announcement monitoring program are detailed in monthly reports separated by type of service (bus, trackless trolley, Red, Blue, Green, Orange lines, and commuter rail). These reports show information for all observations, including both initial observations, and follow-up observations. Because the MBTA monitoring program focuses on poor performing operators, the information on total announcements made may not be comparable from garage to garage or line to line, or even over time. This is because the percentage compliance will depend upon the proportion of follow-up observations versus random observations. To the extent that the proportion stays the same, total observations would be comparable. The following analysis assumes that the information provided by the MBTA on all monitored stop announcements is comparable.

The overall monitoring performance report for October to December 2004 showed that 74.4 percent of stops were announced for bus, 81.9 percent for the Green Line and Mattapan Trolley,

90.2 percent for Rapid Transit, and 81.7 percent for Commuter Rail. The external announcement rate was much lower, 69.6 percent.

The following graphs show a summary of quarterly stop announcement data for the MBTA system. Figure 1.2 shows the overall monitoring results for bus for the years 2002 (partial year), 2003 and 2004. Figure 1.3 shows a plot of stop announcement performance for each rail line for 2004. As can be seen, performance on the bus system improved over the course of 2002 and 2004, but got worse during 2003. Performance on the rail system was generally much better than on the bus system. However there were quarters of poorer performance on the rail as well.

Figure 1.4 shows a plot of all 2004 quarters for each bus garage. Arborway, Southampton and Cabot show performance in the last half of the year similar to the good performance on the rail system. A higher proportion of buses that have automated enunciator systems in Arborway, Southampton and Cabot are likely to be the main reason for the improved rating. Bennett, Lynn and Charlestown showed improvement toward the end of the year, but Lynn's performance got worse. The poorest performance is seen in the contract operators.

Figure 1.2 - Overall Bus for 2002-2004

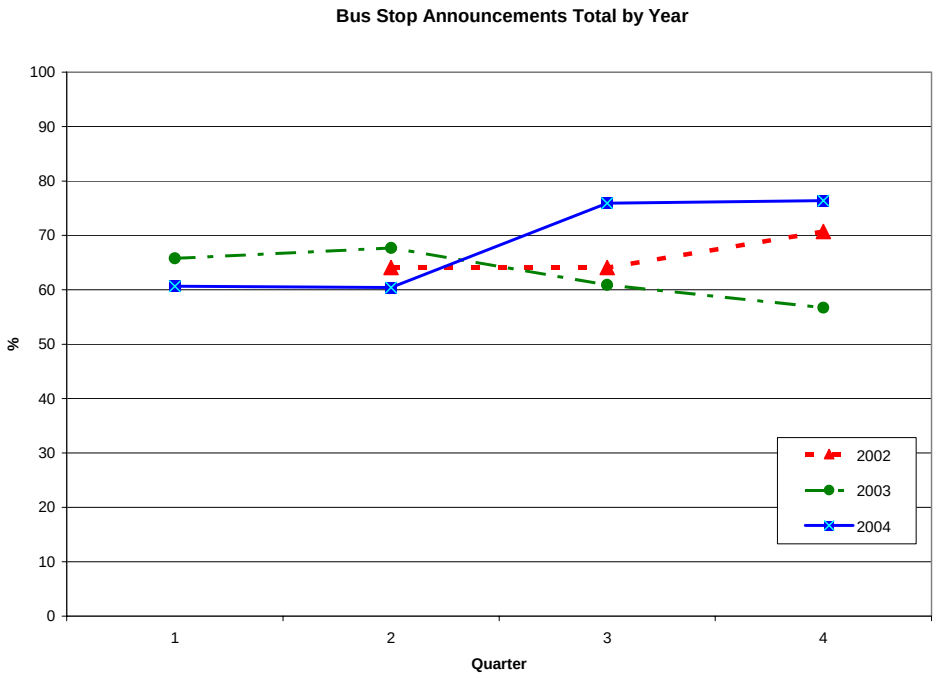


Figure 1.3 - 2004 data for rail

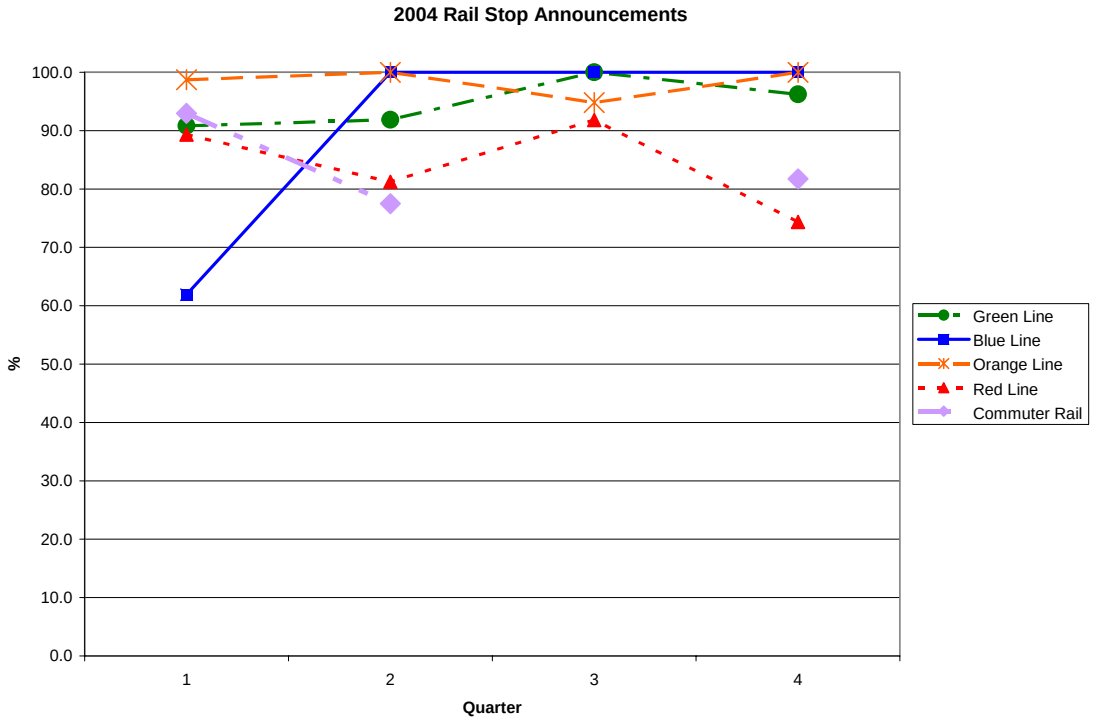
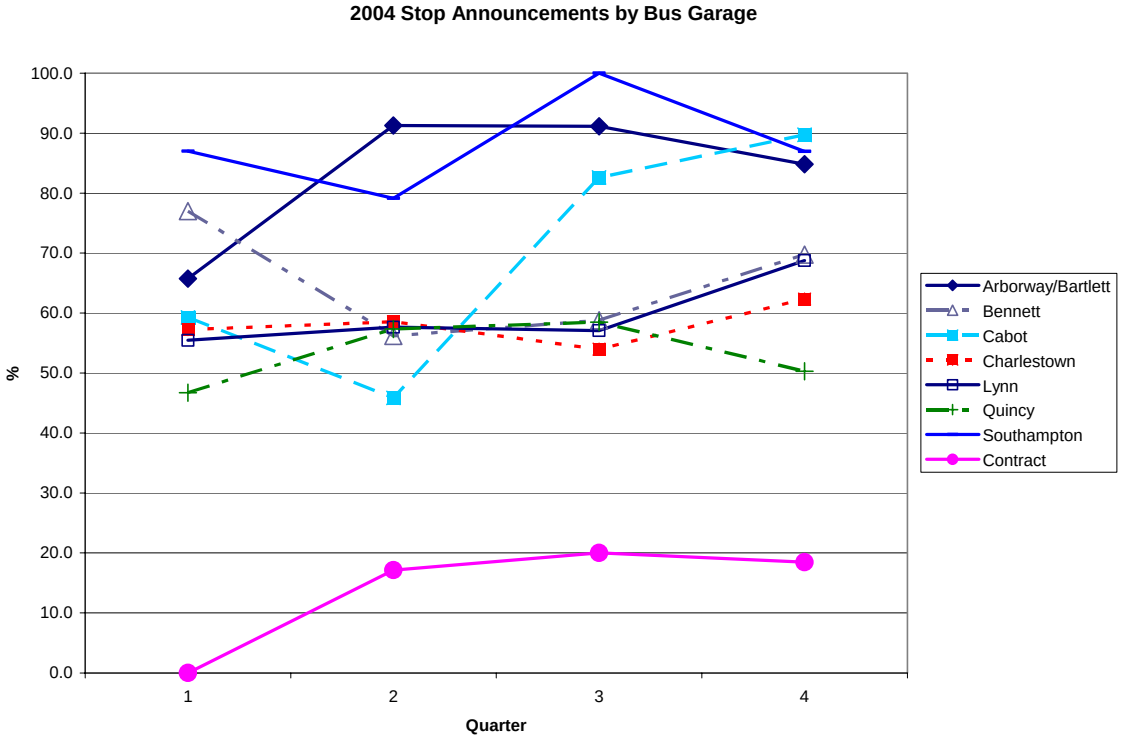


Figure 1.4 - 2004 Data for Bus



The monitoring reports show improvement on buses in making stop announcements since the time of the ADA audit in 2001. However, it is still short of the previously stated goal of 100 percent compliance, and requires a continuing effort on behalf of the MBTA.

The MBTA is investing in technology to improve the current situation for making stop announcements, and this should help in the future. As of the second quarter of 2005, 722 buses were equipped with Public Address Variable Message Signs. The MBTA expects 81 percent of the bus fleet to be equipped by July 1, 2006. The improved performance at Cabot, Arborway and Southampton is likely due to those garages having a higher proportion of PAVMS equipped buses.

Orange Line cars have been equipped with new PA systems to improve clarity of the announcements. New Blue Line cars will have automated systems like the No. 3 Red Line cars. No. 8 Green Line cars will have systems that automatically adjust to overcome ambient noise **Continue the program to install simultaneous PA/VMS systems on all passenger vehicles. Explore and adopt methods of automatically adjusting message volume or timing in response to ambient noise levels.**

Operators who have been cited for failure to comply with ADA requirements are referred to a mandated Passenger Relations Course. Beginning in the last quarter of 2004, operators on the 3rd or higher disciplinary step for failure to call out stops attend an all-day mandatory ADA retraining course with classroom, hands-on and road instruction.

Drivers are also subject to progressive discipline for failure to make stop announcements as follows:

- 1st infraction – infraction notice, less than 50% compliance observed a second time
- 2nd infraction – written notice
- 3rd infraction – 1 day suspension
- 4th infraction – 3 day suspension
- 5th infraction – 5 day suspension
- 6th infraction – 30 day suspension with recommendations for discharge

The MBTA provided information on the discipline records their bus operators for part of 2003, 2004 and part of 2005. Table 1.16 shows formal disciplinary actions, which were part of the six-step process detailed above.

Additional information about MBTA actions on stop announcement monitoring also was obtained. This included numbers of commendations given, bus operator re-trainings, and instances where a lack of stop announcements was excused. This information is shown in Table 1.17 below.

Based on our review of this information, it appears that the MBTA is following through on the established discipline process.

Table 1.16 - Bus Operator Disciplinary Actions, 2003-2005

Infraction	Number of Employees Cited	Comment
1st infraction	651	Given Infraction Notice
2nd infraction	266	
3rd infraction	101	8 of these were rescinded
4th infraction	37	3 of these were rescinded or reduced
5th infraction	13	1 of these was reduced
6th infractions	3	Discharge is mentioned for two of these.

Table 1.17 - Other Monitoring Actions and Observations

Observation	Number of Employees Cited	Comment
Commendations (of employees previously cited for failure to make stop announcements)	512	
Reinstruction	193	Operators who miss one announcement or achieve 80% compliance on the observed trip are allowed one reinstruction.
Excused-no MP3 bus or MP3 Training	6	These drivers are allowed to use an MP3 due to a speech impediment.

Real Time Service Information

One of the most important aspects of providing current information to individuals with disabilities is to provide information on elevator and station lift outages. This is critical to ensure that people are able to get into and out of the subway system and complete their trips. Elevator reliability has been a problem. Contributing to the challenge of maintaining elevators in operating condition are the wide variety of elevators owned by the MBTA, the age of many of the elevators and their exposure to harsh operating conditions.

The MBTA has three primary means of communication when elevators/escalators are out of service. These are the MBTA web site, recorded information on the elevator/escalator update telephone line and information at the stations, including PA announcements. In addition, customers can obtain information on the status of elevators by calling the MBTA Office for Transportation Access.

The Operations Control Center (OCC) has adopted a Standard Operating Procedure for updating the elevator/escalator update line (OCC-SOP 36.0, March 13, 2001). The procedure is as follows:

At the start of each day, the on-duty Public Address person assigned to the OCC will check with the Maintenance Control Center (MCC) to find out which elevators and escalators are currently out of service. After receiving this information, the Public Address person will make an announcement that must contain the following information:

- Date and time of the update.
- The location and area of the station to which the elevator/escalator provides access
- If available, an approximate time the piece of equipment may be repaired and returned to service.
- An apology for the inconvenience.

As new information on inoperable elevators is received by the MCC it is entered into the MBTA's Maintenance Control & Reporting System (MCRS). The MCC notifies the Public Address (PA) announcer in the OCC. Both the MCC and the OCC are in separate areas of the same room, so communication is oral. At the beginning of the day the MCC notifies the PA announcer of the list of elevators and escalators that are out for the MBTA "Elevator Update Line," as discussed above.

The PA announcer checks the "Update Line" for consistency with the MCC data, and then notifies a contractor from Smart Traveler to update the MBTA web site. The PA announcer makes a public address announcement of elevator status throughout the MBTA system. Each time there is a change in status, the PA announcer repeats the process of updating the "Update Line," notifying the Smart Traveler web site contractor, and making a PA announcement throughout the system. In addition, the PA announcer makes announcements of out of service elevators at fixed two hour intervals throughout the day.

When the PA announcer or Smart Route operator is absent the OCC supervisor is responsible for making the appropriate updates to the hot line and web site and checking the elevator/escalator status line at Extension 2828.

OCC depends upon the MCRS report on elevator status at the beginning of the day and reports on status change from the MCC for elevator status information. As discussed earlier, MCC receives information on out of service elevators primarily from the transportation Inspectors. When returned to service by the maintenance contractor, the change in elevator status is recorded in MCRS, but not communicated orally to MCC. Based upon the procedures as described by MBTA supervisors there is no provision for affirming that elevators have returned to service by MCC. Absent such affirmation the status of an elevator can change in the MCRS system without the MCC being aware of it. If MCC is unaware of the change in the status of an elevator, MCC can't report the status change to the PA announcer.

In addition to PA announcements at transit stations on out of service elevators, there is a flip sign next to each elevator to identify out of service elevators. When station Inspectors identify

inoperable elevators and take the elevator out of service they use the "flip" sign next to the elevator to notify transit riders that the elevator is out-of-service. Intercoms in the lobby outside of elevators provide a potential means for customers to obtain information on alternative routing or service. MBTA officials indicated that the intercoms outside of elevators are linked to either the police department or the MCC with some also linked to collectors booths. In the future they will be linked to the "Hub" stations attended by customer service agents.

There is no specific procedure for informing Inspectors or other station personnel when elevators are returned to service. Station staff is either alerted through the PA announcements or learns of the elevator repair during rechecks of elevators throughout the day.

In response to complaints about the accuracy of the elevator "Update Line" and the Web site, the MBTA conducted its own monitoring of the elevator situation. Two months of data were collected for each of the lines which noted the elevators out of service at 10:00AM, compared to the information on the "Update Line" and the web page. This monitoring activity showed that there was a discrepancy between elevators out and what was being reported to the customers. For the Red Line, for example, 12 percent of the out-of-service elevators were not reported on the web site and 13 percent were not reported on the Update Line.

An important issue that the Red Line monitoring report shows is that once elevators are back in service, the Elevator Update Line and the Transit Updates Web Page are not updated in a timely way. The impression then is that the MBTA's performance with respect to elevator maintenance looks worse than it is.

For example, in the time period between April 13 and May 18, 2005, when there were 135 observed elevator-day outages, the Web and the phone Update Line reported a number which was around 20 percent higher than actual. This is due to there being 43 fewer elevator-day outages than were being reported.

Also, between March 23 and May 18, the public communication at 10:00AM was not accurate on 45 and 47 percent of the days respectively for the phone and the web. There were 3 days when the Web page and the phone update line did not agree, indicating a breakdown in communications between the PA announcer and the SmartRoutes contractor.

There are two issues for improving the elevator maintenance communication. The more critical is to insure that accurate information on elevator outages gets to the phone Update Line and the Web pages. The missing information may have occurred because the elevator went out just before the 10:00AM inspection, so that the web and phone line were not updated. Alternatively, there could have been a breakdown in communications some where between the Inspector and the PA Announcer and SmartRoutes employee. To address this problem A possible way of addressing discrepancies between the Elevator Update Line and Web site would be implementation of a procedure requiring the PA announcer to review the Web site and, the Web site person to review the Elevator Update Line, to assure that the elevator information is consistent. **Institute a quality control procedure to assure that information on elevator status is consistently reported on both the elevator hot line and the MBTA web site.**

The second issue is for the MBTA to establish a procedure to update the phone Update line and the Web site when an elevator is repaired.

The MBTA is planning to implement a revised program to notify customers of out of service elevators. The OCC proposes to **have the PA Announcer review the MCRS every half-hour during the service day to check for changes in the status of elevators** and incorporate those changes into elevator PA announcements, hot line lists and websites as is currently done.

Other possible options for confirming current elevator status in MCRS are: adding a routine in MCRS requiring the status change to alert MCC of the change with a screen pop-up and a requirement for MCC to accept or acknowledge the change; or requiring the contractor to notify MCC by phone when an elevator is taken off or placed back on line.

The MBTA plan is to notify field personnel and customers by updating the "flip" signs currently located next to each elevator and providing lists of out of service elevators at each fare collection area. The flip signs currently notify customers when elevators are out of service. The MBTA proposes to add information on alternate routes to the sign and provide a phone number for customer assistance.

The out-of-service elevator list would be printed at "Hub" stations and distributed from there to all subway stations. The list would include a number to call for customer assistance. The lists would be updated, printed and distributed 3 times a day. Lists would be posted so they can be read by customers before they pass through turn styles and exposure to vandalism and weather is minimized. An automated version of this system using VMS with audio prompts at station entrances would result in more current information and less labor effort from field staff.

The MBTA is installing coordinated PAVMS at the "Hub" stations. This will permit both auditory and visual communication of service messages.

1.5. Fixed Route Service Monitoring Plan

The last task performed as part of the accessible fixed route service evaluation was the development of a detailed Monitoring Plan. The full plan is contained in Technical Memorandum #6, which was delivered to the MBTA in August of 2006. This section provides a summary of the major recommendations contained in the plan. Recommendations on organizational issues are first presented. Recommendations from the plan for each operational mode and area are then provided.

As noted in the "Introduction" section of this report, the MBTA negotiated a settlement agreement with plaintiffs in response to a lawsuit against the MBTA pertaining to transit accessibility. The settlement agreement is expected to address some of the same issues that are addressed in this monitoring plan. Accordingly, the service monitoring plan implemented by the MBTA may vary from the recommendations of this plan depending upon the actual implementation of the terms of the settlement agreement.

Throughout this section, paragraph numbers are included in parentheses (e.g. (¶54)) if discussions or recommendations relate to certain parts of the proposed settlement agreement. These paragraph numbers refer to paragraphs in the settlement agreement that are related to the discussions and recommendations.

Current Monitoring Program - Organizational Context

Service monitoring programs generally are developed to measure performance in achieving the objectives of an organization and to identify areas in which objectives are not being met so that corrective actions can be identified and implemented. To be effective the service monitoring program must be tailored to the MBTA organization structure and management responsibilities within that structure.

The MBTA is governed by a nine member Board of Directors chaired by the Secretary of the state's Executive Office of Transportation and Construction. The Board appoints a General Manager, who is the MBTA's chief executive officer. Figure 1.5 shows the MBTA's organizational structure as of July 2005.

There are two positions in the first tier of the chain of command with the most direct responsibility for provision of accessible fixed route services, the Chief Operating Officer and the Assistant General Manger of Design and Construction. The Chief Operating Officer is responsible for operation of all modes of transportation service, design and maintenance of equipment and maintenance of facilities including passenger stations. The Assistant General Manger of Design and Construction is responsible for design and construction of all facilities including passenger stations.

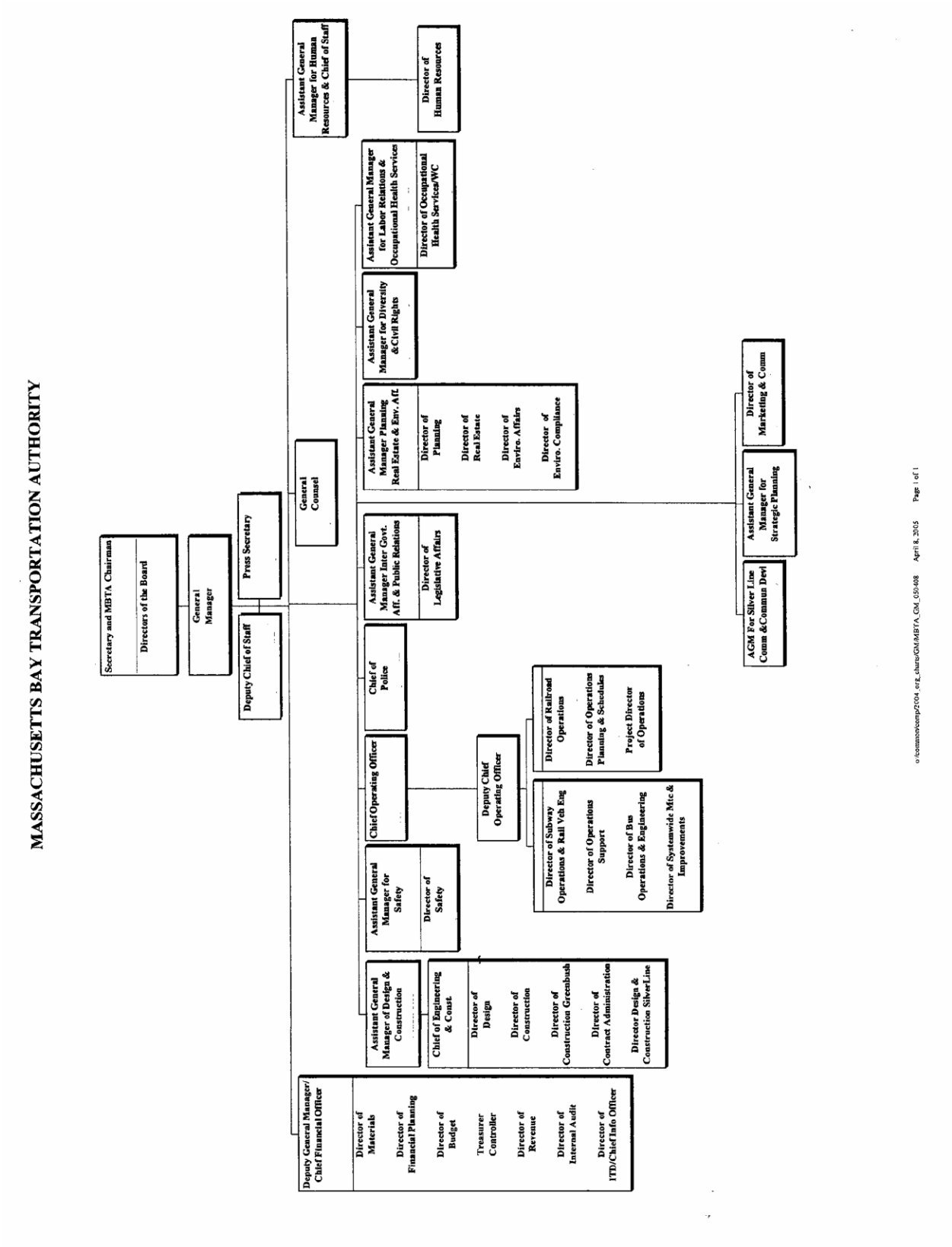


Figure 1.5 MBTA Organization Chart

In large organizations, such as the MBTA, the elements, or inputs necessary to effectively achieve performance objectives (or output) must be carefully identified. Each input must in turn be assigned to the manager within the organization who has the greatest control over successfully achieving the objective for that input. For example, to achieve the goal of on-time performance, the transportation manager has the greatest control over managing the operators to perform on time. For the transportation manager to be successful he/she must have adequate reliable vehicles to operate service on time. The person with greatest control over vehicles (an input to transportation operations) is the vehicle maintenance manager.

For independent measurement of service performance it is also desirable to have an organizational separation of responsibility for performance and performance measurement. A typical example is the audit function in most organizations. As an oversight function auditors often report to the governing body, such as the Board of Directors, or to a different department than the departments being audited.

In most complex organizations, including the MBTA, there is a tug of war between two competing organizational structures. In line organizations, managers have broad responsibility for achieving organizational goals within a defined area of the operation. As an example of a line organization, in the July 2005 MBTA organization, Subway Operations included transportation, maintenance, and control center functions—all the necessary functions to provide excellent service for the subway and extensions. Following are the line organizations of concern:

- Red Line
- Orange Line
- Green Line
- Blue Line
- Silver Line
- Commuter Rail
- Bus Operations

In functional organizations, managers have responsibility across all areas of operation for performance in areas of professional discipline such as facilities engineering, equipment engineering and operations. Within the MBTA an example of a functional organization is the Office for Transportation Access which is responsible for accessible transportation services over all of the modes. Most organizations are structured to have elements of both the line and functional models. The relative strength of the different models says something about the priority assigned to the function being represented.

As relates to achieving goals for accessible fixed route transit service there are four primary functional areas of responsibility:

- Transportation operations
- Facilities maintenance
- Vehicles maintenance
- Customer services

Transportation operations include three major activities or functions of importance to performance measurement:

- Operation or delivery of service—In addition to providing the basic rapid transit, light rail, commuter rail and bus service, operations includes deployment of lifts and ramps, curbing of buses, use of kneelers, and assisting customers – including securing wheelchair tie-downs;
- Inspection – This performance monitoring activity is necessary to assure that condition of vehicles and facilities are sufficient to permit transportation operating personnel to deliver effective service; and
- Customer communication – Operating personnel are the primary contact for most customers. Principal points of transportation communications with customers are through public address (PA) variable message systems (VMS) announcements from central dispatch, guards on the trains for PAVMS or verbal announcements, station agents for answering questions, and bus operators for PAVMS or verbal announcements and to provide customer assistance.

Personnel in Transportation Operations make up the largest group of employees at the MBTA, as these people bring the service to the customers. Backgrounds vary, since the major responsibility is to be able to drive a bus or train, and/or to be able to open train doors and ensure passenger safety. All of Transportation Operations falls under the Chief Operating Officer.

Facilities maintenance managers are typically drawn from architectural and engineering design or construction disciplines and are responsible for maintaining all facilities and fixed equipment in good repair. Responsibilities include stations, elevators and escalators, fare collection, and communications equipment. Three activities performed to fulfill these responsibilities are:

- Inspection – Periodic, scheduled inspection of facilities and equipment,
- Preventive Maintenance – Periodic scheduled preventive maintenance of equipment
- Repair – Repair of inoperable equipment and defective elements of facilities.

Facilities maintenance falls under the Chief Operating Officer.

Vehicle Maintenance managers, like facility managers are typically drawn from applicable engineering or trade disciplines. Also, like facilities managers, equipment managers' basic responsibility is to maintain all passenger equipment, including lifts, ramps, PAVMS, and wheelchair tie-downs in good repair. Inspection, preventive maintenance and repair are the three principal activities that must be performed to meet performance goals.

Customer Information – Essential to effective use of service, particularly for people with vision and hearing disabilities is good communication. Goals of effective communication are providing customers with accurate, current information needed to successfully use the transit system, using those method/s or media that are most effective in reaching the target markets in a timely fashion. Customer communication activities are spread between several Departments within the MBTA as follows:

- Transportation Operations – Direct communications with customers which address real time service conditions. As mentioned previously, the principal points of transportation communications with customers are through public address (PA) VMS variable message systems (VMS) announcements from central dispatch, guards on the trains for PAVMS or verbal announcements, station agents for answering questions, and bus operators for PAVMS or verbal announcements and also providing customer assistance. Operations fall under the Chief Operations Officer.
- Telephone Call Center – Both the call center and internet are means of providing real time service information and schedule, route, fare and other information needed to use service. The call center falls under the Director of Operations Planning and Schedules, who reports to the Chief Operations Officer.
- Internet – The MBTA's web site is an effective way of providing information on all aspects of MBTA services for those with internet access. The web site is managed through the Operations Control Center which falls under the Chief Operations Officer.
- News Media – The news media is a good tool for communicating planned service changes. Dealing with the news media falls under Public Affairs which reports directly to the General Manager.
- Publications – Schedules, route maps and brochures are all excellent tools for describing MBTA services and how to use them. This area falls under the Director of Operations Planning and Schedules under the Chief Operating Officer.
- Public Meetings – Meetings are good for communicating proposed plans and programs and soliciting public input on existing or proposed MBTA services, programs or plans. Public meetings are the responsibility of whichever department is soliciting public input.
- Marketing Programs – Marketing or promotional programs can be effective in increasing transit use by making customers aware of existing services, promoting service benefits and encouraging use of the services by the public.
- Signage - Fixed signs in stations and at stops and vehicle signs provide basic communication. Maintenance of these signs is typically the responsibility of the facilities and passenger vehicle managers. These fall under the Chief Operating Officer.
- Customer complaints: There is a customer communication telephone line maintained by the Department of Marketing and Communications. On the MBTA web page, customers can also provide commendations and complaints. Customer comments are also received by the Department of Marketing and Communications, which provides a monthly summary report on complaints by type. Complaints are forwarded to responsible departments to be investigated. In addition, the web page provides a way for customers to send emails to the line managers through the "write to the top" program. Complaints from persons with disabilities could go to the line manager or to the Office of Transportation Access which will then send the complaint to the appropriate line manager. It is not clear that the "write to the top" complaints are compiled in a systematic way.

An observation from an examination of the organizational context of the MBTA (as shown in Figure 1.1) is that service performance is concentrated in strong line organizations, all reporting to the Chief Operations Officer through a Deputy Chief Operations Officer. This allows for clear lines of responsibility in as far as getting the service on the street. However, customer

information and communication is spread through several departments; this lack of concentration probably reduces the ability of the MBTA to respond to customer concerns.

Current Monitoring Procedures and Practices

Responsibilities

Based on the MBTA organization chart of July 2005, responsibilities for transportation service delivery, facilities maintenance, equipment maintenance are delegated to the Deputy Chief Operating Officer through the Chief Operating Officer. The responsibilities are further delegated to two groups, transit operations and railroad operations. Transit operations responsibilities are divided as follows: bus transportation and equipment are the responsibility of the Director of Bus Operations and Engineering. Rapid rail and light rail transportation and equipment are the responsibility of the Director of Subway & Rail Vehicle Engineering. Responsibility for transit facilities maintenance is divided between the Director of Operations Support and the Director of System-wide Maintenance and Improvements. The Director of Railroad Operations is responsible for commuter rail transportation, vehicles and equipment.

Fixed Facilities – Overall responsibility for facility maintenance belongs to the Operations Department. Within the department the responsibility is split between the Railroad Operations Director and, for transit services, the Director of Operations Support and the Director of System-wide Maintenance and Improvements. The Director of Operations Support is responsible for buildings, structures and power systems. The Director of System-wide Maintenance and Improvements is responsible for cleaning facilities, signals and communication and right-of-way maintenance. Responsibility for maintenance of railroad facilities falls to a contractor for railroad operations. Monitoring is done by the contractor with MBTA Railroad Directorate oversight. Responsibilities for some transit facilities maintenance falls further to managers and contractors who report to the Director of Operations Support and the Director of System-wide Maintenance and Improvements. Responsibility for warranty elevator work appears to fall within the Construction Directorate.

Vehicles – Responsibility for vehicle maintenance is divided among three Directorates within the Operations Department. Commuter rail vehicle monitoring and maintenance is the responsibility of the commuter rail service contractor and is performed under the oversight of the Railroad Operations Directorate. Vehicles are inspected and maintained at Southampton Yards for service operated from South Station and the Boston Engine Terminal for vehicles operated from North Station. Rapid and light rail equipment maintenance is the responsibility of the Subway & Rail Vehicle Engineering Directorate and bus maintenance is the responsibility of Bus Operations and Engineering Directorate. Rapid and Light Rail vehicle inspection and maintenance is primarily performed at the maintenance facilities for each of the lines: Blue Line – Orient Heights, Green Line – Reservoir & Riverside, Orange Line – Wellington, and Red Line – Cabot. Bus inspection and maintenance takes place at the MBTA's bus garages. Vehicle Maintenance Supervisors at each of these facilities are responsible for maintenance of the vehicles assigned to the facility.

Public Communications – The transportation staff in the Operations Department necessarily have responsibility for face to face communications with customers while providing service. In

the Railroad Operations Directorate this staff includes conductors, ticket agents and others working for the contractor who provides commuter rail services. Operators and station personnel in the Subway & Rail Vehicle Engineering Directorate, and drivers and starters in the Bus Operations and Engineering Directorates also have customer communication responsibilities. These responsibilities include announcement of stops to passengers, route announcements to waiting passengers at stops shared by more than one route, customer assistance with directions or other information to assist in using the service, and reporting service conditions.

The Operations Department is also responsible for PA and PAVMS announcements which are made in stations by a PA announcer located at the Operations Command Center. The PA announcer reports out-of-service elevators as well as other service disruptions.

Maintenance of the MBTA's web site is performed by a contractor who also reports to the Operations Department. Web information includes out-of-service elevators, service disruptions; route and schedule information, and information on the MBTA and its programs.

The Operations Passenger Services and Schedules Department includes the Customer Telephone Center and the Office for Transportation Access (OTA). OTA manages the senior and transportation access pass program, the Call-A-Lift and travel training programs. OTA is responsible for maintaining a liaison with the Access Advisory Committee and participating in other meetings with disability groups. OTA also receives and forwards customer complaints that it receives related to accessible services. In addition, the OTA manages the stop announcement monitoring program.

The Marketing and Communications Department is responsible for customer telephone communication, customer correspondence, pass sales, distribution of schedules and transit service literature, marketing programs, and advertising sales. The Public Affairs Department is responsible for media communications, preparation of flyers for service changes and responding to customer inquiries.

Performance Monitoring

Performance monitoring normally occurs at three levels and can sometimes occur at a fourth. These levels are: consumer oversight, daily transportation inspections of vehicles and facilities, and periodic preventive maintenance inspections. The fourth level is special audit, which can be performed by the MBTA Audit Department or by a contractor or other outside party.

Consumer Oversight - The ultimate measure of service performance is the quality of service delivered to customers. A basic level of performance monitoring is customer complaints. Although customer complaints may be received at a number of points in the MBTA organization, principal responsibility for logging and tracking complaints belongs to the Marketing Communications Department. Complaints are forwarded to the responsible manager for response with a goal of issuing a response to the customer within 15 days. Note that the "write to the top" complaints may not be included in the Marketing Communications Database.

Another customer-oriented method for monitoring performance is the use of mystery riders. Volunteer or paid travelers ride the system and record observations in a methodical fashion. The customer based approach has the advantage of capturing observations of the operator as well as vehicles and facilities. The OTA Department conducts a mystery rider program to monitor stop and route announcements throughout the system.

Daily Transportation Inspections - Rapid rail and light rail stations are inspected by transportation inspectors one to three times per day. First shift inspectors, who are assigned to several stations, inspect the stations at the beginning of the service day. Second and third shift inspectors inspect stations at the beginning of their work shift. The purpose of these inspections is to assure that facilities are in good working order for use by the public.

The elements of the stations that are inspected are indicated on daily station reports. All inspections occurring during the day are recorded on one form. The forms include elevators and public address system. Sub-elements for elevators include cleanliness, lighting, alarm and intercom. Upon completion of inspections and daily reports, problems are reported by radio to the MBTA's Maintenance Control Center (MCC). The daily reports are kept in the Inspector's Office during the day and at the end of the workday are submitted to the Line Supervisor's Office where the reports are stored. Similarly, MBTA transportation personnel inspect vehicles before they are placed in service on a daily basis.

Commuter rail station inspections are made by contract personnel at approximately two-week intervals. MBTA staff inspections are conducted for contract oversight and are less formal and less frequent.

Periodic Preventive Maintenance Inspections – Preventive Maintenance Inspections (PMI) are performed periodically on components of facilities and vehicles by maintenance staff in each line department.

Special Audits - The MBTA undertakes special performance and operations monitoring efforts, such as this one, either through consultants or with MBTA's Audit Services Department staff. These special audits are typically undertaken in response to a unique concern.

Issues related to facility accessibility are also directed to the MBTA's Accessibility Specialist for investigation and resolution. Issues may be identified from customer complaints, input from AACT and AAB, FTA ADA Station reviews, or other sources.

General Observations and Recommendations

As will be discussed in following sections, the issues that have been the most concern to customers with disabilities touch many of the line departments and functional areas at the MBTA. These issues are:

- Reliability of elevators and escalators at subway and commuter rail stations and reliability of information on elevators and escalators that are out of service;
- Reliability of portable lifts on the Green Line;

- Reliability of lifts on buses;
- Consistent stop and route announcements;
- Drivers bypassing persons in wheelchairs, not employing the lifts or kneelers when needed, or not securing mobility aids correctly when needed.

Some general observations follow related to the *organization* of the MBTA departments and what might help to clarify responsibilities for the issues of most concern.

Elevators: Responsibility for station elements under warranty, such as elevators, appear to be the responsibility of Construction Directorate staff members, who are responsible for the contracts for installation and warranty work. Operations Support staff, which is otherwise responsible for facility maintenance does not appear to be responsible for equipment under warranty. Whereas performance of these warranty items is essential to the operations goal of service provision but secondary to the Construction Directorate goals of designing and building facilities, it is recommended that inspection and maintenance of items that are under warranty be overseen by the appropriate Operations Department. In the case of elevators it is recommended that the Operations Support Manager of elevator maintenance be responsible for all MBTA owned and operated elevators including those under warranty. For purpose of fulfilling this responsibility, if other managers in the engineering and construction department are responsible for warranty compliance they should report to the Operations Support elevator manager with respect to elevator performance.

Monitoring and reporting on out of service elevators is inconsistent, as discussed in section 1.4. Reporting appears to rely on input from multiple parties including customers, station inspectors and the maintenance contractor. Often the result is inaccurate and/or out of date information in Maintenance Control or Reporting System (MCRS). Similarly, information in MCRS does not appear to be communicated in an accurate and consistent way to public information providers. In addition, the maintenance contractor does not report scheduled preventive maintenance, which can require the elevator be removed from service during operating hours. The public information line may not be updated in a timely way once the maintenance contractor completes work and puts the elevator back in service. Finally, the maintenance contractor information is not always consistent with other information on elevator status.

To improve the flow of information it is recommended that all changes in elevator status be confirmed in a timely manner by MBTA field staff, specifically the Transportation Inspector.

It is also recommended that all information on elevator status, including daily inspection reports by Station Inspectors and reports from the maintenance contractor, including scheduled maintenance, should be reported through the Maintenance Control and Reporting System (MCRS) in a timely fashion and the elevator status should be updated in the MCRS.

Lastly it is recommended that real time reports that identify elevator status through the MCRS be developed and made readily available to MBTA public information staff. The MBTA should consider exporting a report directly from the MCRS to the MBTA website with frequent updates to provide the most current information on elevator service possible. The web site report could in turn be used to update the elevator hot line, used for PA announcements in stations and used to

update trip planning software, which in turn could be used by customer service agents and MBTA operators to advise customers of alternate routes. In the short term MBTA public information staff should frequently (30 minute intervals) check elevator status reports in MCRS and confirm that elevator hot line and web information on elevator status is consistent, current accurate.

To implement these recommendations, the following changes in information flow are proposed.

- All reports of inoperable elevators be reported to the Maintenance Control Center and recorded in MCRS as a "reported" inoperable elevator;
- All reported inoperable elevators be directed to the on-site transportation inspector for confirmation of status;
- All changes of rapid rail and light rail elevator status from operable to inoperable or vice versa be made only based on inspection by the Transportation Inspector;
- Confirmation for commuter rail elevator status change be made only by the MBTA Railroad Operations Department contract monitor;
- All planned elevator inspections be reported by the elevator maintenance manager in MCRS.

Confirmation of change in elevator status by the Transportation Inspector on site can both alert the Inspector to a change in the status of the elevator and avoid unnecessary deployment of maintenance personnel if the elevator is operating.

Similarly, when an elevator is scheduled for maintenance by the maintenance contractor the period of maintenance should be reported to the MCC, recorded in MCRS so the maintenance performance can be tracked. Information on scheduled maintenance could then be shared with the PA announcer so the period of elevator outage can be announced on the Hot Line and Web Site (i.e. the inbound elevator at Kendall/MIT will be out of service for maintenance between 10:00 AM and 2:00 PM). Finally, the information should be communicated to the Inspector so he/she is aware of the status of elevators in his/her area of assignment and can assist customers accordingly.

When elevator repairs and maintenance are complete, they should be recorded in the MCRS system in a timely manner and the MCC should confirm the status of the elevator as operational with the Inspector. Again this will facilitate timely updates to public information through the Hot Line, Web Site and Inspectors.

In the short term, heightened focus on clear communications between the Inspectors Maintenance Managers and Maintenance Control Center and Public Information staff can help to address the problem. In the long term the MBTA may wish to use a more automated procedure to capture the valuable data collected by Inspectors during station inspections.

To improve the accuracy of reporting by eliminating the error associated with oral communication and the time required for radio communication and to provide easy access to affirmative inspection results rather than just reported exceptions or problems, it is recommended that Transportation Inspectors record inspections electronically on personal data assistants (PDA)

in an MCRS compatible format and transmit the reports wirelessly to the MCRS upon completion of the inspection. The direct data entry would limit errors associated with communicating the information and the labor effort of recording it more than once and should result in more accurate and consistent reporting. Additionally, the electronic PDA reports will provide a record affirming station elements that pass inspection rather than limiting the reports in MCRS to exceptions, or station elements in need of attention. This approach will provide more complete reports on station status.

It is also recommended that an MCRS report on elevator status be developed for transmittal to the MBTA web site to provide real time reports on the status of MBTA elevators. The web report could in turn be used by all MBTA public information personnel to provide current and accurate information on the status of MBTA elevators. Similar reports on service could also be provided such as escalator service, parking availability and service delays. Similarly, the MCRS reports could be developed to provide automatically updated voice status reports for the elevator hot line. Such an approach would minimize or eliminate miscommunication of information on elevator status.

With regard to elevators at commuter rail stations, inspection is less frequent than in the subway and rapid transit system. Contract personnel make commuter rail station inspections approximately once every two weeks. MBTA staff inspections are conducted for contract oversight and are less formal and less frequent. Commuter rail station elevator maintenance is either the responsibility of the Operations Support Directorate or other agencies. When problems are identified with elevators, there appears to be no mechanism for daily inspection of elevators at commuter rail stations and for tracking the status of elevators at stations not owned by the MBTA. Accordingly, it is suggested that the Commuter Rail Directorate adopt a procedure for tracking and reporting the status of elevators and other deficient elements of stations owned and or maintained by other departments or agencies.

The MBTA should develop a procedure for regular (daily) inspection of all commuter rail elevators, including those for which other entities have maintenance responsibility, and a procedure timely reporting to MBTA public information staff and the responsible entity the status of all elevators at commuter rail stations served by the MBTA**.** The MBTA might consider a methodical, tiered inspection of stations with major stations (North, South, Back Bay and Route 128) and stations with elevators inspected daily, and medium and small stations inspected at greater intervals. Also, if MBTA staff use the same station inspection forms used by the contractor that would permit a comparison with the contractor's most recent inspection form and serve as a good tool for contract oversight and evaluation of the condition of the station.

Portable Lifts on the Green Line: Currently, most accessible Light Rail stations require the use of portable lifts. Portable lifts at all accessible stations should be cycled daily by Transportation Inspectors to assure that they are in good operating order. Inoperable lifts should be recorded in daily station reports and reported to maintenance staff for repair or replacement in a timely manner. Portable lifts should be stored in designated areas at stations, with the areas selected to provide ease of use and to avoid blocking pathways.

Lifts on Buses: The procedures for inspection of vehicles appear to be effective in identifying problems. However, the reporting of information on use of buses with inoperable lifts in service appears insufficient to identify whether or not buses with inoperable lifts were used in service when other buses were available or whether buses with inoperable lifts were used in service for more than three days. Reporting information on use of buses with inoperable lifts will be further discussed later in this report.

Public Communications: A challenge in providing effective customer service is provision of accurate, clear and timely information on transit service. This challenge increases with the number of points of contact for obtaining service information. Of necessity, transportation staff on vehicles and in stations provide information including stop and route announcements, as an element of customer service. Other points of customer information include Operations Department PA Announcements, web site, the Customer Telephone Center and the Office for Transportation Access. Outside of the Operations Department the Marketing and Communications Department and the Public Affairs Department are responsible for customer communications. Consolidation of customer communications, other than field communications by transportation personnel, can provide customers with one point of contact for information and facilitate provision of accurate, clear and timely information on transit service.

To further enhance the timeliness and accuracy of public information it is further suggested that all public information that lends itself to reporting in electronic format (such as elevator status reports) be reported on the MBTA web site. Not only will this approach provide consistent, accurate real time information to customers with internet access but also will provide the same information to MBTA telephone operators and all customer information staff.

Because complaints are accepted by many different departments in the MBTA it is not clear that they are all recorded in the Marketing Communications Department log. It is recommended that all customers who have a service comment be directed to the Customer Relations in Marketing Communications to properly log the complaint. Alternatively, if others accept complaints, a mechanism (such as a form) should be provided to facilitate proper logging of the complaint. It does not appear that complaint data is specifically used to identify and correct service problems. It is recommended that complaint information be analyzed periodically by Customer Relations staff in Marketing Communications to identify service problems and/or trends.

Role of the Office for Transportation Access (OTA): As noted above, the OTA's Fixed Route Office manages pass programs for seniors and riders with disabilities. It also manages the stop announcement monitoring program and is the MBTA's primary liaison with the AACT on issues related to fixed route accessibility. OTA also handles customer comments and complaints that come directly through the MBTA's web page (under "write to the top" and other routes). Typically, OTA will send a complaint involving a line department to that department for processing.

Given the organizational structure of the MBTA, OTA's Fixed Route Office has little real authority to implement changes within the line departments or to affect changes in operations related to accessibility. This authority rests with the Supervisors in each of the line departments.

OTA is in a position to assist in monitoring compliance with accessibility standards and requirements across all modes. It also is in a position to assist and provide technical assistance to line department Supervisors on accessibility issues.

To clarify the responsibilities for meeting accessibility standards and requirements within the agency and the proper role of OTA, it is recommended that:

- The MBTA General Manager make it clear that line department Supervisors are responsibility for meeting accessibility standards and requirements within their departments;
- Line departments also should be responsible for the timely and thorough investigation and handling of customer complaints related to service provision within their department;
- Line departments should be responsible for implementing systems and processes for ensuring that accessibility standards and policies are being implemented effectively;
- OTA should serve as a resource to the line departments to provide technical assistance in addressing accessibility issues and in helping the agency set future directions regarding accessibility across all modes;
- OTA should be given the responsibility to track and report on accessibility within each line department. Line department Supervisors should be directed to cooperate with OTA in gathering and reporting information necessary for this tracking to take place;
- OTA also should serve an "external monitoring" function outside of the line departments. It should undertake monitoring activities to verify compliance with accessibility standards, such as the stop announcement program it now manages. Additional external monitoring activities suggested later in this memorandum should also be managed by OTA. This should include additional monitoring of lift, ramp, kneeler, and securement systems use, monitoring of the implementation of appropriate disciplinary actions by each line department, and random checks of elevator and escalator operation;
- OTA should continue to be the primary liaison with the AACT. Line department Supervisors and staff should also be required to interact with the community, report to AACT as requested and respond to issued raised by AACT.

Whereas OTA fixed route staff's primary functions relate to customer service, it is recommended that the MBTA consider moving the fixed route portion of this office from operations and placing it in either the Customer Service Support Center or the Office for Systemwide Accessibility. This would permit OTA to pursue service improvements on behalf of customers with, but independently of, operating departments.

Additional Monitoring Plan Recommendations

In addition to the organizational observations and recommendations above, the Plan contained several recommendations for strengthening the monitoring of stations and elevators, bus lifts, ramps, kneelers and wheelchair securement systems, and customer service and information. The major recommendations are summarized below. The full discussion of monitoring in each of these areas is contained in the Monitoring Plan (Technical memorandum #6).

Stations & Elevators

In order to assure that preventive maintenance is performed on schedule, the Monitoring Plan recommends that all scheduled and actual elevator PM inspections and service be entered into MCRS, or other tracking system, by the appropriate Operations Support Manager. For clear and accurate public communication, the day of scheduled maintenance should be entered and the period within which the PM will occur should be entered. When the PM is completed and verified by the Operations Support Manager the date of performance should be entered. The Operations Support Manager should include random field inspections of the elevator repairs as they are being performed by the elevator maintenance technicians as part of the verification process. The results of these random inspections should be recorded. (¶ 67) If an elevator is removed from operation during service hours the time of removal and time of return to service should be entered by the Transportation Inspector or other responsible field personnel. (¶ 61) A possible means of tracking PM performance is a monthly report. A sample report is presented in Technical Memorandum #6. If PM is not performed on a monthly basis as required by the contract appropriate penalties can be assessed the elevator maintenance contractor.

To more precisely monitor performance and more quickly identify delays in response which, when addressed, can help minimize elevator down time or other problems, the Monitoring Plan recommends that more accurate and detailed monitoring and tracking of elevator status be performed and recorded. Recorded information should include times and dates of each action from initial reports of inoperable elevators to restoration of operation in MCRS. This can be accomplished by more closely tracking reported elevator problems. It is recommended that for each reported problem the following information be entered into MCRS or other central data base for tracking elevator status:

- Elevator identification
- ID of reporter
- Date and time of report
- Date and time of field confirmation by Transportation Inspector or Railroad Operations Oversight staff
- Date and time of service request
- Date and time work order issued
- Date and time work order closed
- Date and time operation of elevator confirmed by Transportation Inspector or Railroad Operations Oversight staff.

A monthly report such as the suggested elevator repair log presented in Technical Memorandum #6 should be generated from MCRS or other tracking system data to more precisely identify time elevators are out of service; help to identify any delays in response times for inspection and repair, and identify problem elevators.

To further reduce service interruptions, PM inspections and service should be scheduled in a manner to minimize the impact of any gaps in service and should occur when alternative accessible transportation is available to passengers needing to use elevators. (¶ 53)

To consistently measure facility maintenance against performance objectives for all MBTA rail services, the Monitoring Plan also recommends that a standard inspection form be developed for general inspections for use in all MBTA rapid rail, light rail and commuter rail stations. A two part form would be helpful in assuring consistency of reporting while also addressing custom elements of stations. Part 1 of the form would include all station elements common to all stations and part 2 would be customized to include elements unique to specific stations. It is further recommended that this form be used for all general inspections and contract oversight inspections thereby facilitating consistent measurement of performance between rapid and light rail and railroad operations as well as contractors and MBTA oversight staff.

To readily track and report performance, the form should be structured to be compatible with the MBTA's Maintenance Control and Reporting System (MCRS) and the Commuter Rail Directorate's counterpart to MCRS. This should facilitate entry of inspection results into these systems.

For clarity of communication and tracking of needed repairs, the form should also be structured to directly correspond to departmental responsibilities for maintenance of each station element such as elevators and communications systems.

For stations with elevators and or portable lifts, the Monitoring Plan recommends that the following elements be added to the inspections:

- Elevators – In addition to operation, lighting, cleanliness and emergency communication it is recommended that elevator communication elements needed by people who have vision or hearing disabilities be inspected. These elements include call buttons and elevator arrival and direction indicators.
- Portable lifts – Provision for recording the results of cycling portable lifts should be added to the form.

As addressed in the general observations it is recommended that all information on elevator status come from, or be confirmed by, responsible MBTA field personnel (Transportation Inspectors and Railroad Operations oversight personnel, Customer Service Agents, or others). Accuracy of information in MCRS on elevator status can further be enhanced by direct data entry by Transportation Inspectors using PDAs. Similarly, consistent communication of elevator status data could be improved by uploading automated elevator status report updates from MCRS or other central database onto the MBTA web site and, in turn, using the web site data for all other public communications. (¶ 61) A sample format for public information on the website is provided in Technical Memorandum #6. Railroad elevator outages should be reported through MCRS, or by similar means, to the web site staff. (¶ 61)

To facilitate tracking and reporting progress on the status of corrective actions it is recommended that inquiry access to the MCRS be provided customer service staff and the MBTA's Accessibility Specialist. Such access will provide real time information needed by customer service staff and save staff time by avoiding phone calls e-mails or other inter-departmental communication to obtain the needed information.

Bus Lifts, Ramps, Kneelers and Wheelchair Securements

In order to better monitor compliance with the requirement that buses with inoperable lifts and ramps be used when other vehicles are not available and that in no circumstances should buses with inoperable lifts/ramps be used in service for more than 3 days, the Monitoring Plan recommends that the MBTA consider developing reports that identify the reported request date for lift/ramp service and use of the vehicle (mileage) for each day from the service request. Sample suggested reports are provided in Technical Memorandum #6.

Although it is the MBTA's practice to check the PA system during pull-out, this information is not included on the "Vehicle Condition Report." The Plan recommends that PAs specifically be added to the report to reinforce the importance of their inspection. Also, a potential impediment to the use of buses by people who use wheelchairs is broken wheelchair securements on the buses. The Plan recommends that securement systems also be added to the Vehicle Condition Report to emphasize its importance to accessible service.

The Monitoring Plan also recommends that the Vehicle Condition Report be modified to include the odometer reading at the time of the vehicle inspection by the driver. It also recommends that PA and VMS be added to the "First Seat Check." (¶ 36)

To assist the Maintenance Supervisor in assigning vehicles with inoperable lifts for use in service, the Plan recommends an MCRS real time report that identifies vehicles with open service requests, or work orders, by date and the date a lift is reported as inoperable, and service is requested, the date of repair and the date & times that a work order was issued and the vehicle was dispatched into passenger service. This report should be developed for each garage. Miles traveled or odometer readings could be used as a proxy for use in service. (¶ 6)

The Plan also recommends that the MCRS monthly report on wheelchair lift service requests be revised to include a column identifying the days that buses with open service requests are used in service prior to repair. (¶ 7) Monthly reports identifying buses with disabled lifts/ramps and the days they were used in service should be provided managers to identify and correct problems with inoperable lifts/ramps.

It is also recommended that a monthly performance report be prepared to identify use of vehicles with inoperable lifts/ramps in service. Each garage should use the report daily to report peak vehicle requirements, vehicles available for service, vehicles not available for service, including those with inoperable lifts, vehicles with inoperable lifts and the number of vehicles with inoperable lifts used in service.

To ensure that buses with inoperable lifts be used in service only if no other bus is available, the Monitoring Plan recommends that daily reports that identify buses with inoperable lifts and buses with inoperable lifts/ramps that have been used in service should be provided to pull-out dispatchers. With this information the dispatcher can seek buses with operating lifts/ramps and withhold buses that have been used for more than 3 days from service.

To ensure that lifts, ramps, kneelers, securement systems and other accessibility features are used appropriately in service, the Monitoring Plan recommends that the MBTA Bus Operations Vehicle Operations Manual be updated to explicitly include requirements with respect to driver assistance to passengers who need to use lifts or ramps to board a bus, including the following:

- Drivers always kneel the low-floor buses when deploying ramps;
- Drivers always curb buses whenever possible when boarding or alighting riders who are using the lifts or ramps;
- Drivers be alert for passengers waiting at bus stops who use wheelchairs who may be located near, but maybe not right at the stop;
- Drivers assist riders getting on and off lifts or up and down ramps when requested or when the assistance appears to be needed. Before providing this assistance, drivers should be instructed to ask the passenger if they would like assistance;
- Drivers always manually deploy ramps if the automatic deployment feature fails; and
- Drivers always notify BCC when lifts fail in service or when they are otherwise unable to serve a rider using a wheelchair who is waiting at a stop.

Once these new policies have been adopted, the MBTA should implement a retraining program to insure that drivers understand what needs to be done to serve customers needing lifts, ramps or kneelers. Also, due to the number of complaints about the lack of professionalism of the drivers, retraining should also emphasize appropriate behavior towards customers with disabilities.

It also is recommended that the MBTA develop a progressive disciplinary policy related to compliance with these policies.

In addition, the Monitoring Plan recommends that the stop announcement "secret rider" program be expanded to monitor appropriate use of lifts, ramps, kneelers, bridge plates and securement systems. Riders who use wheelchairs and who regularly use the system should be hired as monitors to supplement the monitors currently working on the stop announcement program. These monitors should be tasked to observe aspects of driver performance related to lift, ramp, kneeler, and securement system use. This includes observing whether drivers stop for passengers with disabilities waiting at stops, whether the bus is pulled to the curb, whether the lift or ramp is properly deployed, whether the passenger is properly secured, and whether the driver is professional and polite in dealing with passengers with disabilities. It is suggested that the monitoring program focus on fixed route bus accessibility for a week out of each quarter (¶ 13, 39). A suggested form to be used for this monitoring is provided in Technical Memorandum #6.

The Plan also recommends that the MBTA undertake a monitoring program of the progressive disciplinary actions taken to insure proper service to customers needing lifts, ramps or the kneeler. This could be included as part of the monitoring program for disciplinary actions regarding stop and route announcements to be discussed later.

Finally, the Plan recommends that the MBTA consider adding safety and surveillance camera systems to its buses that can observe both inside and at the curb. Cameras would not only provide better security for the buses, but would also be able to provide documentation on the use

of vehicles by people with disabilities. If there were a dispute as to whether a bus bypassed a wheelchair at the stop, the cameras would be able to document the truth. Such camera systems also could help with overall safety and security. They also could be used in accident investigations and to monitor safe driving skills.

Customer Service & Information

Public information is a large concern for riders with disabilities. As seen by the input from analysis of complaints and from the public meetings, inconsistent stop and route announcements and inaccurate information on elevator outages are of particular concern. The following recommendations were made to address issues in these two areas.

Stop & Route Announcements

The Monitoring Plan notes that the MBTA's stop and route announcement program provides good information to the MBTA on how it is doing in meeting the ADA requirement that there be stop and route announcements. However, the major improvement in bus announcements has resulted from the use of automated announcement systems, which for the first time have allowed one garage to exceed 90 percent performance of announcements. The MBTA should reconsider its performance goal for stop announcements. A goal of 100 percent with an objective of 97 percent performance is suggested.

A problem with the monitoring of drivers with poor performance is that as the PAVMS systems are added to the fleet, the monitoring program is not able to gauge driver performance efficiently. If a particular poor performing driver is being tracked, the observation will have to be repeated until the driver is assigned a vehicle without a PAVMS.

Instead of focusing the monitoring program, therefore, on poor performing drivers, the Monitoring Plan recommends that the MBTA emphasize the random selection of routes for monitoring, so that comparisons by garage and by rail line can be made more representative.

Although it is recommended that the MBTA focus less on drivers who are poor performers, the MBTA should ensure that its progressive disciplinary program is being properly applied. It is recommended that the OTA or another customer service department at the MBTA undertake an independent quarterly assessment of disciplinary actions taken as a result of the prior quarter's monitoring program, including both stop and route announcements and proper deployment of lifts, ramps and kneelers. First, a random sample of those drivers who failed in the monitoring program should be taken. The personnel records for these drivers should be checked to determine if they were appropriately disciplined as a result of the monitoring program, and a report made of the degree to which the disciplinary process is being applied. (¶ 35)

Service Announcements

The Monitoring Plan notes that a key issue with regard to accessible path of travel interruptions is inoperable elevators. When elevators are inoperable, current information on elevator status

and alternative routes is essential for customers who are dependent on elevators to complete their trip. Accordingly, accurate and timely information on elevator availability is necessary for the transit system to be accessible and usable by many people who have disabilities.

The Plan identifies two issues for improving the elevator maintenance communication. The more critical is to insure that accurate information on elevator outages gets to the phone Update Line and the Web pages. The missing information may have occurred because the elevator went out just before the 10:00AM inspection, so that the Web and phone line were not updated. Alternatively, there could have been a breakdown in communications some where between the Inspector and the PA Announcer and SmartRoutes employee. The MBTA's plan for the PA Announcer to initiate more frequent updates should reduce the number of times that the customer information is inaccurate due to a delay in reporting of outages.

To the extent that the MBTA can use technology to improve communication, that should provide more real-time information for updating elevator status. For example, if inspectors can use a portable device such as a PDA to record problems with elevators, and immediately upload the information to the MCRS, inaccuracies due to the need to recopy information would be eliminated.

The second issue is for the MBTA to establish a procedure to update the phone Update line and the Web when an elevator is repaired.

The Monitoring Plan notes that the MBTA is planning to implement a revised program to notify customers of out of service elevators. The Operations Control Center (OCC) proposes to have the PA Announcer review the MCRS every half-hour during the service day to check for changes in the status of elevators and incorporate those changes into elevator PA announcements, hot line lists and websites as is currently done. To minimize potential for communication error, the Monitoring Plan recommends that the MBTA update the information on elevator outages on its web site directly from MCRS information. The information on the web site could in turn be used by customers accessing the web site, the PA announcer for making announcements and updating the elevator Update Line, and by station attendants and telephone operators in providing information to customers. Initially the SmartRoutes contractor could review MCRS every half hour and manually update the MBTA web site. In the long term the web site could be programmed to provide automated real time data by uploading reports from MCRS. (¶ 61)

The MBTA plan is to notify field personnel and customers by updating the "flip" signs currently located next to each elevator and providing lists of out of service elevators at each fare collection area. The flip signs currently notify customers when elevators are out of service. The flip signs should be locked in place to avoid tampering. The MBTA proposes to add information on alternate routes to the sign and provide a phone number for customer assistance. (¶ 61)

The out-of-service elevator list would be printed at "Hub" stations and distributed from there to all subway stations. The list would include a number to call for customer assistance. The lists would be updated, printed and distributed 3 times a day. Lists would be posted so they can be read by customers before they pass through turn styles and exposure to vandalism and weather is minimized. (¶ 64, 65)

The MBTA has/is installing coordinated PA VMS at the "Hub" stations. This will permit both auditory and visual communication of service messages.

To assist in identifying alternate routes, the Monitoring Plan recommends that the MBTA trip planner be programmed to remove/add links when elevators are removed from or added to service. With this feature when an accessible trip is needed the trip planner could be used to alternate routes which reflects the current availability of elevators. The modified trip planner could then be used by customers with web access, and by public information staff to advise customers of alternate routes to reach their destinations. (¶ 61) In addition to the MBTA web site and telephone information lines, call boxes located in stations at a point before the customer enters an elevator or station could be linked to MBTA information officers who could advise the customer of routes around out of service elevators or, if needed, provide for alternative service. (¶ 62, 63, 65)

Proposed Additional Criteria, Standards, Monitoring and Reporting

Finally, the Monitoring Plan notes that, while the MBTA is working hard on processes to keep the web site and the elevator information line up to date on elevator outages, there is a need for more monitoring of the accuracy of information. Except for internal audits such as those performed in 2005, there is not a continuing approach to monitoring the accuracy of the information provided to the public, nor the usefulness of the information. The Monitoring Plan recommends that the MBTA set a goal of improving the accuracy of its reporting from the current level of 87-88% accurate to 95% accurate in 2007. Elevator status information provided on the MBTA web site and elevator hot line should be audited periodically (annually) as done in 2005 to monitor and improve accuracy of public information. Other options to monitor announcements include hiring an external firm, such as the firm monitoring the stop announcements, to do a 100 percent check of elevators over selected days throughout the year. All public information that lends itself to digital format should be placed on the MBTA web site so that consistent information is available to all MBTA public information personnel as well as internet users.

Section 2. Evaluation of THE RIDE Services

This section describes the consultant team's evaluation of the MBTA's THE RIDE program. Sections 2.1 describes the organization and design of the service. Section 2.2 then presents a review of service policies and offers recommendations for strengthening these policies to ensure compliance with federal and state regulations. Rider and public input on THE RIDE services, including rider comments and complaints and input received through public meetings and focus groups is then summarized in Section 2.3. A summary of first-hand observations of the operations, made during the initial evaluation of the services by the TranSystems study team in the Spring and Summer of 2005 and then updated in the late 2006 and early 2007, is then presented in Section 2.4. The Monitoring Plan developed for THE RIDE is the summarized in Section 2.5. Finally, a review of service and performance statistics from July of 2004 through February 2007, including ridership, on-time performance, and rider complaints, are presented in Section 2.6.

2.1. Overview of THE RIDE Organization and Service Design

In addition to fixed route bus and rail service, the MBTA also operates a service called THE RIDE. This door-to-door van and sedan service complements the fixed route services and is designed to meet the MBTA's obligations to provide "complementary paratransit service" under the Americans with Disabilities Act of 1990 (ADA).

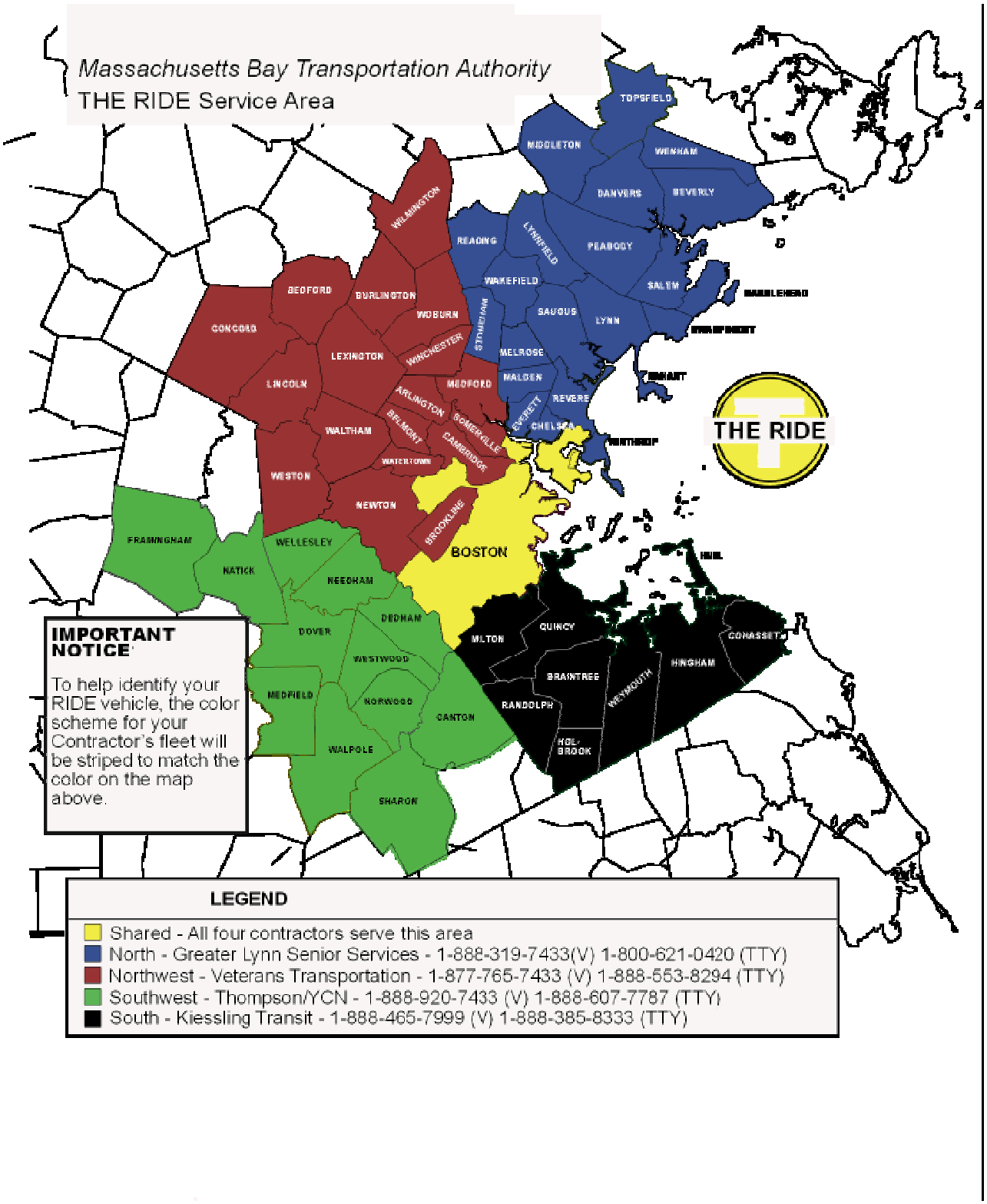
THE RIDE service is managed by the MBTA's Office of Transportation Access (OTA). The OTA is divided into two sections; one located at Ten Park Plaza that oversees THE RIDE services, and a Fixed Route Access section located at Back Bay Station that oversees fixed route bus and rail accessibility. Staff at the Ten Park Plaza office administer and manage all aspects of THE RIDE program. This office is responsible for setting service policies and standards, contracting and overseeing contracted service providers, rider eligibility certification, and customer service (handling and investigating rider complaints). The office also purchases and leases many of the vehicles used by contracted service providers. A detailed description of OTA staffing is provided in Section 2.6 of this report.

The MBTA contracts with four regional service providers for the operation of THE RIDE services. The total service area is divided into four regions and each contractor serves a region. The regions overlap in the downtown "core" area and all contractors provide service to and within the core area. Figure 2.1 on the following page shows THE RIDE service regions. The four contractors and the areas they service are:

- Greater Lynn Senior Services (GLSS) — the North Region
- Veterans Transportation Service (VTS) — the Northwest Region
- Joint Venture (JV)[1] — the Southwest Region
- Kiessling Transportation (Kiessling) — the South Region

[1] JV is a joint venture of Thompson Transit and YCN Transportation

Figure 2.1. MBTA THE RIDE Service Area and Service Regions



Each of the four contracted service providers performs all functions related to direct service operations. This includes trip reservations, trip scheduling, vehicle dispatching and vehicle operations. The service providers provide the facilities needed for operations, and own or lease the telephone systems, computer hardware and software and other technologies required for the operation,

As noted above, the MBTA provides many of the vehicles used in the operation. Some vehicles used in the program are owned by the contractors. Table 2.1 below shows THE RIDE fleet by service provider as of March 2007. As shown, a total of 539 vehicles are used to provide the service. This includes 276 lift-equipped vans and minibuses, and 263 sedans. The MBTA provides 68% of the fleet, including 174 lift-vans and 193 sedans.

Table 2.1. THE RIDE Fleet by Service Provider

Provider	Lift-Equipped Vans/Minibuses		Sedans/Taxis		Total Vehicles
	MBTA Owned	Provider Owned	MBTA Owned	Provider Owned	
GLSS	41	58	34	23	**156**
VTS	60	18	88	47	**213**
JV	45	0	33	0	**78**
Kiessling	28	26	38	0	**92**
TOTALS	**174**	**102**	**193**	**70**	**539**

A total of 65,000 individuals with disabilities are registered to use THE RIDE services. In the most recent fiscal year (FY2006 – July 2005 through June 2006), THE RIDE provided a total of 1,458,824 one-way passenger rides. Ridership as well as vehicle hours and miles of service for each of the service providers and for the system as a whole are shown in Table 2.2 below.

Table 2.2. Key THE RIDE Service Statistics, FY2006

	GLSS	VTS	JV	Kiessling	TOTALS
Ridership	415,105	531,144	227,576	284,999	**1,458,824**
Revenue Hours	266,109	383,270	158,585	160,850	**968,814**
Revenue Miles	3,420,621	4,760,451	2,695,060	1,926,042	**12,802,174**

Demand and need for THE RIDE service has grown steadily over the years. In the three years from FY2003 to FY2006, ridership grew from 1,178,119 one-way trips per year to 1,458,824 trips per year (a 24% increase or an average of 7% each year).

It is important to note that the MBTA THE RIDE program underwent significant change in the Fall and Winter of 2004/2005, just prior to the beginning of this study. New contracts were executed with each of the four service contractors. These new contracts called for upgraded, state-of-the-art system software, as well as other technologies such as automatic vehicle locator (AVL) technology, mobile data computers (MDTs) and new telephone systems with call-back and call recording capabilities. While this new technology was vital for better management and monitoring of this growing service, there were inevitable transition issues. The switch to new reservations, scheduling and dispatching software resulted in some short-term loss in operating

effectiveness. On-time performance dropped and rider complaints increased during this transition period.

The effects of this transition period are reflected in this report. Rider comments in Section 2.3, which were solicited in the Fall of 2005, reflect the lingering service problems that were being experienced. The first-hand observations of THE RIDE contractor operations, which were conducted in the Spring of 2005, also reflect operating issues at that time.

As noted in Section 2.6 of this report, though, service effectiveness and quality have since recovered from this transition period. In the first eight months of FY2007, on-time performance has improved to 91%, with 7.7% of trips being 15-30 minutes late and only 1.3% of all trips being more than 30 minutes late.

2.2. THE RIDE Service Policies

One of the initial tasks in the evaluation involved a thorough review of THE RIDE service provider contracts and program materials to ensure that established service policies and contract requirements were in compliance with the ADA. The U.S. Department of Transportation (USDOT) regulations, which implement the transportation provisions of the ADA, require that public transit agencies that provide fixed route service also provide "complementary paratransit service" for individuals with disabilities who are unable to use the fixed route system. The level of service provided by the paratransit program must be "comparable" to that provided by the fixed route service. Comparability is defined by six service criteria, including:

- Service area;
- Response time;
- Fares;
- Days and hours of operation;
- Trip purposes served; and
- Capacity constraints.

The regulations also identify other operating policies and practices that must be followed in the provision of the paratransit service, including requirements related to:

- The level of assistance provided;
- Employee training;
- Use of securement systems;
- Accommodation of service animals and life support equipment; and
- No-show policies.

Finally, the regulations require that public entities that provide complementary paratransit also have a process for determining who is "ADA Paratransit Eligible" and qualifies to use the paratransit service.

A detailed review of THE RIDE's public information, provider contracts and other formal and informal policies was undertaken as part of the study. A memorandum (Technical Memorandum #1) detailing the analysis, findings and recommendations was prepared and provided to the MBTA on August 2, 2005. Technical Memorandum #1 contains a thorough discussion of each regulatory requirement, an analysis of MBTA THE RIDE policies and standards, and findings and recommendations regarding compliance.

Table 2.3 on the following page provides in summary of the findings and recommendations from Technical Memorandum #1. Note that the ADA requirements, current MBTA policies, and observations/recommendations are paraphrased. The reader is referred to Technical Memorandum #1 for a complete discussion of each item.

Table 2.3. Summary of ADA Requirements, MBTA Policies, and Comments and Recommendations

ADA Requirement	Current MBTA Policy/Contract Requirement	Observations and Recommendations
Service Area - Provide paratransit service at least in ¾ mile corridors around all non-commuter fixed routes/lines.	THE RIDE serves 62 communities. Includes all communities with non-commuter fixed route, plus a few that do not receive fixed route service.	Current policy exceeds ADA minimums. Service to full communities (rather than corridors) is more understandable and seen as positive.
Response Time – "Next day" service; Negotiation of trip times +/- an hours permitted.	Vendors make every effort to accommodate same-day service requests as well as required "next day" requests. Only negotiate trip times +/- 30 minutes.	Same day service is a significant rider benefit, but add-ons and changes to prescheduled trips can place an extra burden on dispatch function. 30-minute negotiation is reasonable given method of scheduling currently used.
Fares – Paratransit fares can be up to twice the full, non-discounted fixed route fare for a similar trip.	A flat fare of $2.00 per trip was implemented in January of 2007.	The new fare implemented in January 2007 meets regulatory requirements. ADA regulations allow paratransit fares to be twice the base fixed route fares for similar trips. The base, non-discounted bus fare is $1.50 and the base, non-discounted subway fare is $2.00. THE RIDE fares are therefore below the maximum allowed by the regulations.
Days and Hours – Paratransit must be operated during the same days and hours as fixed route services.	THE RIDE contract hours are stated as 6:00 a.m. to 1:00 a.m. in most communities, with a few communities receiving service from 4:50 a.m. to 1:02 a.m. Operating practice is to accommodate earlier morning requests and to make pick-ups by 1:00 a.m. (with later drop-offs).	In most communities, THE RIDE operates longer hours than the fixed route. In a few communities, fixed routes hours are longer than formal THE RIDE contract hours. Actual operating practice appears in compliance, though. MBTA should adjust contract language and public information to reflect operating practice.

Table 2.3. Summary of ADA Requirements, MBTA Policies, and Comments and Recommendations, continued

ADA Requirement	Current MBTA Policy/Contract Requirement	Observations and Recommendations
Trip Purposes – All trip purposes to be served without restriction or priorities.	All trip purposes except K-12 school transportation served.	All member communities are legally required to provide K-12 transportation for students with disabilities. THE RIDE restriction probably does not result in a loss of service.
Trip Caps. None permitted	Current policies do not employ trip caps.	Policy appears consistent with regulatory requirements
Waiting Lists – None permitted.	Some riders given "stand-by" status as part of the internal scheduling process. This is "transparent to the rider," though and all riders have the understanding that their trip requests have been scheduled.	Policy appears consistent with regulatory requirements
Trip Denials – Cannot have a pattern or practice of a substantial number of trip denials. FTA guidance indicates systems must plan to meet 100% of expressed demand.	Contracts require that vendors "comply with requirements of ADA regarding trip denials." An understanding that all trip requests are to be served appears to exist.	More specific language requiring all trip requests to be served is recommended. More specific language on tracking any trip denials that might occur is also recommended.
Missed Trips – Cannot have a pattern or practice of a substantial number of missed trips.	Vendor contracts define a missed trips as "a trip that is not completed due to the Contractor's failure to transport a customer who had a scheduled trip (excluding cancels and no-shows)." Goal appears to be 0% missed trips and vendors are assessed a penalty for any and all missed trips.	A formal 0% goal is recommended. The missed trip definition also should consider situations where vehicle arrives beyond the on-time window and the rider then elects not to make the trip (i.e., this should be a missed trip rather than a no-show). This definition is applied in practice but should be formalized.
On-Time Performance - Cannot have a pattern or practice of a substantial number of untimely pickups. Recent FTA guidance suggests arrivals should be on-time as well.	Current standards appear to be: 85% of pickups within 20-minute window; 90% of pickups within 20-minute window for FY06-09; 100% of pickups within 30 minutes of scheduled time.	A standard for on-time arrivals should be established and on-time arrivals measured.

Table 2.3. Summary of ADA Requirements, MBTA Policies, and Comments and Recommendations, continued

ADA Requirement	Current MBTA Policy/Contract Requirement	Observations and Recommendations
Travel Times - Cannot have a pattern or practice of a substantial number of excessively long trips.	Standard is 60 minute maximum if direct travel time is 30 minutes or less. For trips with longer direct times, maximum is twice direct time.	Current standard appears reasonable and seems consistent with regulatory requirements.
Phone Service – Recent FTA reviews suggest that long hold times can be considered a kind of capacity constraint.	Contracts call for vendors to have adequate staff to provide all services required. No specific phone service performance standard has been established.	MBTA should develop a phone performance standard with rider and vendor input.
ADA Paratransit Eligibility – Must determine eligibility based on regulatory criteria, provide interim service if decision takes more than 21 days after completed application is received, and have an appeals process which meets regulatory requirements.	MBTA determines eligibility using regulatory criteria, provides interim service as required, and has an appeals process which appears to meet all regulatory requirements.	While the process appears consistent with all regulatory requirements, it is recommended that the MBTA review the treatment of incomplete applications.
Level of Assistance – Origin-to destination service is required. This can be either door-to-door or curb-to-curb.	Door-to-door service is provided for all THE RIDE trips	We strongly endorse the MBTA's policy to provide door-to-door service. Door-to-door assistance is highly preferable in terms of customer service and may even be more efficient.
Employee Training – Training in disability awareness and in the safe and proper use of accessibility equipment is required. Employees must be trained "to proficiency," which implies testing.	MBTA contracts requirements call for "sensitivity training," and "passenger assistance training." Nationally recognized materials are used, and the sample training materials developed to assist vendors includes testing.	Training requirements appear to be consistent with regulatory requirements and training materials appear to be thorough. To strengthen the current contracts, a requirement to involve riders with disabilities in the training is recommended.

Table 2.3. Summary of ADA Requirements, MBTA Policies, and Comments and Recommendations, continued

ADA Requirement	Current MBTA Policy/Contract Requirement	Observations and Recommendations
Use of Securement Systems – All riders using "common wheelchairs" are to be accommodated. Transit systems can require that all mobility aids be secured. Passenger restraint is to be equal for all riders. Ambulatory riders to be permitted to use lifts as standees. Riders using scooters can be asked to transfer to seat but not required.	Contract requirements and training materials include most regulatory requirements.	Specific language on "common wheelchairs," seat belt and shoulder harness use, standees, and scooter-users should be added to contract requirements.
Service Animals and Life Support Equipment – Must be accommodated.	Contracts specify that service animals are to be accommodated.	Contract language regarding accommodation of life support systems is recommended.
No-Show Policies – Transit systems can establish a process to suspend service for a reasonable period of time if riders have a pattern or practice of missing scheduled trips.	Vehicles required to wait at least 5 minutes after scheduled pickup time. No-shows must be documented using AVL information. MBTA tracks no-shows but has not established or implemented a suspension policy.	The MBTA's decision to forgo the regulatory option to implement a no-show suspension policy until causes of missed trips can be more thoroughly documented appears appropriate. Any future policy should be "individualized," focus on real abusers, and address causes and possible solutions.

As shown, the current MBTA THE RIDE policies and contract requirements exceed the ADA regulatory minimums in several areas. The service area covers full communities and goes beyond the ¾ mile corridors required as a regulatory minimum. Same-day service also is provided whenever possible and riders can make same-day changes to prescheduled trips. Door-to-door service is provided rather than curb-to-curb service. THE RIDE operating hours are longer than fixed route hours in many communities, and most fares paid on THE RIDE are less than the maximum allowed by the ADA.

In several areas, THE RIDE policies and contractual requirements also appear to be consistent with regulatory requirements. Trip caps are not employed, there is an understanding that all trip requests are to be served, there is a 0% missed trip standard, on-time pickup standards and travel time standards appear appropriate, and all trip purposes, with the exception of K-12 school transportation, are served (with school transportation legally required and provided by all member communities). ADA paratransit eligibility determination policies also appear consistent with regulatory requirements, and policies related to rider and mobility aid securement, accommodation of service animals and life support systems, employee training requirements, and no-show policies appear consistent with regulatory requirements.

In a few areas, some minor adjustments to public information, provider contracts, or service policies, and some additional analysis are suggested. These include some additional analysis of fares, and some changes and clarifications to contracts and public information regarding days and hours of operation.

Recommendations are also being made to strengthen the current contracts and to ensure compliance with the latest FTA guidance regarding regulatory requirements. The most significant of these are: more specificity in contracts on trip denial policies; a more detailed missed trip policy; consideration of on-time arrivals as well as on-time pickups; the establishment of a phone performance standard; and more specific language regarding securement requirements and accommodation of life support equipment.

It is important to note that some of the ADA regulatory requirements are still in the process of being interpreted by the USDOT and/or the courts. How the regulations apply to each paratransit system's unique design features also is something that must be determined on a case-by-case basis by the USDOT and the courts. Therefore, the information in this report should not be interpreted as an actual finding of compliance or non-compliance with the regulatory requirements. Instead, this memorandum includes the opinions of the consulting team on the apparent consistency of the current service policies and standards with regulatory requirements and recent USDOT and court interpretations. In some cases, there are still questions given the current level of guidance and interpretation that has been provided by the USDOT or the courts. In these cases, the "observations and comments" at the end of each section state that the issue is still a matter of interpretation.

Following is a more detailed discussion of the key observations and recommendations for each THE RIDE policies. The U.S. Department of Transportation's (USDOT's) ADA regulatory

requirements are first briefly summarized. The MBTA's THE RIDE policies are then presented. Observations, comments and recommendations are then presented.

Service Area

The ADA regulations require that paratransit service be provided, at a minimum, to all areas that are within ¾ of a mile of fixed bus routes. Small areas further than ¾ of a mile from routes that are totally surrounded by routes must also must be served.

THE RIDE service is provided in 62 cities and towns in Eastern Massachusetts. This includes all cities and towns that receive non-commuter fixed route MBTA service (except for Avon) as well as a few communities that do not receive non-commuter fixed route service. The map which shows each community is provided as Figure 2.1 above.

The review of the current service area noted that the Town of Avon is served by fixed route 240 but is not in the THE RIDE service area. Avon is, however, a member community of the Brockton Area Transit Authority (BAT) and residents have access to that transit authority's ADA paratransit service. The MBTA also has a cooperative agreement with BAT to provide THE RIDE service to and from the main transit terminal in Brockton which is used as both a fixed route and paratransit hub. This allows BAT area residents, including residents of Avon, to use the BAT paratransit service and then transfer to THE RIDE vehicles to travel to and from points in THE RIDE service area.

The MBTA THE RIDE program exceeds the ADA requirement regarding service area. The MBTA has chosen to provide service throughout all areas of each community that is served rather than limiting service to areas in each community that are within ¾ of a mile of a fixed route. In our opinion, though, including full communities (rather than establishing corridors in each community) makes sense from a public information and understanding perspective. Communicating to residents the logic of ADA service corridors is difficult at best.

The MBTA also provides service to some communities that do not receive non-commuter fixed route service. In many cases, these communities were served by THE RIDE prior to the passage of the ADA and service has been continued. Again, this appears to be a decision that makes sense. Other transit systems that propose to cut-back prior paratransit service areas to the ADA minimums have reported significant public opposition. Riders who have made life decisions (e.g., housing or employment decisions) tend to be significantly impacted by these proposed cut-backs. And, unlike other riders who may have other travel options, paratransit riders may be left without viable options if service areas are reduced.

Response Time

The ADA regulations require that paratransit services that are "prescheduled" (as THE RIDE is) be provided on a "next day" basis. Trip requests must be accepted up to the close of business on the day preceding the day of service. Same day service is not required. Trip requests must be taken during normal business hours (typically 8-4 or 9-5) on all days that precede a day of

service (including Sundays and holidays if service is provided on the following day). A policy for allowing trip requests farther than one day in advance is to be developed. The exact number of days in advance that requests can be made is not specified in the regulations. Finally, to allow for the grouping of rides, the regulations permit systems to offer pick-up times that are up to one hour before or after the requested pick-up times. This is commonly referred to as the "scheduling window."

THE RIDE trip requests are taken 7 days a week, 365 days a year, up to 14 days in advance, and from 8:00 a.m. to 4:00 p.m. Vendors also are required to have toll-free numbers to allow riders to access both reservations and dispatch. The MBTA also has purchased and installed technology that allows riders to book trips via the Internet.

Same day service is also provided. Page 19 of the Statement of Work (SOW) contained in the contracts between the MBTA and THE RIDE service providers states *"requests will be accepted by the Dispatcher on the date the customer wishes to travel. Every effort will be made to accommodate these requests."* Page 19 of the SOW also says that vendors are to accept changes to confirmed trips and that *"every attempt will be made to accommodate these changes as the schedule permits by utilizing the slots available in the schedule."*

Contractors may adjust requested pick-up times to allow for the grouping of trips, but MBTA policy limits the "scheduling window" to only 30 minute adjustments rather than the one hour adjustments allowed by the regulations.

The MBTA THE RIDE program exceeds the ADA requirement regarding service area. Same-day service, not required by the regulations, is allowed and accommodated when possible. This includes new same-day trip requests as well as requests to change the locations or times of trips scheduled in advance. Second, the MBTA uses a +/-30 minute "scheduling window rather than the +/- 60 minute window allowed by the regulations.

Allowing same-day service is certainly a significant benefit to riders. It also can increase productivity by utilizing "slack time" in the schedules. It also, however, can place an extra burden on the dispatching process. Dispatchers must not only manage prescheduled runs and the inevitable changes that occur due to daily operating issues, but now must manage additions and changes to the schedule. Without diligent dispatch control, allowing same-day trips and same day changes can impact the on-time performance of prescheduled trips.

Same day add-ons also could impact travel time. Since these add-ons are inserted into the schedule manually, they may not be "controlled" by the maximum ride time settings in the automated scheduling system. Again, dispatchers would need to pay close attention to the impacts that add-ons have on rides already on the schedule.

A final consideration is that contractors are currently paid per trip and have an incentive to accept and provide additional trips. As noted later in the "On-Time Performance" section of this memorandum, there are detailed contract incentives and penalties in place that are intended to balance the tendency toward maximizing income in a per trip payment system with acceptable levels of service quality. Theoretically, contractors would not accept same-day add-ons to

increase income if this would mean that late trip penalties might be triggered. It may, however, tend to create a situation where contractors can maximize their income by operating just above the minimum on-time performance standards established in their contracts. And it also would make the service monitoring process and careful implementation of service quality penalties a critical part of the management of the system.

The use of a tighter "scheduling window" than allowed by the regulations makes sense given the trip reservation and scheduling process currently used by THE RIDE. Rather than negotiating actual pickup times with riders when they are on the phone placing trip requests (commonly called "real-time scheduling"), the current system has riders call in and leave their requested pickup times. The automated system (or schedulers) then create runs and develop actual scheduled times the evening before the day of service. Riders then receive a call-back with the final scheduled (or "promised") pickup time. This type of a process is commonly referred to as "batch scheduling." Since there is no "give and take" in the trip scheduling phase of this process (with riders able to say whether the times generated by the system do in fact work for them), using a tighter "scheduling window" minimizes the possibilities of offering times that do not work.

It also is important to note that the use of batch scheduling with automated changes to requested pickup times may not meet the requirements of the regulations to "negotiate" alternative travel times with riders. Few systems in the country use "batch scheduling" as the primary method for scheduling trips. Many use batch scheduling within a real-time process (to develop subscription runs or to fine-tune the schedules within already given promised times), but few schedule all trip requests in this way. As a result, no systems that rely primarily on batch scheduling have yet been reviewed by the FTA and no guidance on this issue has been developed.

On this issue, we noted that the MBTA's scheduling policies include a number of protections to help ensure that pickup times offered meet rider needs. These include policies to record "earliest departure times" (to prevent the scheduling of trips before riders indicate they are able to leave), to record "earliest arrival times" (to prevent the scheduling of arrivals before buildings or programs open for business), and to schedule going trips based on appointment times (to help ensure that riders arrive on-time). These protections would certainly minimize the possibility that pickup times might be offered that truly don't meet rider needs. With these protections, it is then possible that the current "batch scheduling" process might satisfy the trip negotiation requirements.

Finally, we note that the MBTA has not changed the 14 day advance reservation policy which it set based on the original regulations in 1991. Unlike other transit systems, though, the current scheduling system does not encourage riders to place trip requests far in advance to ensure that service is received. In many other systems that use "real-time scheduling," there is an advantage to being one of the first riders to request a trip. The likelihood of getting a ride closer to the time requested is increased if no other trips are on the schedule. In the MBTA's batch scheduling system, on the other hand, there is no advantage or disadvantage to requesting a trip one day in advance versus 14 days in advance. All are treated equally in the final batch scheduling process. So, maintaining a 14 day in advance trip reservation policy may not increase trip cancellations

and no-shows. A more detailed analysis of trip request patterns and cancellations and no-shows would be needed to determine if changing this policy would be beneficial.

Fares

The USDOT's ADA regulations requires that the ADA paratransit fare can be no more than twice the "full fare" (non-discounted fare) for a comparable trip made by fixed route. Personal attendants traveling with eligible riders (from the same origin to the same destination) are to be accommodated on the paratransit service at no fare. Companions traveling with an eligible person can be charged the same fare as the eligible individual.

At the time of the initial review in 2005, THE RIDE program utilized a zone-based fare system. Fares ranged from $1.50 to $4.50 per trip depending on the community of origin and the destination community. The zonal fares were developed to be consistent with rider fares under prior operating designs with different subarea configurations. A zonal system also was developed because of the complexity of fares throughout the MBTA system and the difficulties that would be encountered trying to exactly mirror fixed route fares on THE RIDE service.

To determine if the current THE RIDE zonal fare structure was consistent with regulatory requirements, the community-to-community fares called for in the current THE RIDE fare matrix were compared to fares for similar trips on the fixed route system. The analysis looked for possible situations where the paratransit fare might potentially be more than twice the fixed route fare. The evaluation also considered a detailed study of THE RIDE fares actually paid in May of 2004.

The analysis indicated that in most cases, the fares paid by THE RIDE riders were less than the regulatory maximum of twice the fixed route fare for a similar trip. The detailed analysis of actual THE RIDE fares showed that 80% of all trips had a fare of $1.50. And all but one trip of the remaining 20% had a $3.00 fare. Only one trip in May of 2005 had a $4.50 fare.

As the fixed route fare structure was being examined, it was observed that one unique fixed route fare situation exists. It was noted that outbound trips made on the Green Line beyond Kenmore Square can be made fare free. This policy was established by the MBTA as a way to minimize fare collection delay on Green Line service. Instead of collecting base fares both ways on this segment of the Green Line, inbound fares were doubled and outbound fares were waived. The idea is that the total fare for people making round-trips in this corridor would be the same as if they paid the standard fare each way. A strict interpretation of the ADA regulations would then suggest that individuals only riding outbound in this corridor (not making a round-trip) would also ride free. If, however, you consider "round-trip" fares for people who are making trips both inbound and outbound on THE RIDE in this corridor, the total fare would be no more than twice the total fare paid by a Green Line rider also making a round-trip.

The analysis did, however, identify a few potential situations where fares paid by THE RIDE riders could be more than twice the fixed route fare. These situations appeared to be very limited, though, and the number of actual trips (if any) where this situation exists is not known. In most cases, THE RIDE fares appeared to be below the maximum allowed by the ADA

regulations. A recommendation was made in Technical memorandum #1 of the study that the MBTA more closely examine the fare structure for THE RIDE, identify origin-destination pairs where the fare might be more than twice the fixed route fare, and make adjustments in the fare matrices for THE RIDE accordingly.

In January of 2007, the MBTA adopted a flat fare of $2.00 for THE RIDE service. This fare applies regardless of the distance traveled. Since the base, non-discounted fixed route bus fare is $1.50 and the base, non-discounted subway fare is $2.00, the new THE RIDE fare policy meets regulatory requirements. THE RIDE fares are less than the maximum allowed by the regulations.

Days and Hours of Operation

The USDOT's ADA regulations states that *"The complementary paratransit service shall be available throughout the same hours and days as the entity's fixed route system."* The "Interpretation" section of the regulations (Appendix D) indicates that the hours in various parts of the paratransit service area can change based on the fixed route hours in that area.

The RIDE Guide communicates the days and hours as "7 days a week, generally from 6 a.m. to 1 a.m., including holidays." The Scope of Work in the vendor contracts is more detailed. It lists days and hours by community by zone. The exact hours of operation included in the contracts are shown on the following page. Most communities in each zone receive service 7 days a week, 6:00 a.m. to 1:00 a.m. A few have slightly different hours. Earlier than 6:00 a.m. hours are available in ten communities (Stoneham, Weston, Needham, Wellesley, Dedham, Medfield, Norwood, Sharon, Walpole, and Westwood) with the earliest start time being 4:50 a.m. in six of these communities. The latest operating time was 1:02 a.m. in six communities (Dedham, Medfield, Norwood, Sharon, Walpole, and Westwood).

MBTA staff indicated that the hours of operation in the contracts are interpreted as pick-up times. That is, the last pick-ups of the day are to be made by 1:00 a.m. Given ride times of 30-60 minutes, vans therefore could be in operation until 1:30-2:00 a.m. Staff also indicated that contractors will accept pick-ups before the contract start times if fixed route service in the area is in operation earlier than these times.

To determine if the days and hours of operation specified in the vendor contracts were consistent with regulatory requirements, the current fixed route schedules were examined and fixed route times in each community were compared to THE RIDE operating hours. This analysis used the fixed route schedules that were dated March 26, 2005.

The analysis indicated that THE RIDE hours of operation exceed fixed route hours in many communities, but there are a few instances where fixed route hours exceed the formally advertised THE RIDE hours. In many communities outside of Boston and its immediate suburbs, fixed route service often ends well before 1:00 a.m. In these areas, THE RIDE service has significantly longer hours of operation. At the same time, though, several bus routes do make their first pickups on weekdays before 5:00 a.m., with many routes starting before 4:30 a.m. and the earliest route (#15) starting at 3:38 a.m. Several fixed routes also have last

scheduled drop-off times on weekdays after 1:00 a.m., with the latest drop-off scheduled at 1:42 a.m. on weekdays (Route #73) and 1:36 a.m. on weekends (Route 1).

As noted above, the stated operating practice (as opposed to the contract language) is to make last pick-ups by 1:00 a.m. Given typical ride times for THE RIDE, last drop-offs would therefore be generally consistent with the last drop-offs on the fixed route system. It also is possible that in actual practice, pick-ups are requested and accommodated earlier than the formal contract start times and are consistent with fixed route start times.

Based on our analysis and discussions with MBTA staff, fixed route operating hours in some areas appear to exceed the operating hours formally stated in THE RIDE vendor contracts and indicated in THE RIDE public information. Actual THE RIDE operating practices appear to be largely consistent with ADA requirements, though. **To ensure compliance, though, it is therefore recommended that the MBTA revise THE RIDE contracts and public information to reflect actual practice. This would include:**

1. **Formally specifying to contractors that the 1:00 a.m. service end time is the last time that pick-ups are to be made but that drop-offs should be accommodated if they extend after this time;**
2. **Adjusting the contract starting times of THE RIDE service in communities where fixed route service starts earlier; and**
3. **Adding language to the "Hours of Operation" section of THE RIDE Guide that indicates that 1:00 a.m. represents the last pick-up time, and that service is provided earlier than 6:00 a.m. in a few communities where fixed route service starts before 6:00 (and to check with the MBTA for exact hours).**

Trip Purposes

The USDOT's ADA regulations states that *"The entity shall not impose restrictions or priorities based on trip purpose."*

The MBTA provides THE RIDE service for any and all trip purposes and does not restrict or prioritize service based on trip purpose. These requirements are included in vendor contracts. One minor exception does exist, however. Page 17 of the Scope of Work in the vendor contracts states *"No service shall be provided to students enrolled in grades K-12 for trips to and from school, or for school related trips."* This restriction is included in THE RIDE policy in recognition of the fact that cities and towns in Massachusetts are legally required to provide elementary school transportation for children with disabilities and that this transportation is provided free of charge throughout THE RIDE area.

In general, the MBTA THE RIDE policies regarding trip purposes appear to meet regulatory requirements. As long as cities and towns provide elementary school transportation, this restriction on THE RIDE service does not appear to limit service to children with disabilities.

Capacity Constraints

The ADA regulations state that ADA complementary paratransit services cannot be capacity constrained. Subsection (f) indicates that capacity constraints can, among other things, be a result of:

- waiting lists for trip requests that cannot be accommodated;
- limits on the number of trips that eligible individuals can make (trip caps);
- a pattern or practice of denying a substantial number of trip requests;
- a pattern or practice of not serving a significant number of trips in a timely way; and
- providing a significant number of trips that have excessively long ride times.

In addition, the regulations indicate that other policies or practices that "significantly limits the availability of service" can also be considered capacity constraints. While not specifically mentioned in the regulations, significant difficulty in reaching the reservation center to place a trip request or to check on or change a reservation, has also come to be considered a type of capacity constraint by the USDOT.

Each of these types of potential capacity constraints is discussed in more detail below.

Trip Caps

The USDOT regulations state that a type of capacity constraint considered discriminatory includes "restrictions on the number of trips an individual will be provided."

The review of THE RIDE provider contracts and public information on the program did not indicate any restrictions on the number of trips an individual can request.

Waiting Lists

Section 131(f) of the USDOT regulations states that a type of capacity constraint considered discriminatory includes "waiting lists for access to the service." In recent ADA paratransit compliance reviews conducted by the FTA, a distinction has been recognized between a "wait list" and a "holding run" used in the scheduling process. That is, FTA has determined that placing trips on an ***internal*** "holding run" or "wait list file" is acceptable as long as the communication with the rider indicates that the trip will be provided.

The evaluation found that THE RIDE policies appear to be consistent with this regulatory requirement. THE RIDE scheduling process does sometimes place riders on an internal "wait list" if the automated scheduling system does not place them on an actual run when schedules are created using the batch scheduling process. Some riders on these internal wait lists are then manually scheduled onto runs. During the call-back process, if riders remain on the internal wait list (after batch scheduling and manual scheduling is completed), the scheduling system

generates an estimated pick-up time for their trips. For return trips, the pick-up time becomes the requested time. For going trips, the pick-up time is based on the appointment time with an allowance for travel time based on the total distance of the trip. Riders whose trips are on this internal wait list then receive a call back and are given these estimated times. Trips that remain on the wait list going into the day of service are then inserted into the schedules as cancellations are received or are same-day dispatched.

This policy and practice appears to be consistent with the regulatory requirements based on FTA's latest guidance. Even though there is an internal scheduling "wait list," riders are called back and given pick-up times for all of their trips. As long as the trips are then provide in accordance with the regulatory requirements and the times given to riders in call-backs, this practice would appear to be consistent with the regulations. There could be a potential regulatory issue, though, if the pick-up times for trips that continued to be on the wait list going into the day of service (added to schedules as cancellations occurred or same day dispatched) were changed on the day of service and riders were called that day with different pick-up times. This will need to be considered and analyzed further in the on-site observations of actual service provision (Task 6 of this evaluation).

Trip Denials

The USDOT regulations states that a type of capacity constraint considered discriminatory includes "any operational pattern or practice that significantly limits the availability of service to ADA paratransit eligible persons." Part i(B) of this section notes that one such pattern or practice is a "substantial number of trip denials." Additional interpretations and guidance on this section have been provided over the past seven years. In *Liberty Resources v. SEPTA*, the Federal District Court in Philadelphia indicated that more than five trip denials a day was considered "a substantial number." And in *Anderson v. RGRTA*, the Court indicated that RGRTA (the public transit provider in Rochester, NY) had to provide all trips requested one day in advance (i.e., no trip denials for trips requested one day in advance). The FTA also provided written guidance in a letter dated March 23, 1999 from Chief Counsel Reilly to Mr. Stephen Gold, Esq., that it expects grantees to have sufficient capacity to meet 100% of the demand at all times.

The evaluation found that THE RIDE appears to be in compliance with this requirement. There do not appear to be any trip denials and there appears to be a clear understanding between the MBTA and the contracted service providers of THE RIDE that there should be no trip denials.

The actual language in service provider contracts is somewhat vague, however. It only indicates that "The Contractor shall comply with the requirements of ADA regarding trip denials." To formalize the understandings that appear to be in place regarding trip denials, and to address the latest regulatory interpretations, we would recommend that the MBTA consider more specific contract language regarding trip denials. First, we would recommend that the MBTA adopt a formal goal of providing 100% of all eligible trip requests. It also is recommended that more specific contract language require that:

- Contractors maintain adequate service capacity to meet all trip requests; and

- Contractors accept and provide all trips that are requested one day in advance;

Also, should contractors have occasional trip denials, the contract should indicate how these should be recorded and reported. To be consistent with actual current practice, and to address the latest FTA guidance, the following contract changes should be considered:

- Contractors should be required to schedule trips within 30 minutes of the requested time. If trips are requested based on a desired pick-up time, the trip should be scheduled so that the pick-up is within 30 minutes of this requested pick-up time. Further, the contract should indicate that if riders note an "earliest pick-up time" (a 5:15 pm pick-up if they get off work at 5:00 pm), the trip should be scheduled from this earliest pick-up time to no more than 30 minutes after (but not before). If trips are requested based on an appointment time, the trip should be scheduled so that the arrival is within 30 minutes of the requested drop-off time (but no later than the indicated appointment time).
- Contractors should be required to report trips that are scheduled from 31 to 60 minutes of requested pick-up or drop-off times.
- If Contractors cannot provide both legs of a requested trip and the rider therefore decides not to accept a one-way trip offer, two one-way trip denials should be recorded.
- If Contractors schedule trips more than one hour from the requested pick-up or drop-off times, or at times that are "inconsistent with the travel needs (e.g., scheduling a pick-up before the "earliest departure time," or scheduling a drop-off after a stated appointment time), the trips should be recorded as "scheduled denials." That is, they were technically "denials" since the regulatory requirements for a legitimate trip offer were not met, but they were in fact scheduled.

Missed Trips

The USDOT regulations state that a type of capacity constraint considered discriminatory includes "any operational pattern or practice that significantly limits the availability of service to ADA paratransit eligible persons." Part i(B) of this section notes that one such pattern or practice is a substantial number of missed trips.

In the "Performance Incentives/Penalties" section of the current operating contract for THE RIDE service, the MBTA defines a missed trip as "a trip that is not completed due to the Contractor's failure to transport a customer who had a scheduled trip (excluding cancels and no-shows)." The contract does not, however, establish a stated performance requirement. Instead, it establishes a $50 penalty for each and every missed trip (which implies a performance goal of having no missed trips).

While the current penalty implies that the MBTA wants no missed trips, it is recommended that the MBTA specifically state in the contract that the goal is to have no missed trips. Further, we would suggest that the MBTA be more specific about differences between missed trips and no-shows. In practice, the MBTA considers trips as missed if vehicles arrive outside of the on-time window and the rider does not appear or decides not to take the trip. This definition is consistent with recent FTA guidance. This distinction between missed trips and no-shows

should be formalized in the definition of missed trips used in service provider contracts. If the MBTA adopts this recommendation, it also may want to create a distinction between a missed trip where the vehicle arrives outside but close to the on-time window, and a missed trip where the vehicle arrives well beyond the on-time window. Different penalties may then be applied to these situations.

On-Time Performance

The USDOT regulations state that a type of capacity constraint considered discriminatory includes "any operational pattern or practice that significantly limits the availability of service to ADA paratransit eligible persons." Part i(A) of this section notes that one such pattern or practice is a "substantial numbers of significantly untimely pickups for initial or return trips." While the regulations only cite "untimely pickups," FTA has considered untimely ***arrivals*** (where riders have indicated appointment times or desired arrival times) to also be covered by this section of the regulations. The regulations do not define what is considered "timely" and what is considered "late." This definition has been left to the discretion of local transit systems. Industry practice is discussed below.

Page 6 of ***The Ride Guide*** tells riders that they should "Be ready to travel 5 minutes before your scheduled pick-up time and be prepared to wait up to 15 minutes after that time." It further states "Please do not leave your pick-up location to call before the end of the 15-minute waiting period," and "If THE RIDE vehicle does not arrive by the end of the 15 minutes period, please call your Contractor who will assist you in locating the vehicle and giving you its estimated time of arrival (ETA)." These instructions establish an "on-time window" of five minutes before to 15 minutes after the scheduled pick-up time.

The MBTA also has established the following performance standards in service provider contracts:

- At least 85% of pickups within the 20 minute window (-5, +15) in FY05;
- At least 90% of pickups within the 20 minute window (FY 06 – FY 09);
- 100% of pickups within 30 minutes after the scheduled pick-up time.

Several incentives and penalties related to these performance standards are then included in the service provider contracts.

Note that the above on-time performance standards all relate to the "scheduled" pickup time. In the current system, which uses batch scheduling and call-backs the evening before the day of service, the scheduled time (for trips requested in advance) would be the time given to riders as part of the call-back process. For same day requests it would be the time communicated to riders when they called to ask for a same day trip change or new trip. And, for will-calls, it is our understanding that the contractors give riders a best estimate of pickup time when they call to inform dispatch that they are ready to return. In each case, the scheduled time is based on a time communicated to the rider (i.e., it is similar to a "negotiated" time in systems that use "real-time" scheduling).

The MBTA has established very detailed and "tight" on-time performance standards for pick-ups that appear to be consistent with the regulations. There are, however, no performance standards or contract incentives and penalties related to on-time arrivals. As noted later in this report, on-time arrivals appear to be a significant service issue. Therefore, **it is strongly recommended that the MBTA develop an on-time arrival performance standard. This standard should be applied as part of the current contracts. Incentives and penalties related to on-time arrivals should be added to future service provider contracts.**

Travel Times

The USDOT regulations state that a type of capacity constraint considered discriminatory includes "any operational pattern or practice that significantly limits the availability of service to ADA paratransit eligible persons." Part i(C) of this section notes that one such pattern or practice is a "substantial number of trips with excessive trip lengths." "Excessive trip lengths" are not defined in the regulations. Establishing this standard is a local matter.

THE RIDE service provider contracts contain the following requirements regarding travel time:

"No passenger shall be kept on board for more than sixty (60) minutes, except for transfers (limit 60 minutes per area) unless factors influencing the ride time are beyond the control of the Contractor. If the ride time on the most direct route would be in excess of thirty (30) minutes, the actual ride time shall not exceed twice the time required on the most direct route. This standard may be relaxed at the direction of the MBTA."

This travel time standard appears to be consistent with the regulatory requirement.

Phone Service

The USDOT's ADA regulations states that "Any operational pattern or practice that significantly limits the availability of service to ADA paratransit eligible persons" can be considered a "capacity constraint." In recent assessments of ADA paratransit compliance conducted by the Federal Transit Administration, long telephone hold times, busy signals and other telephone access problems have been considered types of "operational practices" that fall under this general regulatory requirement.

Currently, it does not appear that the MBTA has established a phone performance standard. Contracts with service providers require that adequate staffing be available to operate all aspects of the service, but specific standards for what level of phone service is acceptable do not appear to be included.

It is recommended that the MBTA work with the AACT and the disability community to establish telephone performance standards. These standards should ideally establish a maximum hold time and a goal for the percentage of calls that should be under this maximum hold time. The standard should apply to calls to both the reservations line as well as the dispatch ("Where's my ride?") line. We would suggest that a maximum of five minutes on hold and a goal of achieving this 95% of the time might be a good beginning point for discussion.

Eligibility Determination

The USDOT's ADA regulations requires that all transit entities that provide complementary paratransit service also have a process for determining who is "ADA paratransit eligible." Specific criteria for what makes a person eligible for paratransit are included in the regulation. Simply stated, these criteria indicate that persons with disabilities are ADA paratransit eligible if, because of their disability, they:

- Are prevented from traveling to or from fixed route stops or stations;
- Are unable to use a bus route or rail station for a particular trip because the route or station is not yet accessible; or
- Are unable to "navigate the systems (e.g., not able to be oriented to place or time, have problem-soling skills, community safety skills, or have other skills needed to use the transit system).

As these regulatory criteria suggest, riders can be eligible for some trips (e.g., where the bus route they need to use for a trip is not accessible), and be ineligible for other trips where routes are accessible, they can get to and from stops, and can navigate the system.

The eligibility determination process must meet several regulatory requirements. These include:

- Transit agencies are required to strictly limit ADA paratransit eligibility to individuals and trips that meet these regulatory criteria.
- Interim service must be provided if determinations are not made within 21 calendar days of the receipt of a completed application.
- Written notice must be given of the determination and if eligibility is denied or limited, the specific reasons for this decision must be explained. These letters must also describe how applicants can appeal the decision.
- An appeals process is required. Appellants must be given the opportunity to be heard in person and have others provide information on their behalf. There must be a "separation of authority" between those involved in the appeal process e appeal process and those involved in the initial determination. Appeals must be accepted for at least 60 days after notice of the initial decision is given and the appeal must be decided within 30 days of the appeal hearing.

The evaluation found that the process used by the MBTA to determine ADA paratransit eligibility appears to meet ADA requirements. One procedural item was noted, however. If applications are submitted that are incomplete (e.g., the professional verification information is not included), and if these applications remain incomplete after 21 days and after MBTA notice to the applicant requesting the additional information, the current practice is to deny the application. Sending a denial letter when the application really is incomplete and there really is no firm information one way or the other on the applicant's true eligibility could be misunderstood by the applicant, who might interpret the letter to mean that a determination has

in fact been made and they are not eligible. **It is recommended that these letters be revised to indicate that the applicant is incomplete and is therefore not being processed**.

Level of Assistance Provided

The regulations states that *"complementary paratransit service for ADA paratransit eligible persons shall be origin-to-destination service."* The "Interpretive" appendix to the regulations (Appendix D) explains that "origin-to-destination service" can be interpreted as either curb-to-curb or door-to-door service. It then states that *"The local planning process should decide whether, or in what circumstances, the service is to be provided as door-to-door or curb-to-curb service."* (Federal Register, Vol. 56, No. 173, page 45748). Recent FTA guidance has indicated that if a base level of curb-to-curb service is provided, door-to-door assistance must also be provided as needed to ensure that riders are able to get from their origin to their destination.

The vendor contracts specify that "door-to-door" service is to be provided in all cases. Specifically, assistance is to be provided to riders "from the threshold of the main building entrance of the customer's point of origin to the threshold of the main building entrance of the passenger's destination." Assistance is provided to riders who use wheelchairs (The RIDE Guide specifies "manual" wheelchairs) up or down a maximum of one step or curb. Assistance is provided up or down "several steps" for riders who are ambulatory.

The current policy regarding rider assistance meets the regulatory requirement. We also feel that the MBTA's decision to provide door-to-door assistance in all cases is the preferred method of operation for this type of service.

Employee Training

The USDOT's ADA regulations states that:

> *"Each public or private entity which operates a fixed route or demand responsive system shall ensure that personnel are trained to proficiency, as appropriate to their duties, so that they operate vehicles and equipment safely and properly assist and treat individuals with disabilities in a respectful and courteous way, with appropriate attention to the differences among individuals with disabilities."*

Service provider contracts include detailed employee training requirements. These requirements call for "sensitivity training," "customer assistance procedures," as well as for testing to ensure that trainees have "retained a knowledge of all essential elements of the curriculum, and demonstrate all skills necessary to perform their duties." The contracts indicate that all materials to be used by contractors must be approved by the MBTA and indicate that acceptable material for sensitivity training includes the University of Wisconsin, Milwaukee's (UW-M) "Passenger Assistance Training to Proficiency" materials. Sample training material also has been developed by the MBTA to assist all vendors in meeting contractual obligations.

The contracts require training for drivers as well as administrative personnel. Training for administrative personnel must include "phone decorum and sensitivity to the needs of customers with disabilities." Again, testing of trainees is required to ensure training "to proficiency."

Current THE RIDE employee training appears to be consistent with regulatory requirements. However, to further strengthen current practices it is recommended that people with various types of disabilities be included in the actual training. Doing so has been shown to be effective in other transit systems. We would recommend that the MBTA include this as a formal requirement in the training section of contracts.

Use of Securement Systems

The USDOT's ADA regulations establish several requirements related to use of securement systems. These include:

- A requirement that all riders who use "common wheelchairs" are to be accommodated. A "common wheelchair" is defined as a three or four wheeled device, usable indoors, that does not exceed 30 inches in width or 48 inches in length, when measured at 2" above the ground, and which does not exceed 600 pounds in weight when occupied.
- Transit systems cannot deny service on the grounds that the wheelchair used by the rider cannot be adequately secured. Transit systems must do "the best they can" to secure all riders using common wheelchairs.
- A requirement to have wheelchair securement systems that meet ADA technical specifications (Part 38 specifications).
- A requirement to have a seat belt and shoulder harness for riders who use wheelchairs installed in each wheelchair securement location.
- A requirement to use these systems when transporting riders who use wheelchairs. Transit systems may require that wheelchairs always be secured. Policies regarding the use of seat belts and shoulder harnesses must not be discriminatory. That is, if all riders are required to use seat belts, all riders who use wheelchairs can also be required to use a seat belt. Shoulder harnesses can only be required if all other passengers must also use shoulder harnesses.
- Riders who use three-wheeled scooters can be requested to transfer to a seat, but cannot be required to do so.
- Individuals with ambulatory disabilities must be allowed to enter and exit vehicles by standing on the lift if they cannot enter or exit by using the stairs.

Vendor contracts appear to include most of these requirements. **It is recommended that the MBTA consider adding more detailed information in contracts to address:**

- **Common wheelchair accommodation requirements;**
- **Standees on lift requirements;**
- **Issues related to requesting users of three-wheeled scooters to transfer, but not requiring a transfer; and**

- **Distinctions between requiring lap belt versus shoulder harness use if not all passengers are required to use a shoulder harness.**

Service Animals and Life-Support Equipment

The USDOT's ADA regulations states that:

> *"The entity shall permit service animals to accompany individuals with disabilities in vehicles and facilities."* and that *"The entity shall not prohibit an individual with a disability from traveling with a respirator or portable oxygen supply, consistent with applicable Department of Transportation rules on the transportation of hazardous materials."*

The Scope of Work in vendor contracts states that:

"Animals are not allowed on board, with the exception of Service Animals as noted in the Customer database."

As part of the eligibility determination process, the MBTA determines if eligible riders use service animals and then includes this information in the customer database. Reservationists will then allow for a service animal to ride with the eligible person if this has been requested and included in the database.

The contract language and current policies regarding service animals appear to be consistent with regulatory requirements. **Service provider contracts do not, however, appear to contain language concerning the accommodation of portable life support equipment. It is recommended that this be added.**

No-Show Policy

The ADA regulations state that:

> *"The entity may establish an administrative process to suspend, for a reasonable period of time, the provision of complementary paratransit service to ADA paratransit eligible individuals who establish a pattern or practice of missing scheduled trips...Trips missed by the individual for reasons beyond his or her control (including but not limited to trips which are missed due to operator error) shall not be a basis for determining that such a pattern or practice exists."*

While the MBTA counts and tracks no-shows, it does not appear to have adopted a formal no-show suspension policy and currently does not implement no-show suspensions. MBTA staff indicated that they have been pursuing better technology and operating procedures to be able to show with certainty that missed trips are due to riders (rather than contractors) before considering establishing a no-show suspension policy.

We also would agree with the MBTA's decision to forgo the implementation of a no-show suspension policy until systems are in place to ensure that no-shows are the responsibility of riders rather than vendors. With AVL technology now in place, practices should be able to be developed to accomplish this.

If and when the MBTA develops and implements a no-show suspension policy, we would recommend that it establish a policy that considers travel frequency as well as the number and percentage of no-shows incurred. In our opinion, no-show policies should focus on the clear abusers of the service and not be broadly applied to any rider who exceeds a set number of no-shows. Reviews of rider patterns and practices or no-shows really need to be done at an "individual level." Any policy developed also should give riders notification of some kind after each recorded no-show. If riders are only notified of a history of no-shows at the time a suspension is proposed, they may not remember the causes of or reasons for no-shows that might have occurred weeks or months before. Finally, we would recommend that any no-show policy that might be developed also work with riders on an individual basis to try to identify reasons for and causes of the no-shows and to then try, whenever possible, to make reasonable accommodations (either on the system's or the rider's part) to address the problem.

2.3. Public Input Regarding THE RIDE Services

As part of the evaluation, public input on THE RIDE services was obtained from several sources. These included:

- Rider testimony at MBTA Board and advisory committee meetings
- THE RIDE rider comments and complaints;
- Comments received at six public hearings held as a part of the evaluation; and
- Comments received from five focus groups.

Following is a summary of input received from each source.

Rider Testimony and Correspondence

An initial source of information about rider concerns was written testimony and correspondence presented at a recent MBTA Board of Directors Meeting in March of 2004. This correspondence and testimony was reviewed and the issues noted were tabulated. A detailed summary of the concerns expressed is provided in Attachment C.

The most frequently cited on-time performance issue had to do with pick-ups for return trips. Concerns about late arrivals for appointments and early arrivals of vehicles for scheduled pick-ups also were significant "on-time performance" issues.

Issues with vehicle no-shows, missed connections at pick-ups, and with problems with incorrect trip information (e.g., the wrong day or wrong address) also were mentioned several times by people giving testimony. Problems with long ride times and with circuitous routing were also cited frequently.

This testimony also seemed to suggest problems with getting through on the phones was largely related to hold times for dispatchers. Hold times to get through to reservationists was mentioned only by one of the seven individuals that mentioned telephone access as an issue.

The most common types of driver issues appeared to be related to general attitude and treatment. Issues with proper securement of mobility aids was also mentioned a number of times. Finally, a few comments were received about driver turnover, adequate staffing by vendors, and issues related to an inexperienced workforce, such as lack of familiarity with the area, or lack of familiarity with service policies and procedures.

As the operations were observed and as information was collected and analyzed, each of these areas of concern was considered.

MBTA THE RIDE Complaint Records

Complaints received and investigated by the MBTA between July 1, 2004 and February 28, 2005 were also obtained and reviewed. During this period of time, a total of 1,425 complaints were reported.[2] Figure 2.2 shows the number of complaints by type during this period for all service providers. Table 2.4 shows the frequency of complaints (number of complaints per 10,000 trip requests) for the entire system as well as by provider.

As shown in Figure 2.2, the most frequent concern expressed by riders had to do with on-time performance. A total of 508 of the 1,425 complaints received during this period (36%) had to do with the "promptness of pick-ups or drop-offs." Table 2.4 shows that on-time performance was somewhat more significant an issue with Veterans Transportation Service (VTS) and Joint Venture (JV), and less of an issue with Greater Lynn Senior Services (GLSS) and Kiessling Transportation (Kiessling).

The next most significant issues cited by riders were problems related to the scheduling of trips (267 complaints, or 19% of the total) and problems with drivers (224 complaints, or 16% of the total). Scheduling issues tended to be related to the times given in the call-back process and to long on-board ride times. Driver issues tended to be related to driver attitude and job performance. Scheduling issues appeared to be more prevalent in the GLSS area and the JV area than in the other service provider areas. Driver issues appeared to be more prevalent in the VTS area.

"Difficulty getting a ride" was noted as an issue a moderate percentage of the time (131 complaints, or about 9% of all complaints). It is important to note that this category captured concerns about denials of "next-day" requests as well as same-day requests and same-day changes. Difficulty getting a ride seemed to be more of an issue in the Kiessling area, and far less of an issue in the VTS area. Other complaints noted with less frequency included problems with dispatcher (7% of all complaints); telephone problems (5%); problems with reservationists (4%); vehicle condition issues (2%); and issues with the comfort of the ride (1%).

[2] It should be noted that the 1,425 complaints summarized in these figures and tables include all complaints received from riders – those substantiated in subsequent investigation as well as those not substantiated. Totals are used here to identify areas of service generating the most rider comment.

Figure 2.2. THE RIDE - Rider Complaints, July 2004 through February 2005
All Providers

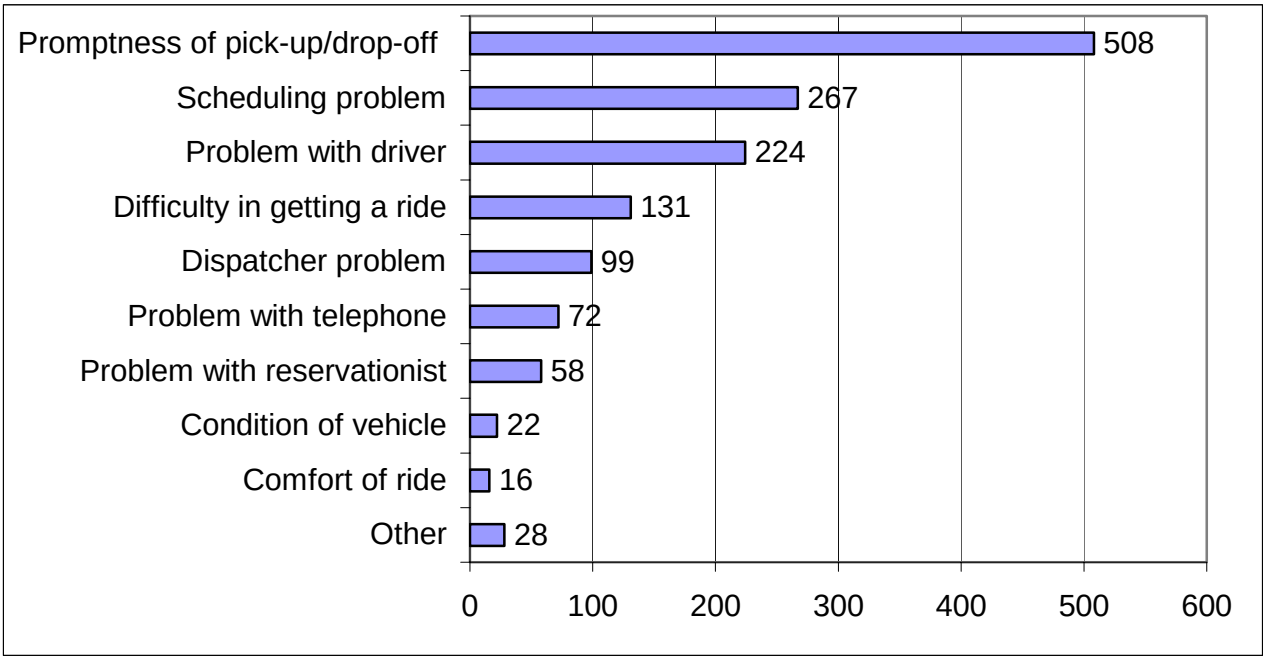


Table 2.4. Rates of THE RIDE Complaints by Provider
July 2004 through February 2005

	Complaints per 10,000 Trip Requests				
	All Providers	Veterans	GLSS	Kiessling	JV
Promptness of pick-up/drop-off	4.15	5.17	2.59	3.88	4.97
Scheduling problem	2.18	1.41	3.30	1.82	2.43
Problem with driver	1.83	2.54	1.53	1.67	0.95
Difficulty in getting a ride	1.07	0.42	1.12	2.24	0.85
Dispatcher problem	0.81	1.11	0.29	0.87	0.95
Problem with telephone	0.59	0.35	0.97	0.53	0.53
Problem with reservationist	0.47	0.35	0.44	0.68	0.53
Condition of vehicle	0.18	0.18	0.09	0.23	0.26
Comfort of ride	0.13	0.05	0.21	0.15	0.16
Other	0.23	0.32	0.29	0.00	0.21

Total System Complaint Rate is 11.6 complaints per 10,000 trips requested.

Public Meetings

A series of five public meetings throughout the MBTA service area were held in the Fall of 2005. The main objective of these public meetings was to get feedback on the effectiveness of accessible fixed route and paratransit services and to identify the major accessibility issues in each mode.

Meetings were held in each of the four THE RIDE service regions – Lynn (North), Newton (Northwest), Norwood (Southwest), and Quincy (South) – as well as in downtown Boston. A mix of meeting times was used to allow for input from riders who work during the day as well as from seniors and other riders who might be less likely to attend an evening meeting. One meeting was held in the evening (6-8 pm), two during the late afternoon (4-6 pm), and two during the mid-afternoon (2-4 pm).

Following the five planned public meetings, one additional meeting was held with agency staff and riders on the North Shore. This meeting was held at the request of the Independent Living Center of the North Shore and Cape Ann (ILCNSCA), which contacted project staff and noted that some riders in the area had been unable to attend the meeting in Lynn. This additional meeting was held on December 13, 2005.

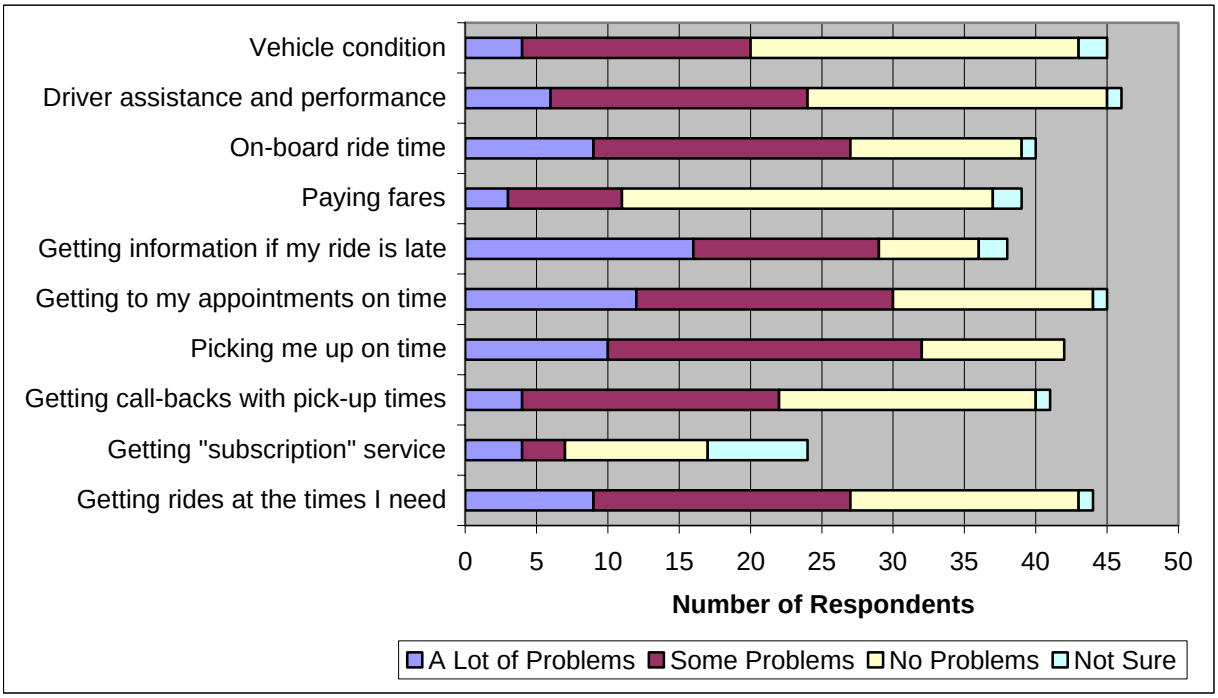
A total of 152 people attended the six meetings. A detailed summary of the comments received regarding THE RIDE service is provided in Attachment C.

A brief questionnaire also was developed and distributed to attendees of the public meetings. The questionnaire asked attendees to indicate their experience with THE RIDE service in several key areas.

A total of 67 questionnaires were handed in or faxed following the meetings; about half of the attendees turned in a questionnaire. As shown in Figure 2.3, 10 different aspects of THE RIDE service were presented to attendees.

The part of the service that was identified as being most problematic was on-time performance. Thirty-two attendees identified late pick-ups as a problem and 30 identified late arrivals for appointments as a problem. Getting information when rides were late was the third most common problem, followed by on-board ride time, getting rides at the times needed, and driver assistance and performance. Issues related to fare payment and subscription service were not identified as major areas of concern (although many attendees may have been occasional riders and subscription service was not something that was needed). The aspect of the operation that was rated as having "A lot of problems" was getting information when rides were running late, followed by late drop-offs and late pick-ups.

Figure 2.3. THE RIDE Issues Identified by Public Meeting Attendees



Focus Groups

Five focus group meetings also were facilitated. At least one meeting was held in each THE RIDE service zone (North area – Lynn; Northwest area – Waltham; Southwest area – Natick and Norwood; South area – Quincy). An additional meeting was held in downtown Boston. These meetings were specific to THE RIDE service. Riders and staff from agencies whose participants used THE RIDE were invited to attend.

The primary purpose of the focus groups was to get riders and agency staff to discuss their experiences using THE RIDE. Eighteen questions were developed in advance and were used to guide the discussion. Riders were encouraged to discuss other issues and experiences, though, so that at the end of each meeting we had a good sense of the major issues that each group had in using the service.

A summary of input received from all five meetings is provided in Attachment C.

Summary of Public Input Received

While rider testimony and correspondence from 2003 and 2004 noted trip denials, input from the public meetings and focus groups indicated that trip denials were no longer a major concern in 2005. While several people noted issues with getting same-day trips or changing scheduled

times on the day of service, only a few people indicated that they occasionally were not offered rides when they placed requests a day or more in advance.

Many people indicated concerns, though, about the scheduled times they were given. The most significant issue appeared to be very early pick-up times for going trips when trips were requested based on an appointment time. In some cases, riders appeared to have unrealistic expectations of the service (citing pick-ups an hour in advance as being too early). In many cases, though, people noted scheduled times that were 90 minutes or more before appointment times for trips that were relatively short. Problems with very early arrivals were also cited by several people. This suggests that some very early pick-up are not required due to the travel time or ride-sharing. In general, these comments seem to indicate a need for: (1) better public understanding of total travel times in a shared-ride service; as well as (2) further refinement of computer system parameters (particularly travel times and allowances for grouping) and manual scheduling clean-up to avoid very early pick-ups and drop-offs.

Public input also raised additional issues related to the automated call-back process. While previous reviews of phone records indicated a highly reliable system, and many people indicated no problems with call backs, several people noted continuing problems. These included: lack of compatibility with some answering machines; a long delay when first answering the call, which could cause people answering the phone to think the call was in error and hang-up; and a lack of clarity of the automated messages. Several people also expressed a desire to have names rather ID number used in the call-backs.

Comments also confirmed that there are very long hold times in the evenings, when many people call to inquire about scheduled times given in the call-back process.

On-time performance also was a major concern. Very late return trip pick-ups, and performance during the afternoon peak hours and in the evenings, seemed to be particular concerns. In general, riders who participated in the focus groups reported a lower percentage of on-time trips than what is suggested by recent service statistics. Several riders also noted that scheduled pick-up times sometimes would change without notice. Some of the public's sense of poor on-time performance appears to be caused by a lack of understanding of the pick-up window. Very few riders who participated in the focus groups knew how on-time service was defined. This suggests a need for more rider education about on-time performance and the pick-up window. It also suggests, though, that the MBTA should carefully monitor whether dispatchers sometimes might adjust scheduled pick-up times on the day of service (particularly when trips are running late).

Many people also were dissatisfied with the information provided by dispatchers when they called to inquire about late rides. Hold times in dispatch were also an issue and rude treatment by dispatchers was noted. These comments seem to confirm the need for additional dispatch staffing, customer service training for dispatchers, and ways to lessen pressure on this part of the operation.

Arriving late for appointments was a significant issue. Several riders noted that they had begun to give appointment times that were 30 minutes earlier than actual appointments to help ensure

that they would be on-time. Circuitous routing also was a significant concern of riders. Several people felt that add-ons were a cause of both late arrivals and circuitous routing. These comments emphasize the need for the MBTA to establish an on-time arrival performance standard so that schedulers and dispatchers focus on appointment times as well as pick-up times. Comments seem to indicate that service providers are giving priority to pick-ups, since this is the performance measure with potential liquidated damages. This excessive focus on pick-ups might explain both late drop-offs and circuitous routing.

While many riders felt that most drivers were good, there were several comments about driver professionalism and performance. The most common comments were that new drivers did not know the service area, which resulted in poor on-time performance. Other common comments were that drivers did not always provide door-to-door assistance or other needed assistance; that some drivers had poor English language skills; that securement of wheelchairs was sometimes not done correctly; and that some drivers are insensitive and rude. Several people also commented that some drivers did not seem to want to bother dispatch or seek dispatch assistance. A few people also commented on the long hours worked by drivers and on the difficult schedules given to drivers. All of these comments appear to support the need to continue to focus on issues related to driver turnover, compensation and training. More adequate training in map reading, longer on-the-road training to get a better knowledge of the service area, more thorough testing of English language skills, and better instruction in how to utilize dispatch assistance seem to be areas for additional training. Efforts to lower driver turnover and develop a more stable workforce also seem to be needed.

Several riders also felt it would be advantageous to have service providers keep the same drivers on group subscription runs. Others felt that an effort should be made in scheduling to keep drivers in areas they are familiar with.

Several riders noted that detailed information about their pick-up locations didn't always seem to make it to the drivers, which caused delays and missed connections. Some people noted that information seemed to be entered into the "going" trip file but not in the return trip file. Others felt there were problems relaying the special instructions to drivers via the MDTs. These comments suggest a need to further investigate this issue to be sure that special instructions are handled correctly by reservationists, are being transmitted via the MDTs and that drivers are trained to know how to access the information on the MDTs.

While it seemed that many riders were becoming more familiar with the new fare payment system, the major continuing concern was for better information about account balances. It was suggested that the automatic call-back technology be used to give riders information about their accounts or to alert riders when balances are low. There also seemed to be a need for additional public information about the new fare system – many riders still were not aware that credit cards could be used or that balances could be checked on-line.

Several focus group participants noted issues with the automatic cancellation of subscription trips on holidays. This seemed to be a particular issue for riders going to dialysis centers. The idea of customizing the policy by type of agency should be explored. For example, most dialysis centers only seem to close for one holiday (Christmas) while others may close for more holidays.

Input from agency staff representatives also suggested that a closer working relationship between THE RIDE service providers and agencies in their areas would be beneficial.

There were some comments that service providers sometimes provided incorrect information about service policies. These comments indicate a need for general, random monitoring of service provider phone recordings to identifying if and when service providers are providing incorrect information about scheduling policies, fare policies, or other policies.

Finally, several riders expressed concerns about securement straps being left on the floors of vehicles. Others noted that comment cards and late ride fare refund cards are often missing from vehicles. These comments suggests that additional random on-the-road spot-checking by MBTA contract monitors might be helpful.

2.4 THE RIDE Service Evaluation

The second major task related to THE RIDE service was to collect service performance information and conduct on-site visits with each of the four service providers. Each part of the operation was observed at each provider operations center during site visits conducted during the week of April 25-29, 2005. This included observing and collecting information on:

- Telephone systems and call-handling;
- Trip reservations;
- Trip scheduling;
- Dispatching;
- Run Coverage and Pullout;
- Driver Hiring, Training and Retention; and
- Vehicles and Vehicle Maintenance.

Managers, operations staff, and drivers also were interviewed at each provider location.

In addition, information on key service quality performance measures was reviewed. This included information on:

- on-time performance; and
- on-board travel times.

Technical Memorandum #3, prepared as part of the evaluation and submitted to the MBTA in August of 2005, contains detailed information about the service provider reviews. The key observations and recommendations made at that time are provided in this section of the final report. Observations and recommendations for each part of the operations are first provided. General observations about overall service design and structure and the impacts of the current structure on operations and performance are then provided at the end of this section.

Following the initial evaluation, the MBTA staff worked with service providers to address many of the findings and recommendations. The TranSystems team also worked with the MBTA staff and service providers to implement additional monitoring activities to track key operations issues. These efforts were successful in addressing most of the initial evaluation findings. Monitoring in 2006 and 2007 indicates that service quality has improved since the initial evaluation. In each of the sections below, key efforts to address operating issues and the latest service performance information is also presented.

It is important to note that most of the findings and recommendations that were made as part of the initial review have since been addressed by MBTA and contractor staff. Actions taken to address the 2005 recommendations are noted in each section.

It is also important to note that this review was conducted shortly after several significant changes were made to THE RIDE operation. In November and December of 2004, the MBTA

negotiated new contracts with the four service providers. Part of these new contracts called for the implementation of a new software system, the additional of mobile data computers and automatic vehicle locator technology, new telephone systems, and automated call-back process, and a new fare collection system. These changes were made to give operators improved tools for managing the service and to implement technologies that improve the MBTA's ability to closely monitor all aspects of the operation. While these new technologies and the new contracts will improve operations in the long-run, it is likely that some of the issues observed and summarized in this report are related to the transition to these new systems. Some implementation issues with the new software, new phone systems, and the new fare collection system were still being resolved at the time of the on-site visits in April 2005.

Telephone Access

Initial 2005 Evaluation

To check on the availability of telephone service at the four vendor sites, the review team gathered information in 2005 about the phone systems in use – the number of lines and stations and the system structure. The team also looked at staffing in the reservations and dispatch areas to handle incoming calls. The team also observed call-handling in each area of operations (reservations and dispatch) for several hours at each vendor site. Finally, the team requested phone performance reports for a sample week and reviewed hold times.

The primary observations and recommendations regarding telephone access made in 2005 were:

- JV appeared to be staffed adequately during the regular reservation hours to handle the call volume. After hours, though, when calls are routed to dispatch, there were some long hold times. This seemed to be related to calls received right after the call-back process. With only 1-2 dispatchers on duty during the off-peak hours, there appear to be hours in the early evening when staffing may have difficulty handling calls in a timely manner. It was recommended that JV consider scheduling additional staffing for this evening call peak.
- The MIS reports used by JV were not set-up to capture information about calls transferred from the reservationists to the dispatchers. It was recommended that JV revise its reports to provide separate information about calls received in reservations and calls received in dispatch (including calls internally transferred). This type of reporting by call group is currently in place at other contractor sites (see VTS).
- It was noted that the operating practice at JV of channeling all calls through the reservationists during reservation hours meant that riders ended up being put on hold twice when they need to get through to dispatch. They were initially on hold to reach a reservationist, and were put on hold a second time when transferred to dispatch. Even though our observation was that initial hold times were very short, being put on hold a second time is not a good customer service practice. In some systems, instead of having reservationists handle "routine" same day calls, systems have created the position of "dispatch assistant." Same day calls are allowed to go directly to dispatch and the dispatch assistant handles any routine issues. The dispatch assistant is physically located in the dispatch area and then also communicates directly with dispatchers for "Where's my ride?"

information. This keeps callers from being placed on hold twice and also frees dispatchers from directly handling calls from riders (which allows them to focus on managing runs and handling same day incidents).

- For most of the calling day, VTS appeared adequately staffed to handle calls in a timely manner. It was recommended, though, that additional staffing be considered during peak operating hours and during times when there is a pattern of spikes in calls due to call-backs.
- KTI appeared to have adequate phone capacity and staffing to handle calls in a timely way. This could not be confirmed, though, through regularly prepared phone MIS reports. It was noted that KTI needed to work with their phone system company to set-up their MIS system to capture information about hold times by hour of the day so ongoing monitoring of phone service can be done.
- It was noted that GLSS had adequate staffing to handle calls in a timely way during many hours of the week. An issue appears to exist, though, when a full complement of reservationists were not available. It was recommended that if reservationists are out sick or otherwise not available, GLSS should make sure that it has sufficient backup staff, especially during the peak call volume periods.

Recent Efforts and Observations

Following the initial evaluation in 2005, several actions were taken by the service providers to address the issues identified. JV added a dispatch assistant position to provide help with calls to that area. VTS also added dispatch capacity. GLSS also addressed issues with reservationist coverage and back-up.

Telephone hold times were closely monitored by the MBTA staff and hold time information was gathered from each service provider from September 2006 through February 2007. The latest phone hold time observations are presented below in Table 2.5.

Table 2.5. THE RIDE Phone Performance, December 2006 – February 2007

Provider	% of Call Periods with Average Hold Times < 2:30					
	December		January		February	
	Reserv.	Dispatch	Reserv.	Dispatch	Reserv.	Dispatch
VTS	99.6%	99.8%	99.6%	99.8%	98.7%	100%
GLSS	98%	95%	98%	96%	98%	95%
Kiessling	100%	100%	100%	100%	100%	100%
JV	95.3%		93.4%		95.8%	

As shown, recent telephone performance has been very good. Average hold times have been below two-and-a-half minutes 95% of the time at most providers. Average hold times of less than 2:30 fell below 95% only during the month of January and for only one provider. Detailed daily information for January 2007 was requested from JV and reviewed by the MBTA staff. This analysis revealed that on January 18, from noon until 9:00 p.m., there was a significant telephone backlog (only 59% of the calls answered within 2:30). During that time they were experiencing telephone line problems that resulted in the backlog. If that nine hour period of time is removed, performance for the month was 97.8%.

Recent monitoring indicates that a few issues remain in this area. JV does still tend to occasionally experience phone issues. The JV phone system still does not capture information about secondary holds when riders are transferred from the reservations area to dispatchers. Finally, even though overall telephone performance appears to be very good at KTI, reports that break-out hold times by hour of the day still need to be developed. **It is recommended that the MBTA staff continue to work with JV and KTI to address these remaining telephone system issues**.

Trip Reservations

Initial 2005 Evaluation

Rider comments indicated moderate difficulty with the trip reservations process. This included trip denials as well as getting trips scheduled at the desired times. To review this issue, the consulting team first examined service statistics related to the trip reservation process. The number of trip denials reported by the MBTA and its contractors was examined. In addition, as part of the on-site visits, review team members sat with several reservationists at each contractor site. The handling of trip requests was observed for several hours at each site during the week of April 25-29, 2005 and any instances of denying trip requests was noted. Finally, the review team reviewed final trip booking records to see if the times offered during the call-back process were within a reasonable period of time from the requested time. Instances of trips scheduled more than 30 minutes from the requested time (the MBTA policy) were noted.

In addition to checking for trip denials and inappropriate trip time offers, the review team also considered the operating practices in the reservations areas of each contractor. This part of the review considered the way that trip requests were handled and focused on capturing key information and accurately entering trip request information. Opportunities for improvements in the handling of trip requests were identified where appropriate.

Trip Denials Statistics

Trip denials reported by the contractors and the MBTA for recent years (called “not availables”) were reviewed. Table 2.6 below summarizes trip denials for FY03, FY04, and for July through February of FY05. Trip denial information is shown for each contractor

As shown, a total of 2,122 trip requests could not be accommodated in FY03. This amounted to 0.13% of all trips requested. Trip denials were reduced significantly in FY04, with only 161 denials recorded (or 0.01% of all trip requests). Through February of FY05, trip denials were reported to have been eliminated in all carriers but JV. And in the JV area, with the exception of the software transition month of December 2004 when ten trips could not be accommodated, only six requests were denied since July of 2004.

Table 2.6. Reported Trip Denials By Vendor, November 2004 – March 2005

	GLSS	VTS	JV	KTI	TOTAL
FY03 (7/1/02-6/30/03)	900 (0.19%)	20 (0%)	756 (0.32%	446 (0.14%)	2,122 (0.13%)
FY04 (7/1/03-6/30/04)	151 (0.03%)	2 (0%)	4 (0%)	4 (0%)	161 (0.01%)
July, 2004	0	0	4 (0.02%)	0	4 (0.0%)
August, 2004	0	0	0	0	0
September, 2004	0	0	0	0	0
October, 2004	0	0	0	0	0
November, 2004	0	0	0	0	0
December, 2004	0	0	10 (0.04%)	0	10 (0.1%)
January, 2005	0	0	1 (0%)	0	1 (0.0%)
February, 2005	0	0	1 (0%	0	1 (0.0%)

These statistics suggest that trip denials had all but been eliminated in THE RIDE service by the time of the on-site evaluation.

Scheduled Versus Requested Trip Times

The ADA allows transit systems to negotiate actual trip times with riders so that trips can be grouped together in a shared-ride system. As noted in Section 2.2 of this report, the MBTA allows contractors to only adjust requested trip times by 30 minutes. This is a tighter standard than is allowed by the ADA, which says scheduled times can be negotiated up to 60 minutes. In addition, the contractors are instructed to adjust return trips on the "late side" (e.g., up to 2:30 p.m. for a 2:00 requested pickup), and adds 30 minutes on the "early side" for "going" trips. This helps to avoid situations where offered times on returns are earlier than riders can actually leave and issues on the "going" trips where the rider might get to their appointment late. This more restricted adjustment of requested times is important given the "batch scheduling/call-back" method of operation currently used for THE RIDE.

In other ways, though, the current MBTA operating policies are not "customer-friendly." While the scheduling window used by the MBTA is only 30 minutes, there is no "negotiation" with the rider. The time is simply set and the rider gets a call-back stating the scheduled pick-up time. Also, it was noted that THE RIDE Guide and other public information describing the service does not mention this possible change to requested times, or what the amount of time change might be in the scheduling process. For longstanding riders, the practice may be known. For newer riders, this may be a cause of frustration or misunderstanding of how the service works.

As part of the on-site review, copies of "Posted Route Reports" (the reports that list all trips requested and provided) were obtained for each of the four contractors for the randomly selected sample day of March 16, 2005. The "Requested Times" and "Promised Times" on these reports were then compared to verify that trips were scheduled within a reasonable period of the requested times. For three of the contractors (KTI, JV and VTS), this review indicated that all trips listed on these reports had "Promised Times" that were within 30 minutes of the requested

times for return trips. And, "Promised Times" for going trips seemed to be reasonable given the total travel distances and the allowed 30-minute scheduling window. A few instances were noted where "Promised Times" were 31-35 minutes after the requested times (e.g., 4:32 p.m. for a 4:00 p.m. requested pick-up), but these adjustments appeared to be minor expansions of the scheduling window.

For "going trips," it was observed that the "Promised Times" were sometimes very close to the appointment times for short trips. In many cases, the "Promised Times" were less than 30 minutes before the appointment times. Given an on-time "pickup window" of up to 30 minutes, this creates a situation where the pickup could be considered on-time, but be made at or after the appointment time.

For one contractor – GLSS - the review of March 16 "Posted Trip Reports" indicated that "Promised Times" were sometimes more than 30 minutes after the requested times for return pickups. Forty-one trips on March 16 had been scheduled more than 30 minutes after the requested times. In four cases, the promised times were more than 60 minutes after the requested times and would be considered "denials" under ADA guidelines. Most of the instances where times were promised more than 30 minutes after the requested time were during the afternoon. It appeared that these trips were manually placed on the schedules after the automated "batch" had been run and that these times were probably the only realistic times given the afternoon peak demand and the system's capacity.

It also was noted that the Posted Routes Report did not include "Promised Times" for trips that had been cancelled or No-Showed and then rebooked. These trips were listed at the front of the reports and showed only the requested times. It is our understanding that when trips are cancelled (either at a rider's request, or by a dispatcher as part of a rebooking process) the ADEPT system automatically deletes the "Promised Time" from the database field used in the scheduling and dispatching process and in the creation of primary reports. The information still appears to be in the system, but it is not easily accessed as part of the standard reporting process. Comparing Requested and Promised Times for trips that are cancelled or no-showed and rebooked is important because it is possible that these are the trips where the times offered don't work for riders (resulting in the cancellation or no-show).

To address these issues, the following recommendations were made following the 2005 evaluation:

- It was recommended that the MBTA work with GLSS to expand afternoon capacity, which seemed to be when most trips scheduled more than 30 minutes after the requested times were taking place.
- The MBTA work with StrataGen to enable the ADEPT system to easily report requested and promised time for trips that are cancelled or no-showed and rebooked. At that time. the standard system reports did not seem to show original promised times once trips are cancelled or rebooked.

On-Site Observations

At all four vendor locations, the review team observed the handling of a total of 334 trip requests by several different reservationists over a period of several hours a day from Monday, April 25 through Thursday, April 28. In addition to looking for any evidence of trip denials, the team considered the accuracy and thoroughness with which trip requests were handled. The handling of subscription requests was also considered. The key observations and recommendations from this initial review are noted below.

- At no time did the review teams observe reservationists telling callers that the schedule was full or otherwise denying the initial request. There also was no negotiation of requested times at this initial trip reservation stage. The exact times requested by riders typically appear to be entered into the system to be scheduled. Occasionally, the reviewers observed reservationists advising callers that the times they were requesting might not allow enough time at their destination or otherwise providing information about shared-ride travel times to allow callers to make more appropriate trip requests. At all times, though, this advice was made to assist the rider with setting a better trip time rather than attempting to limit or deny service.
- Some of the observed difficulty with getting rides appeared to be related to the new fare payment system. Several riders were observed during the on-site visits to have problems understanding the new fare system or maintaining adequate balances in their accounts to allow trips to be scheduled.
- It was recommended that the MBTA consider additional vendor and rider education about the new fare payment system. For example, not all vendor staff seemed know that payment by credit card was an option. As a result, this option was not being communicated to riders. It also was recommended that the MBTA consider ways to make it easier for riders to check balances, and consider creating a form to go along with payment to clearly indicate how payment are to be applied (i.e., to one rider or split between two or more riders).
- It was noted that some difficulties also appear to develop because of the MBTA's somewhat unique approach to trip scheduling. In most other ADA paratransit systems across the country, trip requests are taken, negotiated and scheduled while the rider is still on the phone. Very few systems simply take requests, batch schedule them the day before the day of service, and then call riders back with scheduled pick-up times. In most other systems, there is an opportunity for the rider to indicate whether the time being offered will work for them. If it doesn't, most systems will search for alternate times. In the current THE RIDE system, this "give and take" does not exist. Even though trips are scheduled pretty close to the requested times, riders simply get a call-back stating the schedule pick-up time rather than having a time offered and being asked if that time works. We suspect that this batch scheduling and call-back process results in a significant part of the rider dissatisfaction with the current scheduling system. Satisfaction with the current system for scheduling trips and getting scheduled times should be explored further in the next phase of the study (the public input phase). Questions specific to trip scheduling should be developed for rider focus groups and input on this specific issue should be requested at the open public meetings. This also appeared to be a public communications issue. It is likely that riders were not aware that their trip times can be changed up to 30 minutes. And, on "going" trips, the offered pick-up

time may actually be well in advance of the appointment time and the riders may not fully understand that this is to allow for travel time as well as a 30-minute "scheduling window." Times given in the call-back process could very easily be seen as "non-responsive" by riders without a full understanding of both ride times and the "scheduling window."

- The review team observed several instances where riders called in to book two weeks worth of trips. This seemed to happen partly because subscription service was not available, and partly because the number of trips per week did not qualify the trip for subscription (less than three times per week). This added to the call volume and the staff time required to process these requests. It also appeared to be an inconvenience for the riders. Further, in the batch scheduling and call-back process, these riders may have their pick-up times change from day to day. And, the exact time would not be known each day until the night before the trip. At best, this would seem to pose a significant personal scheduling issue for riders. There clearly are some riders who travel regularly who want the flexibility of not having a set subscription time. These riders may have schedules that change regularly and they need the flexibility to change travel times day-to-day. Many riders, however, probably would benefit from subscription service and are likely having difficulty managing their day-to-day schedules without consistent daily travel times. It was suggested that the difficulties getting subscription service be explored further with service providers and riders. If there is a sense from riders that the lack of subscription service is posing a problem, it was recommended that: (1) the current subscription policy be changes to allow trips to qualify for subscription as long as they are consistently made once per week; and (2) contractors make a concerted effort to contact regular riders to ask if subscription service is desired and would be appropriate. Further, if this is done, it was recommended that the MBTA consider shortening the advance reservation period from 14 days in advance to seven days in advance. If most riders who need subscription service have it, there would be little need for riders to book trips as long as 14 days in advance. Shortening the advance reservation period could then help with cancellations and no-shows.
- It was noted that the scheduling procedures called for all subscription trips to be automatically cancelled on holidays. Riders were required to call-in and request that service on the holiday if their trip was still needed. At the same time, it was noted by riders and local dialysis treatment center staff that dialysis trips typically are still required on holidays. This seemed to be creating some misunderstandings with riders and some unscheduling of trips that were still needed. It was recommended that the MBTA and the service providers explore ways to separate dialysis trips from other subscription trips and to not automatically cancel dialysis trips on holidays.
- It was observed that the on-time "pick-up window" was not being communicated to riders as part of the trip reservations process. In most systems, where scheduled times are given to riders at the time they place their trip requests, reservationists will typically say something like "remember to be ready five minutes before to 15 minutes after this time." In some systems, reservationists give a range of time rather than a specific pick-up time (e.g., "Your pick-up time is from 8:55 to 9:00 a.m."). This constantly reinforces the idea of a pick-up "window" rather than an exact pick-up time. It was recommended that the MBTA consider ways to constantly remind riders about the pick-up window.
- It was recommended that service provider reservationists begin verifying the types of mobility aids to be used by riders as well as verifying companions/PCAs and other trip

information. It also was recommended that reservationists attempt to gather destination phone numbers to facilitate rider contacts should there be return pick-up no-shows.

- Finally, it was recommended that JV and GLSS reservationists enter trip information directly into the ADEPT system and verify what has been entered into the system. Trip information should not be recorded on paper logs and then entered into the ADEPT system at a later time. Reservationists should end calls with riders only after trips have been entered into the system and verified on the phone with the riders. This way, each trip will be handled completely before reservationists move on to the next call.

Recent Efforts and Observations

More recent monitoring indicates that ADA trips continue to be accommodated and not denied. Several actions were also taken by the service providers to address many of the trip reservations issues identified. GLS expanded afternoon capacity and reviews in 2006 and 2007 indicate that this provider is now consistently providing pick-up times that are within 30 minutes of the requested times. GLSS and JV also eliminated the duplicate paper processes that had been used in 2005 and have begun entering trip information directly into the scheduling system.

The MBTA staff also worked with StrataGen to develop a special report that captures information about trips that are cancelled or no-showed and then re-booked. This report was completed in November 2006 and has been used each month since to monitor trip cancellations and rebookings. MBTA staff randomly select a service day and run the report for each provider. This recent monitoring has indicated that the service providers are canceling and rebooking trips appropriately and are keeping more detailed notes about rider requests for time changes and no-showed trips.

Efforts also have been made to improve rider understanding of the new fare payment system. The initial issues with providers and riders not fully understanding the system and all available options have appeared to have greatly diminished. **It is still recommended, though, that the MBTA continue to explore options to make adding funds to accounts as easy as possible. Specifically, the option to allow riders to call and add funds over the phone using credit card information should be explored**.

Some efforts also have been made to improve rider understanding of the 30-minute window for scheduling trips and the 20-minute pick-up window. Recent monitoring still indicates, though, rider misunderstanding of these policies. The 20-minute pick-up windo, in particular, does not seem to be clearly understood by some riders. Monitoring of phone calls in 2006 and 2007 indicated a significant number of riders who call to check on a "late ride" if a vehicle has not arrived at the exact scheduled pick-up time. **It is therefore still recommended that the MBTA consider additional efforts to better educate riders about the 30-minute scheduling window and the 20-minute pick-up window**.

Service providers also re-emphasized with reservationists the need to capture all key trip information, including mobility aids used and destination phone numbers. Recent monitoring indicates that this is being done more consistently.

Finally, **it is still recommended that the MBTA consider changes to the subscription trip policy that will allow more trips to be booked on an ongoing basis. It also is still recommended that dialysis trips be separated from other subscription trips and not automatically cancelled on holidays**.

Scheduling

Initial 2005 Evaluation

The procedures used by each service provider to schedule trips to final runs were also observed as part of the initial evaluation in 2005. This included the manual placement of trips that the automated system could not find options for, the final clean-up of runs, and the handling of subscription trips. It also included reviewing the parameter settings used in automated scheduling, such as estimated travel speeds. Key observations and recommendations from the initial evaluation included:

- Overall, scheduling within the system appeared to be good. Scheduling at Kiessling, which is mainly manual, appeared to be very thorough. Each of the other providers also performed a reasonable degree of manual review of the schedules automatically generated by the ADEPT system. A review of a sample of schedules also indicated that the sequencing of pickups and drop-offs was typically logical. If issues with circuitous routing are happening, it is likely that this is due more to same day adjustments and the dispatching process.
- In some cases, particularly at JV and VTS, scheduling appeared to be very tight. Although "doable" on paper, little slack or recovery time was included in the schedules. Service providers appeared to rely on cancellations (which are considerable) to create slack time. Cancellations did not always occur, though, at the times and in the locations where slack was eventually needed. Tight scheduling with little slack/recovery places considerable pressure on drivers and the dispatch portion of the operation to handle same day service issues. It was recommended that the MBTA encourage service providers to build some slack time into schedules every few hours of the day. This should be done particularly on runs in outlying areas where opportunities to provide back-up in a timely way may not exist to the degree that it does in areas with a higher concentration of vehicles.
- While scheduling at KTI appeared to be good, it is mostly manual. It was recommended that KTI work to make greater use of the ADEPT system and to utilize some of the features of that software. Final schedule adjustments and clean-up could then be manual. Over time, as demand grows, it is likely that it will become more difficult to manage the scheduling process is some level of automation is not used.
- It was noted that JV did not have enough capacity during afternoon peak hours. Additional capacity needed to be added during the afternoon between 2:00 and 5:00 p.m. Afternoon capacity at VTS also appeared to be somewhat limited. As a result, trips are unscheduled and left on a "Wait List." It also appeared to put pressure on schedulers to schedule tightly and use all available slack time on runs. This put pressure on dispatch to handle wait listed trips on the day of service – along with other significant dispatch duties – and to have to move tightly scheduled trips should any number of same day issues (traffic, longer than expected boarding times, etc.) occur. It also caused the system to rely heavily on cancellations to

provide needed same day slack time. The reality, though, is that cancellations do not always occur at the times or in the geographic locations where slack is needed. It was recommended that JV and VTS explore ways to augment afternoon peak hour capacity to be able to schedule all requested trips.

- It also was noted that service providers needed to be careful about scheduling pick-ups too close to the appointment time. Given a 30-minute pick-up window, pick-ups for short trips should not be scheduled too close to the appointment times, even if this means that riders may sometimes arrive 20-30 minutes early.
- At the time of the on-site visits, schedulers appeared to have to do a lot of manual re-entry of trip information as they were clearing the wait list, and "cleaning-up" and fine-tuning schedules before call-backs are done. This was necessary because ADEPT locks-in promised times after the initial batch is run. To then assign new times to a trip in the manual scheduling process, the trip had to be re-booked. It seemed that this could result in data entry errors and even instances where trips are dropped due to manual scheduling errors. It was recommended that the MBTA work with StrataGen to see if there is a way to leave promised times flexible after the initial batch is run and then to lock all times when schedulers complete their manual clean-up and fine-tuning and before the call-back process is initiated.
- It was recommended that the MBTA encourage all service providers to show pickup windows and appointment times on driver manifests. This is done at VTS. Having these times on the manifests would allow drivers to know the leeways they have in making pickups and in getting riders to appointments on-time.
- It was recommended that the MBTA encourage service providers to make greater use of the ADEPT feature that allows for travel speeds to be refined and set for small areas known to be problems. This could be done partly by having Road Supervisors record actual travel times for areas known to be problematic. Several observations could be made over time and the information from these observations could then be used to refine travel speeds in the system. Until this is done, service providers need to be carefully checking the workability of trip times generated automatically.
- It was noted that JV would benefit from additional scheduling staff on Sundays and Mondays to assist in developing Monday and Tuesday schedules. In 2005, only one scheduler was scheduled to work on these days.
- It was recommended that service providers develop procedures that would allow them to plan for and adjust capacity to actual demand. This might be done by scanning the number of trip requests received three days in advance, two days in advance, and then mid-day on the day before service. Trips on file might even be "pre-batched" to get a sense of the capacity that may be needed. On-call drivers could then be maintained and called in if added capacity was likely to be needed. This would give schedulers greater ability to add runs when needed and supervisors time to arrange for additional drivers and runs. Alternatively, service providers could develop some flexible capacity (like VTS and GLSS) which could be called on when the actual demand cannot be met by the set run structure.
- Finally, it was recommended that GLSS set its "scheduling window" parameters in the ADEPT system to be consistent with MBTA policy, which is to not schedule return pick-ups more than 30 minutes after the requested time, or drop-offs 30 minutes before the appointment time. At the time of the on-site visit, the GLSS parameters appear to be set to allow a 60 minute variance.

Recent Efforts and Observations

Following the initial evaluation in 2005, several actions were taken by the MBTA and the service providers to address the issues identified. Of particular note, JV revised its run structure to provide significant additional afternoon capacity. JV also added a second scheduler on Sundays and Mondays. GLSS also adjusted its scheduling parameters to be consistent with trip negotiation policies.

The MBTA also worked with StrataGen to have software modifications made that now allow schedulers to adjust schedules without having to completely re-enter the trip information. The service providers also worked on more efficient scheduling procedures. System settings were fine-tuned. Procedures to schedule longest trips first and then address shorter trips (which are easier to schedule) were developed. Efforts also were mode to keep drivers in areas they were most familiar with.

Greater efforts were also made to manage service capacity and to minimize the number of unscheduled trips that were on the "wait-list" at the start of each day. As part of the implementation of the monitoring plan, the MBTA also began daily tracking of wait-listed trips and their impacts on on-time performance each day.

Finally, as part of the implementation of the monitoring plan, the MBTA created a special report to evaluate how trips are booked. The report compares final scheduled times to appointment times to ensure that adequate time is provided to get riders to appointments and to ensure that pick-up times are not too far ahead of appointment times. This special report was finalized in February of 2007. At the time of the preparation of this report, the report had only begun to be used in ongoing monitoring efforts. **It is recommended that the MBTA use the new "Monitoring Trip Schedules Report" to randomly check the quality of schedules created by the service providers**.

Call Back Process

Initial 2005 Evaluation

As described above, THE RIDE riders call and place trip requests with service providers. These requests are entered into the ADEPT automated scheduling system and are scheduled one day before the day of service. Riders therefore are not given scheduled pick-up times when they first call to place trip requests. This is done the evening before the day of service and is done using an automated call back-process.

All service providers have installed some form of automated call-back system that is set-up to interface with the ADEPT reservations and scheduling system. Three of the contractors (JV, VTS and GLSS) use a system that is provided by Ontira. Kiessling uses an automated call-back module developed by StrataGen that is part of the ADEPT system.

The automated systems at each contractor site make one call to each rider who requested a trip for the following day for each reservation, i.e., one call for a one-way trip request or one call for a round-trip request. The system calls the home (or other primary) telephone number of the rider to provide the pickup time for each scheduled trip. It can leave the information with someone who answers the phone or with an answering machine.

Contractor staff indicated that the automated call-back system is set to try the number five times. If the call-back is not successful on the first attempt, the trip is moved to the end of the queue and tried again after first attempts for all other trips are made. As the number of attempts increases, the call-back attempts are therefore made at shorter intervals. Call-backs typically take place between 6:00 and 9:00 pm.

To get an idea of the reliability and accuracy of the systems, call back data was obtained from GLSS for a sample day (April 27, 2005 for April 28 trips). On this day, the Ontira system tried to reach 1229 riders. It was successful for 1202, or 97.8 percent. Of the 27 unsuccessful calls 12 (1.0 percent were busy), 11 (0.9 percent) had no answer, and 4 (0.3 percent) could not connect.

Call-back records at JV also were examined for the week of April 10-16, 2005. This review indicated problems with the automated system on two of these days. On April 11, 2005, all call outcomes show a "data transfer error." It appears that no call-backs were successful on that day. And on April 12, the system appeared to be down (being worked on). Again, there were no records of call-backs for that day. JV management staff reported that the system is usually very reliable and that the problems encountered on April 11-12 are rare. JV management indicated that staff make manual calls to riders if the automatic system fails. Two manual attempts are reported to be made. This includes calls that fail because the primary number for a rider is a TTY number. If still not successful, JV relied on riders calling in to check on their ride times in the morning. There was no record, though, of these manual calls.

Key observations and recommendations made in 2005 for this part of the operations were:

- On most days, the automated call-back system appeared to be fairly reliable. The automated system appeared to be successful most of the time. Some of the contractors then attempted to make manual call-backs when the automated system failed. A small number of calls ere unsuccessful after both methods were used and these riders called-in to get their scheduled times.
- The automated call-back system appeared to sometimes malfunction. This was reported to be rare, though, and past failures appeared to have been related to implementation or phone switchover issues. Kiessling and JV, which have a lower number of trips provided per day, reported that they are prepared to make manual call-backs when this happens. VTS and GLSS, the larger providers, indicated that they would rely on riders to call-in and request times when the automated system fails.
- It was noted that in a system that requires call-backs, there will be issues reaching all riders regardless of the method used (automated or manual). In general, contractors felt the current automated system is an improvement over the prior manual call-back process.
- It was recommended that all contractors be required to have a contingency plan to make call-backs manually should the automated system go down, or at least to adjust staffing plans to

handle an increase in calls from riders. It also was noted that if manual call-backs are not made when the system occasionally is down, and additional staff is not added, relying on all riders to call-in to get their pick-up times would likely have a negative impact on evening and early morning dispatch operations and would likely result in long telephone hold times for all riders that evening and the following morning.

- It was recommended that contractors should also be asked to keep a record of manual call-backs outcomes when manual call-backs are made for the small number of automated calls that are not successful, for TTY users, or for riders who have made special requests to have manual call-backs.

Recent Efforts and Observations

Following the initial evaluation in 2005, the MBTA implemented a monthly recordkeeping process to closely monitor call-back outcomes. Service providers also made significant efforts to identify and work with riders who were not getting call-backs.

Table 2.7 below shows call-back outcomes recorded for the period from December 2006 through February 2007. As shown, GLSS continues to report very good automated call-back outcomes, with 96-98% of automated calls being successful. Some manual calls are then made. It was reported that most of the remaining riders have requested to not have call-backs and call-in to get ride times.

Table 2.7. Call-Back Outcomes, December 2006 – February 2007

Provider/Month	Auto Call-Backs Attempted	Successful Automated Calls	Successful Manual Calls	Failed
VTS				
December	48,521	43,211 (89.1%)	0	1,368
January	48,904	44,528 (91.1%)	0	1,028
February	43,887	39,928 (90.1%)	0	1,045
GLSS				
December	35,225	33,993 (96.5%)	139	1,232
January	35,598	34,565 (97.1%)	172	1,033
February	32,991	31,759 (96.3%)	154	1,232
Kiessling				
December	25,861	23,451 (90.1%)	82	978
January	27,236	24,433 (89.7%)	62	2,741
February	24,541	22,420 (91.4%)	30	98
JV				
December	20,686	18,061 (87.3%)	10	309
January	21,384	18,041 (84.4%)	811 (3.8%)	360
February	21,383	17,570 (82.2%)	100 (.05%)	197

Call-back outcomes are somewhat less successful at VTS (89-91%) and at Kiessling (also 89-91%). Kiesling made some manual call-backs, but VTS did not report any manual call-back

attempts during this period. JV reported that automated call-backs were successful 82-87% of the time and reported significant efforts to make manual calls in some months.

These recent results indicate that ongoing efforts are needed. **It is recommended that the MBTA continue to monitor call-back outcomes and work with the service providers to ensure that manual call-backs are attempted where necessary. The service providers also should continue to identify riders who experience problems with call-backs to determine if these problems can be corrected**.

Dispatching

Initial 2005 Evaluation

In the current THE RIDE service design, dispatching plays a critical role. Dispatchers not only manage the daily runs that are created, they also handle same day requests and same day changes. Tight scheduling by service providers, to maximize the number of trips provided, also places emphasis on the need for quality dispatching.

The review teams spent several days in the dispatch centers of each service provider in April of 2005. Dispatch staffing levels as well as operating procedures were noted. Several key observations and recommendations were made for this part of the operation. These included:

- It was noted that a lot of pressure was placed on dispatch. As noted in the Scheduling section, afternoon capacity was an issue for some service providers. As a result, runs were tightly scheduled. A number of trips also were kept on the Wait List to be handled by dispatchers. In addition, same-day trip requests were encouraged in the rider material and these calls had to be handled by dispatchers. System-wide, about 10,877 same-day trip requests were received each month. About half of these (5,336 per month) were accommodated. Kiessling addressed this problem somewhat by ensuring that all trips were scheduled to runs and not left on the Wait List.
- As noted later in the "Run Coverage" section of this report, dispatchers also were relied upon at some locations to handle trips on runs that were not covered when drivers are unscheduled "call-outs." And, all of the regular duties of a paratransit dispatcher (managing scheduled runs and handling same day issues and incidents) also were the dispatchers' responsibilities. It was observed that dispatch capacity was not adequate at some provider locations to meet all of these work demands.
- It was noted that, even with additional dispatch capability, having so many things change on the day of service was a problem when the system was dealing with a set capacity. If there were flexible capacity that could be called on to help out during certain times (like the afternoon peak), these multiple same-day schedule changes might be able to be handled. Without flexible capacity, the set number of runs at times can be expected to be overloaded with changes and add-ons.
- It was recommend that the MBTA work with each service provider to ensure adequate dispatch capacity. It also was recommended that the MBTA either: (1) work with the service providers to develop flexible capacity (extraboard drivers and vehicles, additional Road

Supervisors, subcontracted taxi or van services), or: (2) work to limit and manage the number of same-day changes and add-ons.

- In general, good no-show procedures appeared to be in-place and in use. Drivers were observed to consistently contact dispatchers when no-shows occurred. Dispatchers then consistently made attempts to locate riders and to ensure that drivers were at the correct location and had waited at least five minutes after the scheduled pickup time. Significant monitoring capability also existed with AVL and MDC technologies fully-implemented. Dispatchers appeared to be diligent in preparing time-stamped screen prints showing vehicle locations when no-shows occurred. The MBTA also appeared to be closely monitoring no-shows.
- There was a potential issue with trips being cancelled or no-showed and rebooked in the dispatching process. This was done frequently when riders no-show and call later to reschedule their ride. It also was done when riders ask for same-day changes to their original schedules. It also could be done, though, if trips are running late and dispatchers transfer the trips to another vehicle or reschedule the trip. If this is done, initial trip information , such as the initial promised time is deleted (at least from standard reports). It then can be very difficult to determine if the trip was on-time. Careful monitoring in no-shows helped with this issue. It was recommended that a procedure for monitoring and tracking cancellations made in the dispatch process also be developed.
- A potential accuracy issue when trips are rebooked or rescheduled in the dispatch process also was noted. As described in the "Scheduling" section above, the ADEPT system did not allow promised/scheduled times to be changed (which is a good protection). However, this therefore meant that to rebook a trip with a new scheduled time (such as after a no-show), the trip had to be rebooked and the trip information entered again. It was noted that this can cause inaccuracies and even missed trips if dispatchers become distracted during this rebooking process. It was recommended that the MBTA and service providers work with StrataGen to develop ways to more easily reschedule and rebook trips in the dispatch process while still protecting and preserving information about the original promised times.
- It also was recommended that the MBTA encourage greater use of "Dispatch Notes" to carefully document same day service issues other than no-shows. This might include rider requests for earlier pickups, delays in rider boardings, and issues that contributed to trips being late or missed.
- It was recommended that the MBTA and the service providers should resolve the interface problem between ADEPT and Mentor that is causing some trips to be incorrectly "performed" when no-shows are recorded.
- It was recommended that the service providers explore creating "dispatch assistant" positions. These individuals would work in dispatch and would assist with handling calls from riders. Creating these positions would allow riders to be directed immediately to dispatch for same day service issues (eliminating a transfer from reservations and second hold time), and would allow full dispatchers to concentrate fully on managing runs.

Recent Efforts and Observations

Following the initial evaluation in 2005, several actions were taken by the service providers to address the issues identified. As noted in the "Scheduling" section, the MBTA began tracking the number of waitlisted trips each day and comparing this to daily on-time performance to

ensure that the number of waitlisted trips left for dispatch to handle was reasonable. Recent monitoring indicates that the number of waitlisted trips has decreased and on-time performance has improved.

Also as noted in the "Scheduling" section, the MBTA worked with StrataGen to correct issues with the software to allow trips to be handled in dispatch without the need to re-enter information. The interface issue that was incorrectly showing trips as performed when the MDT no-show button was pressed also were resolved.

Dispatch capacity was also added at JV and VTS. The MBTA also required that all service providers be more diligent in recording any issues encountered in "Dispatch Notes." Recent monitoring efforts indicate that this is being done more consistently.

As part of the implementation of the monitoring plan, the MBTA also created a new report to ensure that trips were handled correctly by dispatchers. The report tracks all trips that are cancelled and then re-booked by dispatchers. Trip detail is captured to allow for a determination of whether the action was appropriate. This report has been used in random monitoring efforts since November of 2006.

Given the importance of the dispatch function in THE RIDE service design, **it is recommended that the MBTA continue to make sure that service providers have adequate dispatch capacity, and that a reasonable number of trips are "waitlisted." It is also recommended that the MBTA continue to use the new "Cancellation and Re-Booking Report" to monitor dispatch activities**.

Run Coverage and Pullout

Initial 2005 Evaluation

A key to providing reliable and on-time service is to ensure that runs created in the scheduling process are "covered" and that they pull-out on-time. Pull-out records for each service provider were therefore examined as part of the evaluation. The availability of drivers and "extraboard" drivers also was considered.

At the time of the on-site visit, there were no scheduled extraboard drivers at JV. There also were no Road Supervisors to assist with same-day driver call-outs. If drivers call-out in the morning or just don't show, dispatchers will reassign the first few trips while an attempt is made to call-in another driver. Office staff (including the Operations Manager) will sometimes be used to cover parts of runs. If another driver needs to be called in, this at beast typically means that trips in the first 1-2 hours need to be handled another way. Sometimes, if drivers are same-day call-outs, dispatchers will simply close the run and will add the trips to the Wait List to be same-day dispatched throughout the day.

On the day that observations were being made at JV, two drivers were unexpected call-outs (both had 5:00 AM shift starts). In one case, another driver was contacted and was able to start

covering the run at 8:00 AM (early trips were same-day dispatched). The second run was simply closed-out and all of the trips on that run were added to the Wail List to be same-day dispatched.

VTS typically had about 5-8 drivers who call-out unexpectedly each day. It also was noted that VTS did not have any scheduled "extraboard" drivers whose main purpose is to cover runs when drivers call-out. They did however, have 10-15 "floaters" who are scheduled to provide dispatch with back-up throughout the day. VTS preferred not to use these "floaters" as extraboard drivers. Instead, their standard method of operation appeared to be to add trips on closed runs to the "Wait List" and keep the "floaters" available for assistance with same-day dispatching of trips. The four Road Supervisors at VTS were also regularly used to help cover runs or portions of runs. This included handling the first few trips on runs that are being "closed."

At VTS, between three and ten runs were closed on the weekdays examined. It also was noted that the availability of "floaters" each day varied considerably and was somewhat uneven between the morning and afternoon. On several days, there were as few as three floaters available in the morning or afternoon. As a result, a significant number of trips were added to the "Wait List" on many days.

Run coverage at Kiessling was adequate and pullout usually occured without significant problems. Because Kiessling had seven road supervisors and usually had one or more spare drivers available, pullout did not typically pose a problem, even if there were unplanned absences.

GLSS also appeared to have sufficient vehicles and drivers to carry out its daily set of runs. Over the three sample days examined, GLSS had 319 planned runs. No runs were cancelled, while 40 runs were added during the service days. GLSS appeared to be 23 drivers short of their internal goal. While efforts to attract more drivers had been made and 10 individuals were in training at the time of the visit, it was recommended that GLSS continue its efforts to hire and train additional drivers.

Primary observations and recommendations made in 2005 regarding run coverage and pull-out are noted below.

- At the time of the on-site visit, JV did not appear to have adequate staff or procedures to ensure that scheduled runs were pulled-out and covered on-time. It was recommended that JV schedule two extraboard drivers first thing in the morning and two extraboard drivers at the beginning of afternoon runs. It also was recommended that JV hire Road Supervisors and/or "floaters" to assist with same-day service issues.
- JV appeared to need additional lift vans to allow for a reasonable number of available spares on the day of service. On a typical day, the pull-out supervisor reported having no or only one available spare van. JV also appears to have a high number of spare sedans, but these do not appear to always be available for service. Only 1-2 spares were reported to be available on a typical day.
- VTS's practice of adding trips from closed runs to the "Wait List" rather than covering runs with "floaters" put additional pressure on the dispatch portion of the operation (which, as noted earlier, appeared to be under considerable strain already). On-site observations

indicated that 4-9 runs were typically closed each weekday and the trips from these runs were added to the "Wait List." This was in addition to trips already on the Wait List which could not be scheduled the previous day. It was recommended that VTS either: (1) increase staffing in dispatch to handle all the pressures which the method of operation places on dispatch; or (3) cover more runs at the start of the day to minimize trips moved to the "Wait List."

- VTS's practice of using Road Supervisors to assist in covering runs or portions of runs took these personnel away from on-street monitoring or other important functions. It was recommended that other staff be designated to cover runs at pull-out.

Recent Efforts and Observations

Following the initial evaluation in 2005, several actions were taken by the service providers to address the issues identified. JV added Road Supervisors and extraboard drivers. GLSS also added more drivers. The MBTA also added lift-vans to the fleet which addressed vehicle availability issues at JV.

The MBTA also began closely monitoring the number of runs closed each day and considering the impact on daily on-time performance. The reports for December 2006 through February 2007 indicated that GLSS, KTI and JV typically closed fewer than five runs per weekday. VTS, however, continues to close 3-13 runs on most days. Other actions taken by VTS appear to have kept this from having a significant impact on on-time performance, though. VTS' on-time performance in 2006 was 91%.

It is recommended that the MBTA continue to track run coverage on a daily basis and continue to assess the impacts of closed runs on on-time performance.

Driver Hiring, Training and Retention

Initial 2005 Evaluation

The availability of an adequate and stale driver workforce also was considered as part of the evaluation. Compensation and turnover were therefore considered. Driver training also was examined.

It was noted that driver wages and compensation was relatively low and, as a result, turnover was high at some of the service providers. At JV, drivers were paid a $6.75 training wage. Sedan drivers then started at $9.00 per hour and van drivers start at $10.00 per hour. Driver wages went to $13-14 maximum. Benefits were provided after a 90 day probationary period. Benefits included five sick days per year, 11 paid holidays, two personal days per year, and two weeks of vacation per year after one year of employment. A health and dental plan was also provided, with the company picking up 50% of the cost. Short-term disability was also offered (with 25% company participation). And a simple IRA with a 3% company match was offered.

As of the date of the on-site visit, JV employed a total of 85 drivers. A review of employment records for the previous year (April 2004 through April 2005) indicated that 33 drivers had left for various reasons during that period. This meant that driver turnover at JV was about 40% per year between April of 2004 and April of 2005.

At Kiessling, the starting wage for van drivers was $10 per hour; for sedan driver, $9 per hour. At the time of the site visit, the average driver wage was $11.32 per hour. All drivers (as well as other hourly staff) received a minimum raise of 20 cents per hour every six months. KTI subsidized 50 percent of the health coverage for an individual. KTI stated that the main benefit it provided drivers was the regular assignment of overtime hours. Most shifts for full-time were 48 hours per week.

Based on the driver roster at the time of the site visit, KTI had 84 drivers for RIDE service. Road supervisors were also available to cover runs as needed. The median length of service with KTI was 22 months. Of the 84 drivers, 32 (38 percent) had less than one year with KTI.

Drivers at VTS (both sedan and van) were paid $7.00 per hour wage during training. At the completion of training, sedan drivers started at $8.76 per hour, and van drivers started at $10.30 per hour. The top end salaries were $11.66 for sedan drivers and $13.71 for van drivers.

After a 90 day probationary period, drivers received 56 hours of combined sick and vacation leave for their first year of employment. One addition day of paid vacation was provided for each additional year of employment, up to a maximum of four weeks. Drivers also could elect to participate in group health insurance, dental insurance, life insurance and short and long-term disability programs. VTS covered 50% of the cost of health and dental insurance.

A review of employee termination records showed that 7 sedans drivers and 11 van drivers had left or been terminate between October 1, 2004 and April 26, 2005. This suggests an annualized turnover of about 31 drivers (or about 17% of the total driver workforce). For paratransit operations, this is a relatively low turnover rate.

The current training wage for GLSS drivers was $8.50 per hour. At completion of training, sedan drivers received $9.00 per hour, while van drivers received $9.50 per hour. The current high wages were $14.44 for sedan drivers and $14.67 for van drivers. Benefits included subsidized health and dental insurance, life insurance, pension, and a flexible spending account.

According to the training supervisor and an operations supervisor (both of whom also have regular driving shifts), GLSS did not have its full complement of drivers. It's goal was to have 162 drivers (most but not all full-time). At the time of the site visit, it was indicated that GLSS had about 140 drivers.

Based on the driver roster at the time of the site visit, the median length of service was 39 months. Only 21 percent of the drivers had less than one year with GLSS.

Primary observations and recommendations regarding the driver workforce were:

- JV appeared to have significant driver availability issues in early 2004. A total of only about 71 drivers were available just prior to the on-site visit. A significant hiring effort appeared to have been undertaken just prior to the on-site visit, with 12 new drivers being employed in the first few weeks of April 2005.
- In future contracts it may be beneficial for the MBTA to stress the desire for service providers to have employee compensation rates that will allow for the maintenance of a stable and experienced workforce. A driver turnover goal might also be stated. Compensation rates proposed should then be considered as part of the proposal evaluation and contract award process.
- Annual driver turnover and JV and Kiessling was quite high (40% and 38% respectively). This level of turnover can affect service efficiency, performance and quality.
- Annual driver turnover at GLSS and VTS appeared to be relatively low (21% and 17% respectively). Driver hiring, screening and training also appeared to be good.

Recent Efforts and Observations

Driver turnover has not been re-measured since the initial evaluation in 2005. The service providers have reported, however, efforts to recruit and retain more drivers. JV restructured its shifts to give drivers more hours and greater total take home pay. Many drivers in the JV operation now work 10 hour or longer shifts. GLSS also continued to make extra hiring efforts.

Given the importance of a stable and experienced driver workforce, **it is recommended that the MBTA continue to monitor driver availability and turnover. The MBTA should also continue to work with service providers, particularly VTS and JV, to lower the rate of driver turnover. It also is recommended that impacts of the longer shifts employed by some providers to increase total driver pay be monitored closely to ensure that service safety is not compromised**.

Consideration should also be given in future contracts to placing a high premium on contractors whose proposals demonstrate the ability to provide a stable and experienced driver workforce. Some approaches used by other transit agencies include: (1) requiring companies submitting proposals to be service providers to detail proposed compensation (including pay and fringe benefit details and proposed increases by year); (2) reviewing this information when considering competing proposals and giving strong consideration to proposals that will ensure a stable, experienced workforce; and (3) setting goals for non-disciplinary turnover and including contract incentives and disincentives to help achieve these turnover goals.

Driver Interviews

Initial 2005 Evaluation

While on-site at each contractor location, drivers were interviewed for their input on how the service was working. About 15 drivers at each contractor site were interviewed. These interviews were conducted in private and drivers were informed that we were independent contractors and that the information provided would be treated as confidential. A standard set of

interview questions was used at each location. Following is a summary of the information provided by these drivers.

Most drivers did not appear to understand the on-time "pick-up window." They seemed to feel that they needed to make pick-ups on or before the scheduled time listed on the manifest.

A significant number of drivers also felt that the schedules they were given were too tight and that there was "not enough time to get from point A to point B." At the same time, however, many of these same drivers indicated that they are late for pick-ups only rarely or occasionally. This could be due to their lack of understanding of the pick-up window. The times on the manifests may eventually work okay once the 15 minute window is factored in. This apparent inconsistency may also suggest that the initial schedules are too tight, but if dispatch assists and reassigns some trips throughout the day, the schedule becomes doable.

There was a general sense that late pick-ups and circuitous routing is often caused by add-ons during the day or service.

There also was a general sense that on-time arrivals for appointments are more of an issue than on-time pick-ups. And again, late drop-offs often seem to be related to same-day add-ons.

Drivers generally did not indicate a problem with the accuracy of information on the manifests.

Almost all drivers appeared to have a good understanding of no-show procedures. They all know to contact dispatch and will wait the required five minutes. If anything, they indicated that they waited longer than the required five minutes to avoid having to go back later should riders call asking for the vehicle to return.

Several drivers indicated that additional map reading and familiarization with the service area would be helpful in the initial training.

There was a mixed reaction about dispatch support. Many drivers felt dispatch would "help when they could," but indicated that options to transfer trips might not exist during peak times. Several drivers also indicated issues with getting through to dispatch during peak hours.

Recent Efforts and Observations

Following the initial evaluation in 2005, several actions were taken by the service providers to address the issues raised by drivers. Re-training was done to increase driver understanding of the on-time pick-up window. Other areas of training were also strengthened – particularly at JV. Dispatch capacity also was added at JV and VTS to increase the effectiveness of support provided to the drivers.

Vehicles and Vehicle Maintenance

Initial 2005 Evaluation

The adequacy of vehicle maintenance at each service provider was also evaluated. At each garage, a random set of vehicles was selected and the maintenance records for these vehicles were requested and examined. Compliance with preventative maintenance policies was evaluated.

The process used to inspect vehicles before each pull-out and to promptly repair and deficiencies cited also was examined. A random day was selected at each service provider. The pull-out sheet was obtained and daily inspection forms were requested for that day to see if there was a completed inspection form for each run that pulled-out. Deficiencies noted on these forms were then tracked back through the maintenance shop to see when repairs were performed.

The observations and recommendations made in 2005 on this part of the initial evaluation were:

- Preventive maintenance at JV appeared to be "spotty." Issues also appeared to exist with the documentation of vehicle maintenance. Recent changes appeared to have been made to address these maintenance issues. It was recommended that the MBTA increase its monitoring and oversight of maintenance efforts at JV.
- Vehicles at VTS appeared to be in good condition and vehicle maintenance appeared very thorough. A process of tracking mileage at fueling and then automatically feeding this information into the vehicle maintenance software appeared to work well. Daily vehicle inspections appeared to be done by drivers, but additional oversight was recommended to ensure that all drivers complete the required forms and that the records are preserved.
- Vehicles at KTI appeared to be in good condition. Preventive maintenance intervals seemed frequent but were somewhat irregular, with some intervals exceeding 4,000 miles. Daily inspections of vehicles appeared to be done by drivers, but increased diligence was recommended to ensure that these are done 100% of the time and that the records are maintained.
- The vehicles at GLSS appeared to be in good condition. Vehicle maintenance also appeared to be performed on a regular and consistent basis. A random review of daily inspection records, however, showed 12 runs for which inspection forms could not be located. It was recommended that GLSS review and strengthen its procedures for ensuring that drivers complete daily vehicle inspections and ensure that these forms are collected, reviewed, and preserved.

Recent Efforts and Observations

Following the initial evaluation in 2005, efforts were made to strengthen the daily vehicle inspection and recordkeeping process. Significant time was also spent working with and monitoring maintenance at JV to correct the deficiencies noted. The Contract Administrators in

the MBTA Office of Transportation Access (OTA) also have continued to closely monitor maintenance activities. These efforts appear to have addressed the issues noted in 2005.

On-Time Performance

Initial 2005 Evaluation

As detailed in the "Rider Comments and Complaints" section of this memorandum, the most common type of complaint voiced by THE RIDE riders was about on-time performance. Of the 1,425 complaints received by the MBTA between July 2004 and February 2005, 508 (36%) had to do with "promptness of pick-ups or drop-offs." The number of complaints about on-time performance was almost twice as high as the next most common issue cited by riders. The review team therefore spent considerable time analyzing on-time performance and considering likely causes of these issues expressed by riders.

In order to develop an independent estimate of on-time performance, the review team analyzed a sample of THE RIDE trips completed on March 16, 2005. To verify the performance reported by the service providers, the review team collected completed driver manifests for that day and developed on-time performance information based on the times entered on those manifests by drivers.

Table 2.8 presents a summary of this analysis for pickups. As shown, 52% of the pickups in the sample were made within the 20-minute "pick-up window." Another 37.4% of pickups were made early. A total of 89.4% of pickups were, therefore, made early or on time. Performance varied by service provider, with Kiessling showing just above average performance (90.5%), GLSS and VTS showing slightly below average performance (86.2% and 88.5% respectively), and JV showing above average performance (94.4%).

In addition to analyzing on-time pickup performance, the review team also looked at on-time arrival performance. This was done by comparing actual arrival times recorded on driver manifests with appointment times indicated by riders. As noted above, appointment times were taken either from the driver manifests or from the Daily Posted Routes Report for service providers that did not show appointments on the manifests.

Of the 609 trips analyzed, a total of 281 had appointment times. Some "going" trips did not have set appointments and were booked based on a desired pickup time. And return trips typically did not have an appointment time.

Table 2.9 shows the result of the analysis of on-time arrival performance for March 16, 2005. As shown, 82.9% of all trips had drop-offs on or before the stated appointment times. Drop-offs were therefore after the appointment times about 17.1% of the time. Drop-offs were late by 1-15 minutes 13.9% of the time. Drop-offs were more than 15 minutes late 3.2% of the time.

Table 2.8. On-Time Performance for THE RIDE Pick-Ups: March 16, 2005

	JV	VTS	Kiessling	GLSS	Combined
# Trips	123	192	127	167	609
% in Window (-5/+15)	53.7%	54.7%	48.0%	50.9%	52.0%
% in Window or Early	94.4%	88.5%	90.5%	86.2%	89.4%
All Early Trips	40.7%	33.8%	42.5%	35.3%	37.4%
6-30 mins	36.6%	30.7%	38.6%	34.1%	34.3%
31-60 mins	4.1%	3.1%	3.9%	1.2%	3.1%
> 60 mins	0%	0%	0.0%	0.0%	0%
All Late Trips	5.7%	11.4%	9.5%	13.8%	10.5%
16-30 mins	1.6%	10.4%	7.1%	9.0%	7.6%
31-60 mins	4.1%	1.0%	2.4%	4.2%	2.7%
> 60 mins	0%	0%	0%	0.6%	0.2%

Table 2.9. On-Time Performance for The RIDE Drop-Offs: March 16, 2005

	JV	VTS	Kiessling	GLSS	Combined
# Trips	55	96	56	74	281
All On-Time Trips/Early	81.8%	84.3%	85.7%	79.8%	82.9%
0-15 mins early	40.0%	42.7%	46.4%	35.1%	40.9%
16-30 mins	18.2%	19.8%	23.2%	23.0%	21.0%
> 30 mins	23.6%	21.8%	16.1%	21.7%	21.0%
All Late Trips	18.2%	15.6%	12.5%	20.3%	17.1%
1-15 mins	12.7%	13.5%	8.9%	17.6%	13.9%
>15 mins	5.5%	2.1%	3.6%	2.7%	3.2%

A detailed review of some of the trips on this sample day where drop-offs were late indicated that the pick-ups and drop-offs for a number of trips were scheduled very close. There were several examples where the promised time was within 10-20 minutes of the appointment time for relatively short, local trips. If delivered on-time, this type of scheduling provided customers with excellent service. They could be picked-up only a short time before their scheduled appointments. However, if the full "on-time" pick-up window of 15-30 minutes was utilized on the day of service, riders would often not be picked-up until or after their appointment times. Or, if other pick-ups were added-on, and dispatchers were not focused on the appointment times, there would be a longer ride time and the drop-off would be late.

Several observations and recommendations regarding on-time performance were made as a result of the 2005 on-site evaluation. These are listed below.

- On-time pickup performance appeared to be quite good compared to other similar paratransit service. In February 2005, for example, pick-ups were more than 30 minutes late only about 4.5% of the time. Prior to December 2004, pick-ups were late less than 2% of the time.

- On-time pick-up performance was not as good during the transition to new technologies in December of 2004 and January of 2005. During this two-month period, between 6.1% and 7.7% of pick-ups were more than 30 minutes late. Even though this was below norm for THE RIDE, performing pick-ups within 30 minutes of the scheduled time 92-94% of the time is still reasonable when compared to other paratransit services in larger cities.
- There did appear to be some inconsistencies in how on-time performance is measured and presented to the community. While service providers are allowed to have 10-15% of their pick-ups take place more than 15 minutes after the promised pick-up time, riders are told that vehicles will arrive from 5 minutes before to 15 minutes after the promised time. Penalties for on-time performance focus primarily on pick-ups made more than 30 minutes after the promised time. This difference in rider understanding versus contract requirements could be the cause of some of the community dissatisfaction with service performance.
- To improve riders' understanding of what is "on-time" and the level of service provided by THE RIDE, it is recommended that the information provided to riders in THE RIDE Guide about the pick-up window and what is considered "on-time" be made consistent with the service standards established in the service provider contracts.
- Pick-ups scheduled and made on a "will-call" basis also are not treated differently than other pre-scheduled pick-ups. As will-call pick-up requests are received, dispatchers provide an estimated pick-up time and providers must then perform these trips within the 15 or 30 minute windows that apply to all other prescheduled trips. During peak hours of operation, will-call pick-up times 45-60 minutes after the time of the call might be given and the vehicle may then arrive 60-90 minutes after the time the rider first called. While this is a reasonable level of performance for this type of service, riders might view this as very late. In most other large paratransit systems, riders are told that vehicles might arrive 60-90 after the time it is requested when service is requested on a "will-call" basis.
- It was recommended that the MBTA create an on-time performance standard for "will-call" trips. This standard should then be communicated to riders and made a part of service provider contracts. Will-call trips and on-time performance should then be tracked and analyzed separate from prescheduled trips.
- It also was noted that no standard currently exists for on-time arrivals. As a result, service providers appeared to be largely focused on making pickups on-time and dispatchers often do not seem to consider appointment times when making same-day service changes and add-ons. On-time arrival performance could be improved. The analysis of 609 trips on the sample day of March 16 indicated that about 13.9% of all drop-offs are 1-15 minutes late and 3.2% are more than 15 minutes late.
- It was recommended that the MBTA establish an on-time arrival standard, communicate this to riders and making it a part of the service provider contracts. A standard of not arriving after the appointment time and up to 30 minutes before the appointment time is typical in the industry. In the short-term, before a formal standard is adopted and fully-implemented in operations, the MBTA could encourage service providers to focus on appointment times in dispatching of services and when making same-day changes and add-ons.
- It also was noted that a significant number of pick-ups appear to be made early. About 34% of pick-ups are made from six to 30 minutes before the promised pick-up time (before the pick-up "window" given to riders). About 3% of pick-ups are then made 31-60 minutes before the scheduled/promised time. In many cases, it is possible that this is in response to riders asking for earlier pickups (i.e., being ready to return earlier than scheduled). First-

hand observations of the operations indicated that these types of requests were often made and accommodated.

- It was recommended that the MBTA request that service provider dispatchers note (using the dispatcher notes feature in the ADEPT software) when early pick-ups are requested by riders and made earlier than scheduled. This will then allow better tracking of early pick-ups that are made for other reasons and not at the specific request of riders.
- It appeared that a significant number of drop-offs were made very early. Based on the analysis of 609 trips on March 16, 2005, about 21% of drop-offs were made more than 30 minutes before the stated appointment times. This is less likely the result of rider requests and more likely the result of scheduling or same-day routing changes made by dispatchers or due to cancellations. It was suggested that the MBTA work with service providers to more closely examine the causes of very early drop-offs and consider ways to minimize them.
- It also was recommended that a process be developed to track very early pick-ups and have a way to identify if these are due to rider requests for earlier pick-ups or for other reasons.
- Finally, it was recommended that service providers make greater use of the "Dispatch Notes" feature in ADEPT to document issues related to rescheduling of trips, late pick-ups, delays caused by long dwell times, etc. These should be required as back-up and support for any very early pick-ups or drop-offs, significantly late pick-ups, as well as no-shows.

Recent Efforts and Observations

On-time pick-up performance is continuously tracked by the MBTA. Table 2.10 shows more recent on-time pick-up performance by service provider for the period from July through February 2007. As shown, on-time performance averaged 92.2% systemwide and ranged from 91.0% at VTS to 93.8% at GLSS. And, of the 7.8% of trips performed late, only 1.3% of total trips were performed more than 30 minutes after the scheduled pick-up time. This level of performance is relatively good for a large paratransit system operating in an urban environment with both traffic and weather challenges. The on-time performance of GLSS and KTI is particularly good. The actions taken by the MBTA and the service providers since the initial evaluation in 2005 appear to have been effective in improving on-time pick-up performance.

Table 2.10. On-Time Performance for THE RIDE Pick-Ups: July-February, 2007

	JV	VTS	KTI	GLSS	Combined
% On-Time or Early	91.4%	91.0%	92.6%	93.8%	92.2%
All Late Trips	8.6%	9.0%	7.4%	6.2%	7.8%
16-30 mins	7.0%	7.7%	6.2%	5.1%	6.5%
31+ mins	1.6%	1.3%	1.2%	1.1%	1.3%

While performance has improved, the following recommendations from the initial evaluation re still made for the MBTA's consideration:

- It is recommended that the differences between the 15 and 30 minute late trip measures be more consistently communicated in information provided to riders.
- It also is recommended that the MBTA work with service providers to ensure that dispatchers focus on the 15 minute late window as well as the 30 minute late window.

- It is recommended that the MBTA consider establishing a standard for same-day "will-call" trips and educating the public about the level of service to expect if pre-scheduled trips are changed. Some continuing rider dissatisfaction with on-time performance could be related to misunderstandings about what can be expected when trip times are changed on the day of service.

On-time drop-offs also have been monitored since the initial review. Information about on-time drop-offs was collected from December 2006 through February 2007 as part of the implementation of the monitoring plan. Table 2.11 shows on-time drop-off performance for this period. As shown, on-time drop-off performance continues to be well below pick-up performance for three of the service providers. GLSS' performance of 90-91% was well above the other providers whose performance during this three-month period ranged from only 76.3% to 84.7%. Performance for VTS, JV and KTI also declined each month during this period.

Table 2.11. On-Time Performance for THE RIDE Drop-Offs, December, 2006 - February, 2007

	% of Drop-Offs Performed On-Time (before appointment time)			
Month	**JV**	**VTS**	**KTI**	**GLSS**
December, 2006	78.5	84.7	84.4	90.0
January, 2007	77.6	83.9	83.9	90.0
February	76.3	80.1	81.2	91.1

Recommendations initially made in 2005 regarding on-time drop-offs therefore still appear to be relevant. Specifically, **it is recommended that the MBTA consider establish an on-time arrival standard, communicate this to riders and making it a part of the service provider contracts. A standard of not arriving after the appointment time and up to 30 minutes before the appointment time is typical in the industry. In the short-term, before a formal standard is adopted and fully-implemented in operations, the MBTA could encourage service providers to focus on appointment times in dispatching of services and when making same-day changes and add-ons**.

Early pick-ups and drop-offs have not been tracked since the initial evaluation in 2005. Since it is possible that the issues noted in 2005 could still exist, **it is recommended that the MBTA periodically track early pick-ups and drop-offs, work with the service providers to ensure that dispatchers always note when riders request time changes, and then monitor very early pick-ups and drop-offs not specifically requested by riders**.

Travel Times

Initial 2005 Evaluation

Long ride times and illogical or circuitous routing was cited by 15 of the individuals who provided testimony on THE RIDE services at the March 2004 MBTA Board of Directors meeting. To analyze these concerns, the review team examined regulatory requirements and

MBTA service standards in this area. Actual ride times recorded for a random sample of 609 trips also were reviewed. Finally, a detailed analysis of a sample of the longest rides in this sample was conducted. This analysis compared these long rides with ride times that could be expected for a similar trips made on the fixed route system.

The following observations and recommendations were made regarding on-board travel times:

- Overall, THE RIDE contractors did not appear to have significant difficulties with long travel times. The system-wide average travel time was 28 minutes, ranging from 23 (JV) to 32 (KTI) minutes. Both KTI and GLSS appeared to have somewhat longer average ride times, based on the sample of trips used to analyze system-wide averages. Similarly, both KTI and GLSS had more trips exceeding 60 minutes than JV and VTS. However, it is reasonable to expect that there will be some variation as the characteristics of each zone and the travel patterns within zones vary from zone to zone and, therefore, from contractor to contractor.
- Based on a detailed sample analysis of long trips, it appeared that KTI's longer trips often involve trips into Boston where there are multiple pick-ups or drop-offs at area medical centers. Traffic and parking issues can be significant in those areas. The other trips that appeared to be problematic were those that included outlying communities (some of which are not directly served by fixed route services). The longer trips at GLSS appear to be more related to group trips where passengers are sharing rides with others going to or from a program service.
- It was noted that significant travel delays can occur in the Boston area due to rush-hour traffic. And, it was interesting to not that the vast majority of the trips that were identified as long trips were made during the morning and afternoon rush hours. In fact, 83 of the 99 trips in the sample were made during the rush hour. When allowances for traffic delays are taken into consideration, it is likely that 94 of the 99 long-trips studied (95%) had reasonable travel times.

Recent Efforts and Observations

On-board ride times were again tracked from December 2006 through February 2007 as part of the implementation of the monitoring plan. Table 2.12 shows the results of this more recent monitoring of travel times. As shown, a relatively small percentage of one-zone trips have travel times of more than 60 minutes. At GLSS, only 1.3-1.5% of all trips are more than 60 minutes. At JV, about 1.7-2.0% of single-zone trips are more than 60 minutes. At VTS, about 2.4-2.6% of one-zone trips take more than one hour. Kiessling had a slightly higher percentage of single-zone trips that are over 60 minutes – 3.5-3.7%.

Table 2.12. One-Zone Trips Taking More Than 60 Minutes, December 2006 to February 2007

Provider	December	January	February
VTS			
Total Trips Completed	46,458	47,445	42,864
One-Zone Trips > 60 Min.	1,147	1,138	1,130
% >60 Min. Trips	2.5%	2.4%	2.6%
GLSS			
Total Trips Completed	39,273	39,114	35,307
One-Zone Trips > 60 Min.	607	499	490
% >60 Min. Trips	1.5%	1.3%	1.4%
Kiessling			
Total Trips Completed	23,201	23,363	21,595
One-Zone Trips > 60 Min.	867	810	802
% >60 Min. Trips	3.7%	3.5%	3.7%
JV			
Total Trips Completed	20,163	19,926	18,146
One-Zone Trips > 60 Min.	341	355	356
% >60 Min. Trips	1.7%	1.8%	2.0%

The MBTA also developed a new report for more closely monitoring travel times. This report compares the direct travel distance and time to the actual trip distance and time. The report allows the MBTA to identify trips where the actual on-board ride time was excessively long relative to the direct travel time. It also shows the day and time of the trip, which allows for consideration of traffic and weather issues. **It is recommended that the MBTA use the new "Monitoring Trip Schedules Report" to randomly check the appropriateness on on-board ride times for THE RIDE trips**.

General Observations and Recommendations

Observations in the preceding sections are very focused on each of the areas of operations examined. Numerous recommendations are made that are very specific to each area of operation. At the "macro" level, there appear to be five more general, "big picture" issues that also should be considered by the MBTA. These macro issues include:

- the overall system design and method of contracting and payment;:
- the method of scheduling;
- public understanding of the service;
- the trade-off between same-day flexibility and service performance; and
- the fleet mix.

Each of these is discussed below. It is important to note, though, that these are issues that the MBTA should consider in the future. Major changes to the current service design are not

recommended at this point in time. As noted in Section 2.6 of this report, "THE RIDE Service Performance," service effectiveness and quality in most areas is quite good. The one exception is on-time drop-offs, which can be addressed with changes within the current service design. With strong service monitoring in the past two years, the MBTA has been able to improve service quality and operate an effective service within the current structure. The issues noted below, though, could pose service problems in the future and should be considered by the MBTA as needed.

Design of the Service

Paying service providers for variable costs on a per trip basis, while leaving reservations, scheduling and dispatch within the contractors' control is a model that is not typical in the industry. The issue is that payment per trip creates an incentive for the contractors to attempt to provide as many trips as possible with as little vehicle capacity as possible. This is how contractors maximize their profit. While in theory it is efficient, it has proven to typically result in service quality problems. A very tight monitoring process that looks at everything done in scheduling and dispatch is required (along with tough penalties for poor performance) to offset the profit incentive created. And it has proven very difficult to determine exactly what is done in daily operations that might cause poor performance – particularly where contractors have full access to almost all features of the system in order to do reservations, scheduling and dispatch. Other transit systems have found that they have had to either pay per vehicle hour (and then monitor productivity – which is easier), or centralize the reservations, scheduling and dispatch functions and remove them from the contractor's responsibility. Many systems have actually done both – centralized R/S/D and changed to a per hour method of payment.

This is not to say that the current model cannot work. If payment per trip is continued, though, it suggests that the MBTA may need to focus additional efforts and resources on the monitoring of service quality and will need to strictly enforce service quality standards.

Method of Scheduling

The MBTA also is atypical in the way it handles reservations and scheduling. The vast majority of systems do "real-time scheduling," which means that trip options and pick-up times are discussed and negotiated with riders at the time they call to place their trip requests. In these systems, when riders hang-up after placing a trip request, they have been given and have agreed to a scheduled pick-up time for each trip. Also, in these systems, the runs are built directly as the trip requests are received and then "worked" by schedulers behind the scenes. This way, trip requests that can't be successfully performed are never accepted.

In the current MBTA THE RIDE system, riders call and simply leave the time they would like to travel with the reservationists. No effort is made at the time the trip is booked to see if it can fit on a run or to negotiate times with the rider. Then, the day before the day of service, all of the trips in the system are "batch scheduled," and the riders are all called back by an automated call back system between 6-9PM. It is only at this time (via a computerized voice) that riders learn of the actual time their trips have been scheduled. If they are not happy with the times given, they call back and either go on a "will-call" list to have their trip "same-day dispatched," or call

dispatch in the morning and ask for their trip time to be changed or to cancel and ask for a same day trip.

The current system could, therefore, creates dissatisfaction among some riders with the final scheduling of their requests. It also can result in demand at peak periods that exceed supply (since trips are accepted without knowing exactly how they fit on a run), and places a lot of pressure on the dispatch portion of the operation – with many last minute cancellations, same day trip requests, trips placed on "will-call," etc.).

This method of operation is more likely to work if: (1) there is "flexible capacity" that can be used to meet demand that might exceed supply; and (2) if there is real strong dispatch capability. In the current THE RIDE systems, we discovered that dispatch capacity at some of the carriers did not appear to be up to the task of operating in this way. And, only two of the contractors – VTS and GLSS – had any kind of "flexible capacity."

Public Understanding of the Service

Some of the rider dissatisfaction with the service appears to be due to a lack of understanding about how the service works and what level of service to expect. The scheduling process and shared-ride nature of the service may not be fully explained in public information and riders (particularly newer riders) may not fully understand that they are likely to be offered pick-up times that are up to 30 minutes after their requested times or well before their appointment times. They also may not understand that they may often be scheduled to arrive up to 30 minutes early.

Similarly, the "pick-up window" is not regularly reinforced in the trip booking process and riders may not understand that vehicles can arrive from 5 minutes before to 15 minutes after the scheduled times. And, there is some inconsistency between the pick-up window communicated to riders in public information (-5, +15) and the window that service providers seem to focus on in operations (0, +30).

Also, riders may not fully understand the implications of requesting "will-call" service or asking vehicles to return after a no-show. In these cases, it may be reasonable for service providers to respond in 60 minutes, but riders may feel that the service is poor if it doesn't respond within 15-30 minutes of the time they call. And, there is no differentiation between service standards for pre-scheduled service and same-day, will-call, or no-show return service.

Trade-Off Between Same-Day Flexibility and Service Performance

The MBTA also appears to be attempting to provide riders with a high level of service. While the ADA only requires "next-day" service, the MBTA encourages same-day trip requests and service providers seem to allow many same-day changes. And, as explained above, the same on-time performance standards are used for same-day as well as prescheduled service. The MBTA is attempting to not only provide same-day trip flexibility, but provide it at a very high level of service (i.e., fast response time). Many other systems limit will-calls, and do little of no same-day service. Systems typically have a "no strand" policy and will never leave a rider stranded even after a no-show, but no-show returns are often the main reason for making same–day

schedule changes. If same-day changes or requests are allowed, these are often done on the understanding that response times may be significantly longer than for trips that are prescheduled.

Attempting to provide a significant amount of high-quality same-day service puts tremendous pressure of operations (particularly dispatch). To do this well requires significant dispatch capacity as well as either flexible capacity or "slack time" that can be used to respond to same-day requests. All of these things are costly. Without a significant investment in dispatch, flexible capacity, or "looser" schedules, there is a trade-off between service quality (on-time performance and ride time) and service level (same-day flexibility).

The MBTA, riders, and the disability community need to carefully consider this trade-off, determine if high-quality, flexible, same day service is a priority and if the improvements needed to provide it in a reliable way are affordable. If not, choices between the two might need to be made. For example, it might be much easier to significantly improve on-time performance if same-day changes and requests are limited.

The MBTA, riders, and the disability community also might want to consider alternate ways to provide same-day service flexibility. In some systems, the ADA paratransit service is limited to "next-day," prescheduled trips (with some no-show exceptions). Then, a limited "premium" taxi program is made available to accommodate same-day trip needs. In these programs, eligible riders can purchase a limited amount of taxi "scrip" that can be used to make same-day trips. The scrip typically is 50% subsidized, which means that this "premium" service has a higher effective fare. The amount of scrip that can be purchased also is typically limited and the period of time within which it can be used is limited.

By separating these two types of trips, the ADA service can be run on a controlled, prescheduled basis and at a higher degree of reliability.

Fleet Mix

Finally, the MBTA THE RIDE service uses a much higher percentage of sedans in its operation that any other system we have studied. The highest percentage of sedans we are familiar with is in New Jersey where 32% of NJ Transit's paratransit fleet is sedans. A recent study of the service found that more lift vans were needed and NJ Transit is moving to a ratio closer to 75% vans and 25% sedans.

While larger accessible vehicles cost more to purchase and operate, they allow for greater productivity and efficiency. Logical groups of riders that could be scheduled on one vehicle do not need to be split-up and served by multiple vehicles due to capacity limitations. Similarly, ambulatory riders and riders who use wheelchairs and who are traveling at similar times and to and from similar locations can be booked together rather than scheduled on separate vehicles. Basically, a uniform fleet ***allows for scheduling decisions based solely on time and space*** rather than on time, space and vehicle characteristics. Not having to consider vehicle characteristics in the scheduling decision allows for the most efficient scheduling.

A more uniform fleet also allows dispatchers to respond to same day service issues based on the most efficient solution. The closest vehicle with slack time can be chosen to assist when needed. When vehicle capacity and characteristics must be taken into consideration, these decisions become less efficient. Invariably, dispatchers will have to rely on vehicles that are farther away to assist since the closest vehicle is not accessible or does not have the capacity to cover the run that needs help.

There appeared to be widespread consensus among the schedulers, dispatchers and managers interviewed that more vans and less sedans were needed and would allow them to be more efficient and responsive to same day service issues. It is recommended that the MBTA use archived trip data to conduct "what if" analysis of scheduling with different fleet configurations. Using the ADEPT system, a different fleet configuration could be simulated and the trips for that day batch scheduled. The number of vehicle hours needed to schedule trips could then be compared for different fleet configurations.

While the issues presented in the "Public Understanding of the Service" section above is something that could be addressed in the sort-term by the MBTA, each of the other are presented for longer-term consideration by the MBTA. They affect the long-term contracts that have recently been executed with service providers. They also would require major adjustments to the method of operation. Each would require more extensive analysis and discussion with the community before being implemented.

2.5. THE RIDE Monitoring Plan

The final work task performed as part of the evaluation involved the development and implementation of a detailed THE RIDE Monitoring Plan. This Monitoring Plan was intended to assist the MBTA in its oversight and management of THE RIDE services. The Monitoring Plan was developed to address issues concerning THE RIDE which were raised by riders and the public, as well as issues identified during the on-site assessment of service provider operations.

The Monitoring Plan first identified contract management and service monitoring activities already being performed by MBTA staff. It then proposed a series of additional activities intended to strengthen the management and oversight of the service. A final version of the Monitoring Plan was submitted to the MBTA in September of 2006. Starting in September 2006 and continuing through February 2007, the TranSystems study team worked with MBTA staff in the Office for Transportation Access (OTA) to develop the special reports and implement portions of the Monitoring Plan.

This section describes the monitoring activities that were already being performed by MBTA OTA staff prior to the study. It then describes the additional monitoring activities suggested by the Monitoring Plan. Initial results from the new monitoring activities conducted between September 2006 and February 2007 are also noted. Finally, an estimate of the staff time that will likely be needed to continue to conduct these monitoring activities on an ongoing basis is provided. As identified in this last section, it is recommended that the MBTA add four professional staff positions in the OTA to allow for thorough and ongoing monitoring of THE RIDE services.

Current MBTA Monitoring Procedures and Practices

As noted in Section 2.1 of this report, day-to-day operation of THE RIDE is the responsibility of four contracted service providers. Each of these contracted providers operates in a designated part of the overall service area. Within each service region, the service providers handle all aspects of day-to-day operations, including trip reservations, trip scheduling, vehicle operations and dispatching, and vehicle maintenance.

Internal service monitoring is conducted by each of the contracted providers. General Managers and Operations Managers oversee the overall operation and are typically involved in employee hiring and supervision. Operations Managers also typically oversee the reservations, scheduling and dispatch functions. Pull-out/pull-in Supervisors also check drivers in and out, are responsible for making sure drivers perform daily vehicle inspections, provide drivers with daily run manifests, and assign vehicles to drivers. Maintenance Supervisors then oversee the maintenance and repair of vehicles and the correction of any equipment issues raised in the daily driver inspection process.

Monitoring and oversight of the four contracted service providers is then the responsibility of the MBTA's Office for Transportation Access (OTA). The OTA is divided into two sections; one

located at Ten Park Plaza that oversees THE RIDE services, and a Fixed Route Access section located at Back Bay Station that oversees fixed route bus and rail accessibility. An organizational chart showing the staffing of the OTA's THE RIDE section is provided as Figure 2.4 on the following page. As shown, the activities of this office are overseen by the Manager of Paratransit Contract Operations, who reports to the MBTA's Director of Operations for Passenger Services and Schedules. The Manager is responsible for community relations, policy development and planning, the paratransit and OTA office budgets, as well as the design, procurement and management of the paratransit service contracts.

An Administrative Coordinator who reports to the Manager provides administrative and clerical assistance to the Manager and office as well as to the staff at the Fixed Route Access office at Back Bay Station. The Administrative Coordinator is assisted by one Access Clerk. At the time of this review, two other clerical positions were authorized within the office but were vacant.

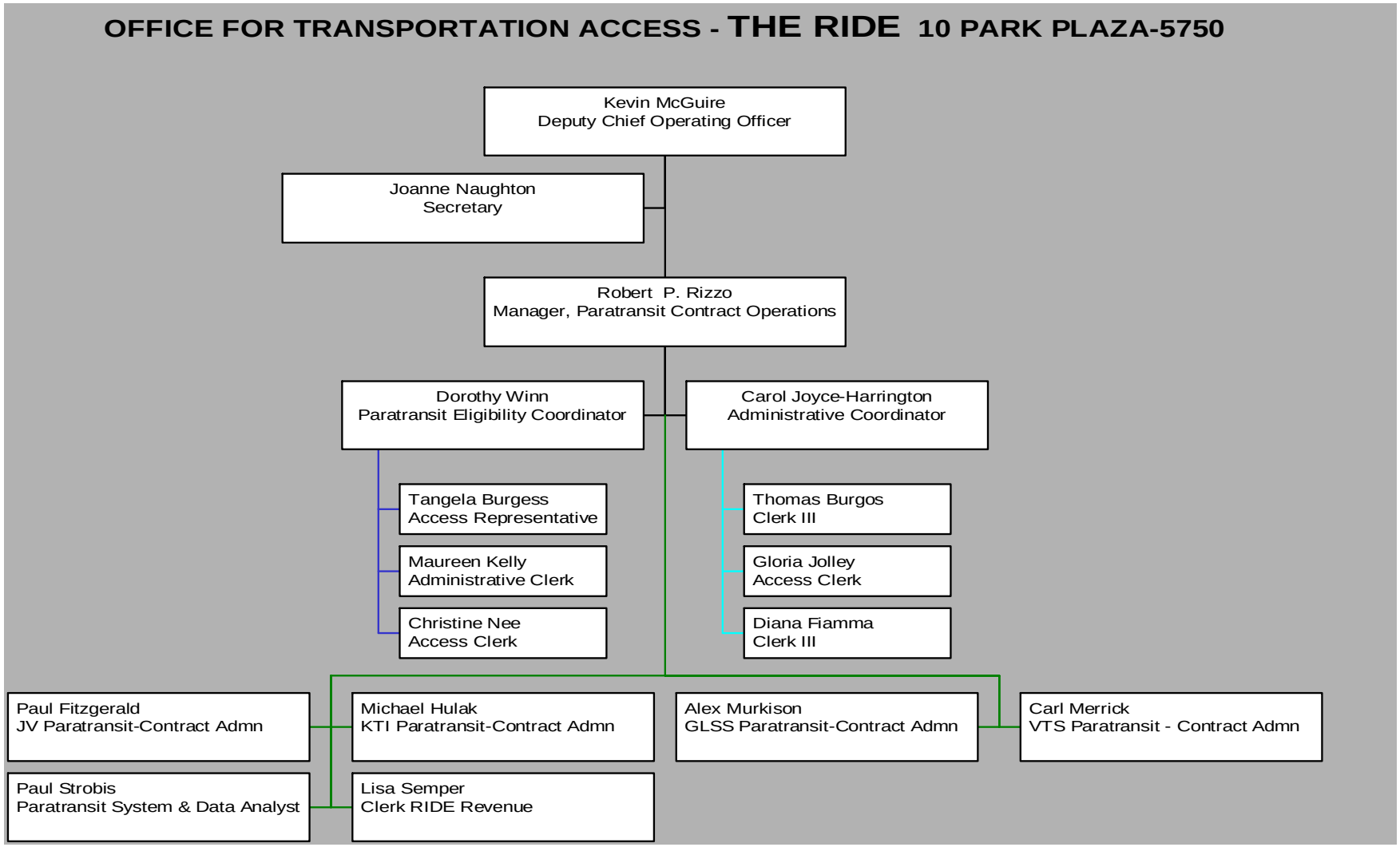
A Paratransit Eligibility Coordinator, who reports to the Manager, handles eligibility determinations. The Eligibility Coordinator, together with an Access Representative, manages three Clerks/Representatives who assist with eligibility determination functions. The five-person eligibility unit makes eligibility determinations for between 200-300 applicants each week and manages the records and recertifications of over 65,000 individuals who have applied for and been determined eligible for THE RIDE. This unit makes initial determinations of eligibility and also manages the appeals process, which is required by the ADA.

A Data Systems Analyst manages the software system that includes the master rider files as well as the daily trip records. A sophisticated, state-of-the-art software system, mobile data terminals, and an automatic vehicle location system are used by each of the four contract providers to manage daily THE RIDE operations. The OTA manages the master rider files and downloads these to the service providers. Daily trip and service information is then uploaded from each service provider. The Data Systems Analyst is responsible for coordinating these MIS efforts. He coordinates activities between the software and hardware manufacturers, the contract service providers, the MBTA's IT Department and the OTA staff. He also provides systems support for the office and assists the Manager of the Office with the preparation of daily, weekly and monthly reports and other special reports.

All other contract provider oversight as well as customer service is then mainly handled by four Contract Administrators. One Contract Administrator is assigned to oversee the activities of each contract service provider. Each Contract Administrator also serves as the primary contact for riders from that provider's region who are contacting OTA with service issues or who are filing a formal complaint. The Contract Administrators therefore perform both a customer service function as well as a contractor oversight and management function.

In FY2005, the four Contract Administrators were overseeing contracts that were collectively valued at $45.4 million per year. The contract service providers they monitor employ over 700 employees and operate a collective fleet of 480 vehicles.

Figure 2.4. OTA- THE RIDE Organizational Chart



The four Contract Administrators estimated that about half of their time is spent each day handling customer service functions - taking calls from riders, following up on issues identified by riders, and filing and processing rider comments and complaints. Riders are directed to one of the four Contract Administrators based on the provider that their comments/complaints relate to.

Most of the other half of the Contract Administrators' time is spent on several daily, weekly, and monthly contract monitoring and oversight activities. These activities are detailed in a "FY05-09 RIDE Contract Operations Compliance and Oversight SOP" memorandum that was developed by the OTA Paratransit Contract Operations Manager. The Contract Administrators are assisted in completing these regular tasks by a new state-of-the-art THE RIDE Management Information System (TRMIS) that was developed and implemented in late 2004 as part of the transition to new contracts and the introduction of several new technologies. The TRMIS gives OTA staff real-time access to trip records, vehicle location, vehicle maintenance data, personnel files, fare account information, and certain financial information at each service provider location. Using the TRMIS, the following daily and weekly monitoring tasks are to be performed by each Contract Administrator.

Daily:

- First thing in the morning, each Contract Administrator will open the Terminal Service connections to each service provider. This allows the Contract Administrators to have access to real-time trip scheduling and dispatching screens that allow them to see scheduled trips and to follow the actual performance of the trips throughout the day. At a minimum, each Administrator opens the dispatch screen so they can follow the delivery of service throughout the day.
- Each Administrator also opens the AVL viewer feature within system, which allows them to locate and track individual vehicles within the fleet.
- Each morning, the Administrators will check provider phones by actually calling the number to make sure the phones are functioning as designed.
- Each morning, the Administrators also will check to be sure that the Internet and IVR systems at each provider location are functioning.
- A "Daily AM Report" also is run each morning and reviewed by the Contract Administrators. This report shows the number of trips that have been requested for the day, the number denied, and the number scheduled. This information is used to track trip denials. It also shows the number of vehicle hours of service scheduled for the day and the number of hours per route. This information is helpful in checking on scheduling efficiency and on the average total hours being worked by drivers. Finally, the report shows how many of the MDTs and AVL systems on vehicles that are in service are functioning. This information is important for ensuring that all data collection and operating systems are functioning as needed.
- Once the real-time monitoring systems are opened, the Administrators typically also scan the dispatch screen to get a sense of how service is going in the morning. They also will periodically check on-time performance and the status of trips throughout the day to get a

sense of how things are going. If problems are noted, they may also call and get an explanation from the providers.

- On a daily basis, and throughout the day, the Contract Administrators also scan for responses to complaints from their assigned provider (see Section 2.7 for more detail).
- On a daily basis, and throughout the day, the Contract Administrators also scan the system for accident or incident reports filed by their assigned provider.
- Throughout the day, the Administrators also review e-mail received.
- Throughout the day, the Contract Administrators also check on the number of trips on each provider's "Wait List." This gives them an idea of how much same-day dispatching will be needed to accommodate trips not actually scheduled onto runs.
- Throughout the day, the Administrators also will do random checks of no-shows, check the trip data associated with these no-shows and look at associated "dispatcher notes" to ensure that no-shows are being accurately reported and handled in accordance with service policies.
- Administrators also receive and act on any "waiver" requests from contract service providers. These are requests associated with performance that is not in compliance with service standards. For example, a carrier might request a waiver for performing a trip late and cite unusual traffic conditions or weather conditions as the cause. The Administrators must review the merits of each case and then act on and notify the service providers of their decisions.
- Each Administrator also has a two-way radio that is on the same frequency as the system used by the service provider they are monitoring. The radio is always playing in their offices and they monitor activity and issues throughout the day. They are skilled at recognizing when service issues are developing by the type and demeanor of the transmissions. This also allows them to regularly monitor interactions between drivers and dispatchers.
- Each Administrator also checks the AAA fuel price on a daily basis. This information is then used to review monthly invoices.
- Finally, the written Standard Operating Procedure (SOP) also calls for Administrators to review Vehicle Location Audit Reports (see Figure 2.2) on a daily basis. These reports were created to check the accuracy of automated pick-up and drop-off information being recorded by drivers. The reports show all pick-ups and drop-offs by run. The pick-up and drop-off locations, along with the X-Y coordinates for each address are shown. For pick-ups, the promised time is then shown. For drop-offs, the appointment time or requested drop-off time is shown if this was provided by the rider. The times and X-Y coordinates for vehicle arrivals and departures from each pick-up and drop-off are then shown. And finally, the variations (in minutes and in miles) of the recorded pick-up and drop-off versus the scheduled pick-ups and drop-offs are shown. A sample report for Run #1005 on October 1, 2005 is provided on the following page (note that rider names and addresses have been hidden on this copy for confidentiality reasons). By reviewing these reports, Administrators can see if drivers pressed the "arrived" button when they were not near the actual pick-up or drop-off location. Some small variations are expected due to system tolerances, but major variations are noted. If major variations are noted, the Administrators will look more closely at information about the pick-up/drop-off (e.g., review AVL and route records) to see if the variation is a technology issue or an operations issue.

Weekly:

- Contract Administrators check to be sure the TTY at each provider location is working by making a test call to each number.
- Administrators check the reservations/scheduling system parameters that have been set by each provider by going into the system once a week and verifying that the settings are in accordance with contract requirements.
- The automated information on provider personnel (information about prequalification and training requirements) is checked once each week.
- The standard on-time performance report is run to check weekly performance by each provider.
- Administrators log into the Fleet Maintenance section of the TRMIS system to check preventative maintenance intervals to verify they are within contract requirements.
- Administrators also review phone MIS reports to check on phone hold times.
- On a weekly basis, Administrators also are tasked with getting out on the road and making on-street observations of the service. This would, for example, include observing driver performance at pick-up and drop-off locations, or following vehicles to observe safe driving habits. The Administrators have PDAs that are tied into the TRMIS system to facilitate these on-the-road activities.

Monthly:

- The four Contract Administrators are also responsible for reviewing and signing off on service provider invoices each month. Several detailed reviews are involved. First, the administrative costs in the invoices are checked against contract and bid agreements to ensure that all administrative costs are appropriate. Next, the per trip portion of the billing is checked against trip records for the month. Third, fuel purchases throughout the month are checked to ensure that they were at the prevailing prices. Fuel purchases are actually checked on a daily basis and compared to the average area price as reported by the Automobile Association of America (AAA) for that day. All fuel purchases are reported in the invoices on a daily basis and the rates are checked against the AAA rates. Any purchases over the prevailing prices are adjusted. Finally, a series of checks are made to determine what incentive payments or penalties need to be applied. This includes checking late trip and missed trip reports, checking responses to complaints, checking other late reporting for accidents and incidents, and reviewing other contract violations recorded for the past month.

Because office staff is limited, the Contract Administrators also have been assigned other office support duties. For example, one Administrator handles all issues related to vehicle registrations and insurance. With 298 of the vehicles in the fleet owned by the MBTA, this can be a significant task, particularly at certain times of the year. This same Administrator also is responsible for preparing monthly reports that are provided to the Access Advisory Committee to the MBTA (AACT). One of the Administrators also is responsible for preparing any Braille materials requested from the office. One significant request can take a day or more to properly format and produce. Another Administrator handles billing to the service providers of Nextels

assigned to OTA office staff (the contract with the service providers calls for them to pay for Nextels that are used by OTA staff). One of the Administrators also handles all supply orders for the office and coordinates activities of THE RIDE Safety Committee. One of the four Contract Administrators also has been assigned the responsibility of tracking and reviewing safety procedures and information. He conducts regular checks of accident and incident information, takes and reviews accident and incident reports filed by the four contract service providers, participates in regular safety meetings held by the four providers, and tracks and analyzes the safety records of each provider.

Finally, the Contract Administrators indicated that they attempt to get out to service provider locations to meet with provider managers and staff and make first-hand observations when they are able. Because of all of their other duties, though, the Administrators indicated that they are only able to get out to the provider sites about once every 1-2 months.

The Administrators also indicated that while they are able to perform most of the tasks called for in the SOP, they are not able to make many on-street service observations. One Administrator indicated, for example, that he has been able to make about four on-street observations in the past five months. The Administrators noted that being out of the office for an extended period of time affects their ability to do good customer service. While they are out, riders end up leaving voice messages. It then can take some time to catch-up on voice messages and other ongoing daily duties if they are out for several hours.

General Observations and Recommendations

- The following observations and recommendations were made concerning the MBTA's monitoring of THE RIDE service by the TranSystems study team.

- With the addition of new technologies in 2004 and the development and implementation of the TRMIS system, the MBTA has excellent systems and technologies in place for service monitoring. These systems and technology are already being used to perform several contract management and oversight activities. Additional monitoring appears possible with these systems. These additional monitoring opportunities are discussed in the remainder of this memorandum.

- It also was noted that while a number of daily, weekly and monthly contract monitoring and oversight functions are specified in the SOP, the actual outcomes of these activities could be more defined and documented. For example, while each Contract Administrator reviews the Vehicle Location Audit Report, there is no defined standard for what variations should be explored (e.g., all variations over 1.0 miles). Each Administrator also pursues and documents these variations in different ways. More standard criteria for what should be identified and documented could be helpful.

- The customer service function performed by the OTA also is very important. With contract providers handling all aspects of service delivery (reservations, scheduling, dispatch) it is important that riders be able to raise issues with the MBTA if the service they are receiving is

not adequate or appropriate. The daily contact that OTA has with riders also is very helpful for providing the staff with a sense of how the service is performing.

- Given the staff available, though, the time required to perform customer service functions takes away from the ability to perform important contract management and oversight functions. Half of the time of the four Contract Administrators appears to be spent on customer service and complaint processing tasks. As a result, some important contract management and oversight functions are being deferred. Regular on-site visits at the provider locations and on-street observations are currently very limited.

- To allow for more on-site visits to the providers and on-street observations, we would recommend that the MBTA consider additional staffing within the OTA. Additional staff also is needed to be able to conduct the additional monitoring activities included in the Monitoring Plan (detailed in the next section). We would recommend that four additional professional positions be added to OTA. These addition staff would allow OTA to have a team of two people assigned to oversee each service provider. With two-person teams, OTA could conduct the needed on-site and on-street monitoring activities as well as cover customer service issues related to each service provider. If one member of the team was on the street or at the provider site, the other could cover customer service tasks.

Additional THE RIDE Monitoring Plan Activities

In addition to the customer service and contract management activities already being performed by MBTA OTA staff, the Monitoring Plan developed as part of this evaluation recommended several additional service monitoring activities. Between September of 2006 and February of 2007, the TranSystems team worked with MBTA staff to implement each of the following activities.

Tracking and Reporting of Telephone Service Performance

The Monitoring Plan calls for THE RIDE service providers to collect information about phone performance (i.e., phone hold times) for each hour of the day and for each call group (i.e., reservations and dispatch). Each day, the average hold times for each hour should be reviewed and the number of hourly periods where the average hold time exceeded two-and-a-half minutes should be noted. The daily summaries should then be tabulated for each month and included in the monthly reports submitted to the MBTA.

To implement this recommendation, a sample form was developed and instructions for tabulating phone performance was distributed to all four service providers in August of 2006. All four service providers then began submitting tabulations of phone performance starting with the September monthly reports to the MBTA. OTA Contract Administrators are now able to review these reports and follow-up on any phone performance issues as part of their regular contract management activities.

Random Monitoring of Telephone Recordings

The Monitoring Plan recommends that phone recordings be randomly monitored. The recommendation is to monitor call recordings at each provider site for a randomly selected day each month. The process called for at least 100 calls to be monitored each month at VTS and GLSS and at least 50 per month at Kiessling and JV (which provided about half as many trips). Calls at various times of the day should be reviewed, including calls to dispatch in the early morning, calls to reservations in the morning and afternoon, "Where's my ride?" calls in the afternoon, and calls in the evening after call-backs have been made. Observations should be made regarding:

- The professionalism and courtesy of dispatchers and reservationists;
- Adherence to service policies in the trip reservations and dispatch processes.

Calls concerning very late rides and disputed no-shows also should be noted and then investigated.

Because this is a labor intensive activity – requiring on-site monitoring of phone recordings at most of the service provider locations, TranSystems worked with OTA staff to implement this activity. The assistance of community members also was obtained to help with this activity during the Fall of 2006 and Winter of 2007. TranSystems staff and community members performed the actual monitoring of calls and tabulated the results. Issues identified were then resolved with the assistance of the MBTA OTA Contract Administrators.

Monitoring of Ride Times Offered

This activity calls for a special report to be run each month to compare the trip times requested by riders to the trip times offered and scheduled by the service providers. This comparison should then be used to ensure that trip offers are reasonable and comply with service policies.

The specifications for a special report were developed by the MBTA and TranSystems in August of 2006. A work order was then executed with StrataGen, the software manufacturer, for the development of this report. A report was developed in November 2006. It was tested with sample data, revised, and tested again. This report is now available to MBTA Contract Administrators for ongoing use.

The report contains the requested pick-up time and the scheduled pick-up time. It then includes a calculation of the difference between the requested and scheduled time. The data in this column can be quickly scanned to see if pick-ups were scheduled more than 30 minutes from the requested times.

The report also shows the requested drop-off time, the actual drop-off time, and the estimated trip miles (the shortest path distance from the pick-up location to the destination). This information can then be used to determine if pick-up times given for trips booked based on appointment times are reasonable. The scheduled pick-up time can be compared to the requested

drop-off time to see if the pick-up was scheduled too far in advance. If there is a long time between the scheduled pick-up and the requested drop-off time, the reviewer can look at the trip distance (miles) to see if the allowed time is reasonable given the distance of the trip.

Finally, the report shows actual miles and time on-board a vehicle, and the direct miles and travel time. This information can be used to monitor the reasonableness of travel times experienced by THE RIDE users.

Monitoring of Call-Back Outcomes

This activity is intended to check to ensure that the automated call-back process (which notifies riders of the times at which their trips have been scheduled) is functioning properly and that riders are receiving calls with their scheduled ride times the evening before the day of service. It calls for service providers to generate call-back outcome reports each day, review the reports to determine the number of call-backs completed successfully, and then tabulate and report call-back outcomes to the MBTA on a monthly basis. It also recommended that service providers identify riders whose call-backs regularly failed, to follow-up to determine why the failure occurred, and to then attempt to contact the rider to resolve the problem.

The procedure for monitoring call-backs and reporting results was reviewed with service providers in August of 2006. A form to be completed and submitted each month was distributed and discussed. All four service providers are now generating and submitting these reports to the MBTA for review.

Verification of Pick-Up Times

Two different activities are proposed to verify the accuracy of times entered into the ADEPT system and used in calculating on-time performance. The first is to use documentation of late pick-ups from the call monitoring process to then see if the times in the ADEPT system matched the times discussed in the telephone calls. The second activity is to use automatic vehicle location (AVL) data to identify trips where the pick-up times were "performed" by drivers at locations significantly different from the scheduled pick-up location. This second activity utilizes special Vehicle Locator Reports. These reports show all trips for the day, the scheduled pick-up address, the geographic coordinates (X-Y coordinates) of the scheduled pick-up address, the X-Y coordinates of the location where the driver "performed" the pick-up, and the approximate address of the "performed" location.

Vehicle Locator reports are generated each month for a randomly selected day of service. The reports are then reviewed by the Contract Administrators to identify trips where there was a variation in the geographic coordinates of the "performed" location versus the coordinates of the scheduled pick-up location. Because some variation can be expected to be caused by approximations of addresses by the system or by the accuracy of the AVL tracking, trips were considered to be accurate if the variations were less than a mile. Trips with variations greater than a mile are typically selected for investigation. Since the focus is on verifying the accuracy of pick-up times, the review also considers only pick-ups with significant variations. Particular attention is also given to trips where the times recorded were close to being late (e.g., recorded as

being 20 or 25 minutes late – just a few minutes under the 30-minute time that would trigger a penalty).

The process of generating and reviewing Vehicle Locator Reports was refined during the September 2006 to February 2007 six-month monitoring period. MBTA Contract Administrators are now able to continue this activity on an ongoing basis.

Monitoring of On-Time Drop-Offs

The Monitoring Plan notes that, prior to September of 2006, the service providers and the MBTA only tracked and reported on-time pick-ups. Information about on-time drop-offs was not regularly collected and reported. The plan also notes that the Federal Transit Administration (FTA) has indicated in recent ADA compliance reviews that it considered on-time drop-offs to be an important part of overall on-time performance. The plan therefore recommends that service providers develop and run reports each month that compared actual drop-off times to appointment/desired arrival times.

The need to track on-time drop-offs was explained to service providers at a meeting in August of 2006. With the assistance of MBTA staff, each service provider then created a report to track actual drop-off times, compare these times to stated appointment times, and then calculate the number and percentage of trips where the actual drop-off was performed late. All four service providers began tracking and reporting on-time drop-offs starting in October 2006.

Monitoring of Trip Cancellations

The Monitoring Plan indicates that there is a need to check trip cancellations and re-bookings to ensure that trips are only re-booked at the request of riders. This is important to ensure that service providers are not re-booking trips with updated pick-up times as a way of masking late trips. The Monitoring Plan recommends that a special report be run each month to identify instances where a trip is cancelled on the day of service and then re-booked with a similar time, to and from the same origin and destination.

A work order for the recommended report was issued by the MBTA in August 2006. StratGen began working on the report in September 2006 and the final, tested report was ready for use in November 0f 2006. The report shows all trips that were cancelled and then re-booked with the same origin and destination. Details of the initial trip booking are provided. All subsequent changes are then listed in chronological order. The dates and times of all changes, the persons who made the changes, and any scheduler or dispatch notes indicating why the changes were made are shown.

MBTA Contract Administrators now are able to generate these reports each month. Ongoing review of the reports is labor intensive, though, and will require additional OTA staff as detailed at the end of this section.

Tracking Key Daily Operations Information

The Monitoring Plan also recommends that key operations information be recorded by the service providers and sent to the MBTA each day. This includes the number of runs created, the number of trips on stand-by at the beginning of the day as well as at other times of the day, the number of vehicles available for service, the number of drivers reporting for service, the number of runs closed due to a lack of either vehicles or drivers, and the availability of other staff. The information in these daily reports will allow the MBTA Contract Administrators to know how well staffed and prepared the provider is for each day of service.

A draft "Daily Operations Report" was distributed and explained to all service providers at a meeting in August of 2006. Each provider began submitting reports starting on September 1, 2006.

Monitoring of Travel Times

The service providers and the MBTA already track and include the number and percentage of one-zone trips taking more than 60 minutes in the standard monthly reports to AACT. In addition, the Monitoring Plan suggests that long trips be analyzed to ensure that trip scheduling and dispatch is appropriate. A "Monitoring Trip Schedules Report," which provides travel time information as well as trip scheduling information, was created as part of the study effort. This report shows the scheduled ride time and the actual on-board ride time. It also shows the direct mileage between the origin and destination and the actual number of miles traveled by the rider. In addition, it shows the actual origin and destination addresses as well as the time of day that the trip was made. This data can then be reviewed to determine if the travel time was appropriate given the length of the trip (based on the direct miles) and for the time of day (to take traffic issues into consideration). The report also shows if a ride was "circuitous" by comparing the direct miles to the actual on-board miles.

This report was finalized in March of 2007 and is now available for ongoing use by the OTA Contract Administrators. Investigating long trips is time consuming. The ongoing use of this report will require additional staffing within OTA.

Ensuring Safe and Efficient Vehicle Operation

In addition to the monitoring activities noted above, the Monitoring Plan also suggested that MBTA OTA staff pay particular attention to key operating practices that have an impact on safe and efficient vehicle operations. These key operating practices include:

- Maintaining a qualified, experienced, well-trained, and productive workforce;
- Fully utilizing the technologies and tools available to enhance operations; and
- Thorough vehicle maintenance.

This area of service monitoring was identified as being particularly important since numerous public comments were received that expressed concern with new, inexperienced drivers. Riders also indicated that new drivers often did not seem to know the service area as well as more experienced drivers, which seemed to impact on-time performance. Comments were also received about the poor English language proficiency of some drivers.

First-hand observations indicated that there was significant turnover, higher than the goals set by the MBTA, at certain service providers. First-hand observations also indicated that some service providers were lengthening driver shifts from 10 to 12 hours and then sometimes keeping drivers in service beyond the 12-hour scheduled shift time. Concern was expressed about safety issues that may be related to these long hours. Finally, the on-site assessments conducted in the Spring of 2005 indicated some issues with daily vehicle inspections and maintenance.

To assist in managing and monitoring these issues, the Monitoring Plan recommends that the MBTA consider adopting several new service standards, including:

- A contract performance goal of no more than 25% annual turnover of drivers or other employees. Employee turnover should be tracked and reported. If turnover exceeds 25%, service providers should be asked to indicate actions that will be taken to lower the turnover rate.

- Requirements related to the maximum length of driver shifts. Some companies have extended driver shifts to increase afternoon capacity. Standard shifts at these companies now appear to be 12 hours long. And drivers also may be asked by dispatchers to extend their 12 hour shifts. While this does not appear to exceed federal or state standards that apply to commercial drivers, the job of driving for THE RIDE is much more demanding than driving a taxi or driving for a freight delivery service. Taxi drivers can schedule and take breaks as needed and desired, and truck drivers do not have the same level of stress. The MBTA should consider a maximum shift time that is appropriate for THE RIDE service.

- Increased driver training requirements for map reading training and on-the-road instruction. Drivers should have a working knowledge of the major roads, origins and destinations of any area they are assigned to serve.

- A penalty for each incident where preventative maintenance is not performed as required. Given that this is a safety issue, a significant penalty is recommended. This might be a $500 penalty for each service interval that is missed by more than 1,000 miles.

- A penalty be implemented if vehicle inspection forms are found to be missing for performed driver shifts. A penalty of $100 for each shift where a form is not found as a result of on-site visits is recommended.

The addition of new standards would obviously need to be negotiated with the service providers. In some cases, standards may be able to be added as issues related to general service quality and required for ADA compliance. New standards also may be possible for general service performance tracking and monitoring purposes. The addition of incentives and penalties,

though, would probably need to be agreed upon by the service providers. In any case, these new standards should be considered in future contracts.

Monitoring and Reporting

More frequent on-street inspections also is recommended. Standardized procedures and forms for conducting on-site and on-street inspections also are recommended.

Some on-street inspections may be focused on on-time performance and driver assistance and performance. In these cases, the vehicle and driver may just be observed and the form used would document when and where the observation was made, the vehicle number, the time, and observations regarding driver performance and assistance. The MBTA also should consider using a video camera for these types of observations so that the documentation collected is indisputable and could be used should employee discipline be required.

In other instances, on-street inspections should involve not only observations of driver performance and assistance, but also vehicle inspections and driver inspections. In these cases, the interior as well as exterior condition of the vehicles should be checked. The presence and condition of on-board equipment should be checked, and the driver ID and license should be checked.

On-site inspections should be unannounced and should include:

- **A review of employee records.** At each visit, five drivers, two reservationists, and two dispatchers should be randomly selected from the most current employee list. The personnel files of these employees should be checked for documentation of pre-qualification checks and training.

- **A review of payroll records**. The payroll records for the most recent week should be examined to determine actual hours worked by drivers. Excessively long shifts should be noted. If the MBTA adopts a maximum shift standard (to supplement general state and federal work rules), the actual hours from these payroll records should then be used to ensure compliance with this requirement.

- **A review of vehicle maintenance files**. Ten vehicles should be randomly selected from the full fleet roster at each visit. The file for that vehicle should then be examined and compared to information in the automated maintenance system. Actual preventative maintenance intervals should be compared to the required intervals.

- **A review of vehicle inspection forms**. A day of service should be randomly selected. The pull-out sheets showing all of the shifts for the day should be obtained. Copies of vehicle inspection sheets should then be examined to make sure there is a completed form for each shift.

Contract Administrators should conduct full on-site inspections at least once every quarter. It also is recommended that a minimum of ten on-street inspections be performed each month by

each Contract Administrator. Half of these on-street inspections should be random and half should be "targeted." Complaint information and prior observation information should be used to select particular drivers for these targeted observations.

It should be noted that the staffing changes recommended at the end of this section are needed before significant additional on-street and on-site inspections can be implemented. The Contract Administrators also will need to have access to staff vehicles to enable them to get out and make on-street and on-site inspections.

In the long-term, it is recommended that the MBTA consider equipping all THE RIDE vehicles with on-board cameras. This would help tremendously with the monitoring of safe vehicle operation and complaint investigation. It also would be consistent with efforts at the MBTA and at transit systems nationwide to improve safety and security on public transit systems. Safety and security funding might even be able to be used for the equipment.

THE RIDE Comment and Complaint Process

The Monitoring Plan also includes recommendations for strengthening the handling of rider comments and complaints. While the study found that OTA staff spend a considerable amount of time addressing rider complaints and taking actions to correct problems identified, a few areas of possible improvement were identified.

First, it suggests that the goals of the rider comment and complaint process should be:

(1) To make riders feel comfortable raising issues through the complaint/comment process;
(2) To make sure all comments and complaints are captured and logged;
(3) To ensure a thorough and meaningful investigation of comments and complaints is performed;
(4) To keep riders informed about the status of their complaints and the outcome/actions to be taken;
(5) To use results from the complaint process to strengthen the service monitoring process; and
(6) To use results of the complaint process to strengthen the employee training process.

The Monitoring Plan suggests that the following procedures be incorporated into the MBTA's THE RIDE rider complaint handling process in order to ensure that the above goals are achieved.

First, it is important for OTA staff to ensure that all rider complaints received by the service providers are appropriately referred to the MBTA. Because riders work with the service providers on a daily basis, there may be a tendency for them to contact the provider when they have a complaint rather than notifying the MBTA. Public information should continue to stress that comments and complaints should be directed to the MBTA. The monitoring of service provider telephone calls also should identify any instances where riders who are calling with concerns are not referred to the MBTA.

Also, it is important for riders to feel comfortable with raising concerns. Because riders have direct and ongoing contact with drivers, reservationists and dispatchers, it is not unusual in this type of service to hear that people are afraid to raise concerns or may feel uncomfortable doing this. So, one thing to consider is to have a process that asks the rider if they mind having their name released to the service provider if this is needed as part of the investigation. The complaint form should include a note that says it may be necessary to give the rider's name and trip information to the service provider as part of the investigation. It should then ask the complainants if they agree to have their names released, and it should indicate that if they do not want their name released it may affect how thoroughly the complaint can be investigated.

The same discussion should be conducted with complainants if comments are received by phone. And if complaints are received via letter, e-mail or other means, contact should be made with the complainant to determine if they agree to have their name released to the provider before an investigation is started.

Giving complainants the choice to withhold or release their names may require that more incidents be investigated by OTA staff rather than service provider staff. This may require a renegotiation of contracts with the service providers as well as additional staffing at OTA. An alternative, should additional customer service staff not be approved for the OTA, would be for the MBTA to contract with an "ombudsman" agency to take, process and investigate complaints.

If the complainant wants to remain anonymous, an investigation plan that keeps them unknown to the provider should be developed. The investigation approach should then utilize the systems and technology in place to help with management and monitoring. The approach also should be tailored to the exact complaint. For example:

- If the complaint alleges issues with reservationist or dispatcher professionalism or actions, the person at OTA (or the third-party ombudsman agency) should listen to the phone tapes and the conversation between the complainant and the reservationist/dispatcher.

- If the complaint has to do with a vehicle no-show, the investigator should go to the AVL files and see where the vehicle was at during the time the pick-up was to be made.

- Or, if the complaint has to do with the driver, the investigator should look at the manifest, see if there were any other riders on-board at the time of the alleged incident and contact them to get a second opinion on what happened.

If the complainants do not mind having their names released, the complaints should be forwarded to the service provider to handle (if appropriate). Again, though, the investigator at the MBTA or ombudsman agency may still want to undertake some initial investigatory activities using some of the readily available information made possible by the advanced technologies in use.

Throughout the process, it is important to make sure that the person investigating is not "too close" to the situation and that the person doesn't have a potential bias in the outcome. Again,

this argues for the involvement of MBTA staff or a third-party ombudsperson in some investigations – rather than service provider staff.

As noted above, a thorough investigate of issues is important. The MBTA has and continues to invest in a lot in technology and systems that can be very helpful to complaint investigations (telephone recording systems, AVL, MDTs, software with tracking records that can tell each time a trip record is touched or changed, software with a dispatcher notes capability that can be used for service providers to track and in-service issues, etc.). These investments should be fully used.

The information from the complaint process should then tie into the monitoring process and employee training and discipline. OTA staff should track complaints by service provider, by issue, and by employee. If there are repeat complaints of a particular type or against a particular employee, this should trigger independent monitoring. If the independent monitoring confirms the issues, this should tie into re-training and enforcement/discipline.

It is important that the complaint process be viewed not just as a process for addressing individual issues, but for identifying and correcting broader system problems. Findings from complaint investigations should then be used to identify and correct systemic problems. If complaints show inappropriate scheduling or problems with service delivery (e.g., uncovered runs that caused lateness), the complaint information should trigger negotiations and discussions with service providers to correct the deficiencies noted.

Similarly, all other monitoring activities suggested in this plan should be used to identify and correct system problems. For example, if the monitoring of on-time arrivals indicates less than ideal performance, the reasons for late arrivals at appointment should be studied. Corrective actions should be taken if this study identifies systemic problems (e.g., computer parameter settings or lateness due to same-day add-ons). Or, if the monitoring of no-shows indicates less than ideal control by dispatchers, new policies and practices to strengthen dispatch oversight of no-shows should be considered and implemented. In general, monitoring activities should not be a static process, but part of a dynamic effort to continuously evaluate and improve the service design, policies, and procedures, and performance.

Staffing Recommendations

Each new monitoring activity proposed in the Monitoring Plan will require added staff time. A summary of all recommended additional activities and the added staff time is provided in Table 2.13 below. As shown, it is estimated that an additional 320 person-hours of time will be needed each month to conduct the recommended monitoring. As noted in the "General Observations and Recommendations" section above, we suggest that four professional positions be added to OTA to allow the MBTA to have teams of two professional staff overseeing each service contract. Given the size of these contracts, the numbers of vehicles operated and trips provided under each contract, and the importance of these services, we feel that a staff of eight Contract Administrators (rather than the current four) is appropriate. Without additional staff, the recommended monitoring procedures in the Monitoring Plan will not be possible or would have to be scaled back significantly.

Figure 2.13. Summary of Additional Staff Time Required for Recommended Monitoring Activities

Recommended Additional Monitoring Activity	Estimated Hours per Service Contractor per Month	Total Staff Hours per Month for All Four Contracts
Random review of telephone recordings	8	32
Monitoring of Trip Scheduling	4	16
Detailed documentation of Vehicle Location Audit Reports	4	16
Monitoring of trip cancellations and rebookings	4	16
General review of runs and scheduling practices	4	16
Monitoring of no-shows and late cancels	16	64
Monitoring of travel times	8	32
Additional on-site visits (one per month)	8	32
Additional on-street monitoring (three days per month)	24	96
More detailed complaint investigation	80	320
TOTALS	**160**	**640**

2.6. THE RIDE Service Performance

In addition to assisting with the implementation of recommended monitoring activities, the TranSystems team also collected and reviewed THE RIDE service statistics and service performance information. The total number of trips completed each month, the number of trips 16-30 minutes late, the number 31+ minutes late, and the number of complaint each month were tabulated. This information was collected for each service provider for Fiscal Years 2005 and 2006. Data for Fiscal Year 2007 was collected through February 2007. Attachment D includes month-by month data for each service provider for this two-and-a-half year period.

As the data in Attachment D shows, performance and trip volume declined for several months following the transition to new software and new technologies in November of 2004. Since that time, though, the number of trips provided and on-time performance has steadily improved. Each vendor has reported an increase in the number of trips completed from FY05 to FY06. If present trends continue, each vendor except Kiessling will experience an increase in trips performed for FY 2007. The increases will range from about 5 to10%. The number of trips performed on time has increased significantly at all four providers. The number of complaints received also decreased significantly for all four providers between FY05 and FY06 and the trend is continuing in FY07. It is anticipated that three out of the four vendors will experience a decrease in the number of complaints received in FY07. Following are observations about trip volumes, on-time performance, and complaints for each provider.

Veterans Transportation Service (VTS) Performance

Figures 2.5 and 2.6 on the following page show trends in VTS on-time performance and rider complaints. In FY06, the first full fiscal year after the transition, VTS ridership increased by about 11%. Projected ridership through the end of June 2007 indicates an additional increase in trips performed of about 5% over FY06.

On-time performance prior to the transition (July through November 2004) was running at about 91%, with about 2% of trips more than 30 minutes late. From December 2004 through June 2005, following the transition, on-time performance dropped to 86%, and about 4% of trips were more than 30 minutes late. In FY06, on-time performance improved to 91% and the percentage of trips over 30 minutes late was cut in half. Performance in FY06 was therefore about comparable to the five months before the transition. It is project that for FY07, on-time performance will remain approximately at 91%. The percentage of trips over 30 minutes late has continued to decline, and is now only about 1% of all trips provided. It is projected that the trend will continue through the end of FY07.

Complaints dropped slightly between FY05 and FY06, from 817 in FY05 to 782 in FY06. In the first eight months of FY07, complaints again decreased slightly, from 529 for the first five months of FY06 to 477 for the first eight months of FY07. If this trend continues, complaints will be about 8.5% lower in FY07 than in FY06.

Figure 2.5. VTS On-Time Performance, FY2005 to FY2007

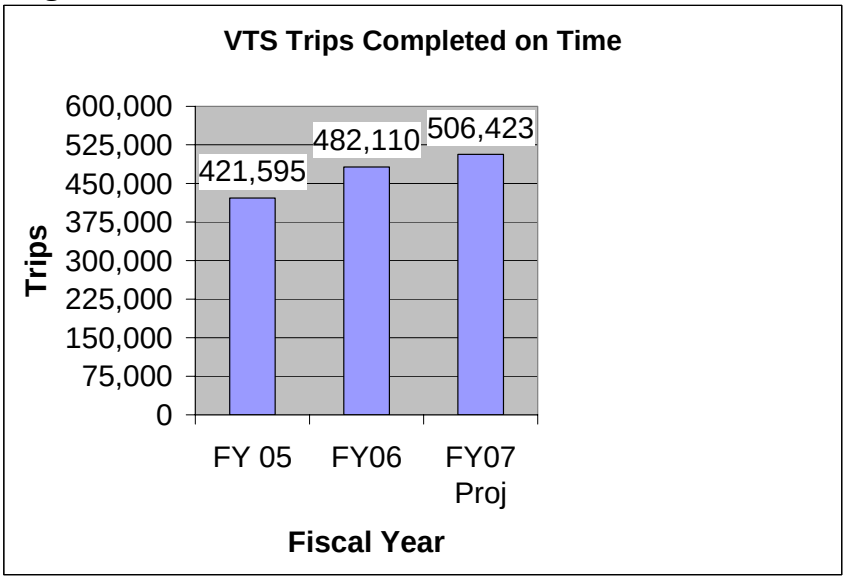
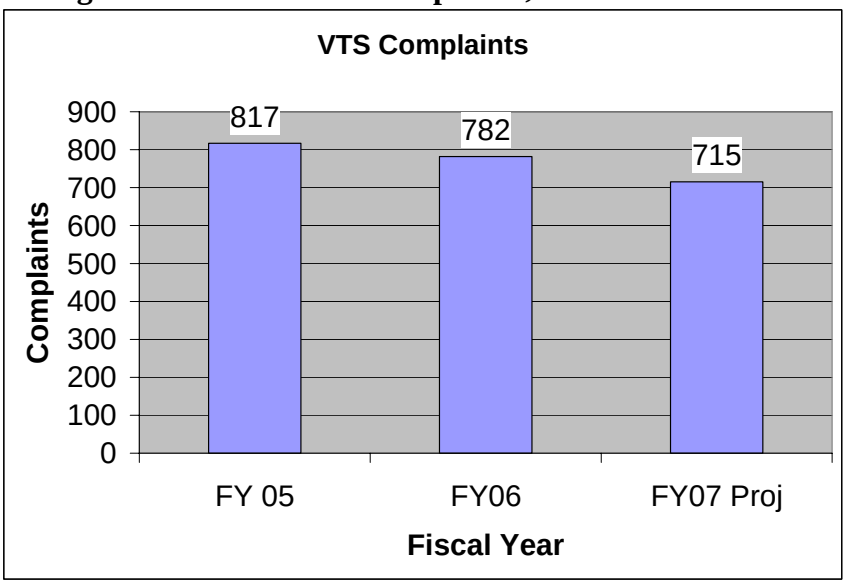


Figure 2.6. VTS Rider Complaints, FY2005 to FY2007



Greater Lynn Senior Services (GLSS) Performance

Figures 2.7 and 2.8 on the following page show trends in GLSS on-time performance and rider complaints. In FY06, the first full fiscal year after the transition, GLSS ridership increased by about 13%. If current patterns continue, GLSS can expect an additional 11% increase in trips completed in FY07.

On-time performance prior to the transition (July through November 2004) was running at about 98%, with about 1% of trips more than 30 minutes late. From December 2004 through June 2005, following the transition, on-time performance dropped to 90%, and about 2% of trips were more than 30 minutes late. In FY06, on-time performance improved to 94% and the percentage of trips over 30 minutes late was reduced to 1% of all trips. The percentage of late trips over 30 minutes continues to be about the same as before the transition, but the number of trips 16-30 minutes late continues to rise above pre-transition levels. So far in FY07, on-time performance has remained been at about 94% and the percentage of trips over 30 minutes late has continued to run about 1%.

Complaints dropped significantly between FY05 and FY06, from 527 in FY05 to 260 in FY06. In the first eight months of FY07, complaints have again decreased by about 25%, from 186 for the first eight months of FY06 to 140 for the first eight months of FY07.

Figure 2.7. GLSS On-Time Performance, FY2005 to FY2007

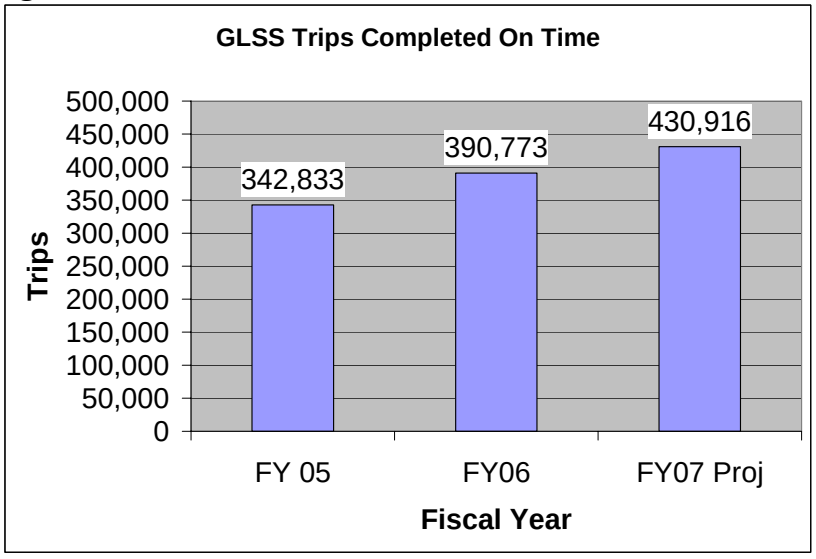
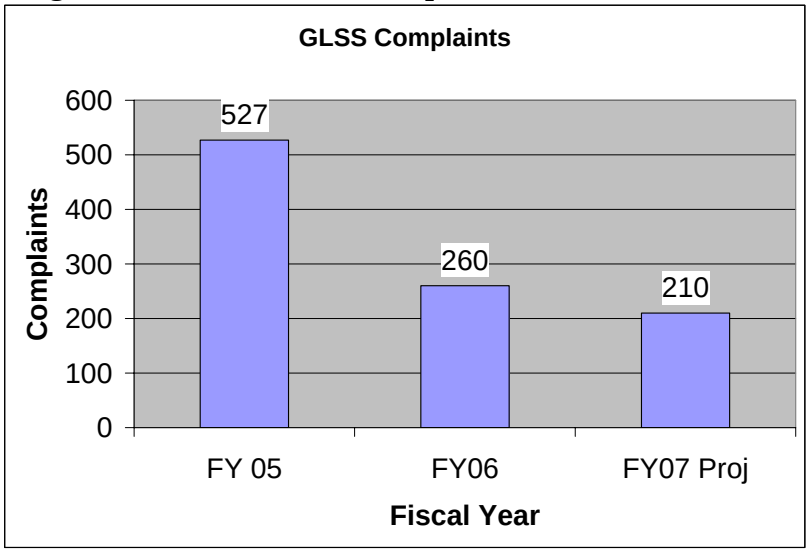


Figure 2.8. GLSS Rider Complaints, FY2005 to FY2007



Kiessling Transportation, Inc. (KTI) Performance

Figures 2.9 and 2.10 on the following page show trends in KTI on-time performance and rider complaints. In FY06, the first full fiscal year after the transition, KTI ridership increased by about 2%. KTI is the only provider with a relatively flat ridership demand. Projections show that essentially there will be no significant increase in trips completed by KTI in FY07.

On-time performance prior to the transition (July through November 2004) was running at about 94%, with about 1% of trips more than 30 minutes late. From December 2004 through June 2005, following the transition, on-time performance dropped to 89%, and about 4% of trips were more than 30 minutes late. In FY06, on-time performance improved to 92% and the percentage of trips over 30 minutes late was reduced to 2%. So far in FY07, on-time performance has remained in the 91% to 93% range and the percentage of trips over 30 minutes late has continued to decline and is now at about 1% of total trips. The percentage of late trips over 30 minutes therefore was about the same as before the transition, but the number of trips 16-30 minutes late remain slightly above pre-transition levels.

Complaints dropped significantly between FY05 and FY06, from 416 in FY05 to 286 in FY06. In the first eight months of FY07, complaints have increased over the same period the year before, with 197 for the first eight months of FY06 compared to 227 for the first eight months of FY07.

Figure 2.9. KTI On-Time Performance, FY2005 to FY2007

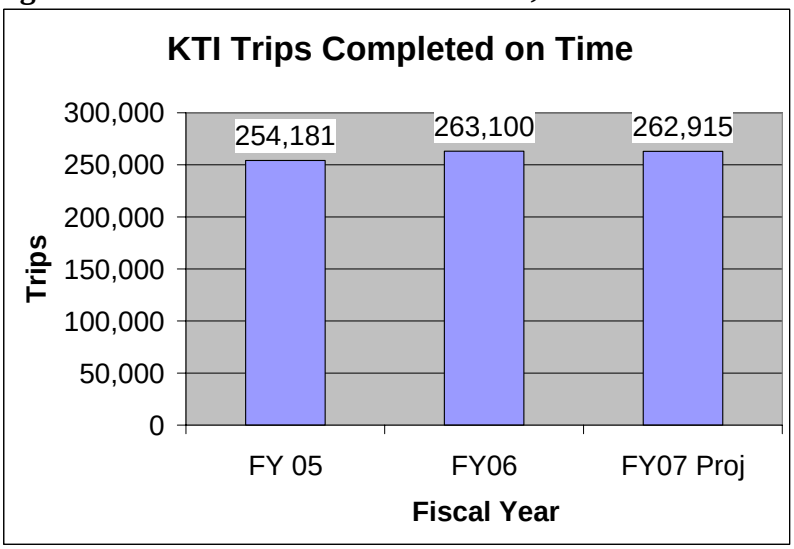
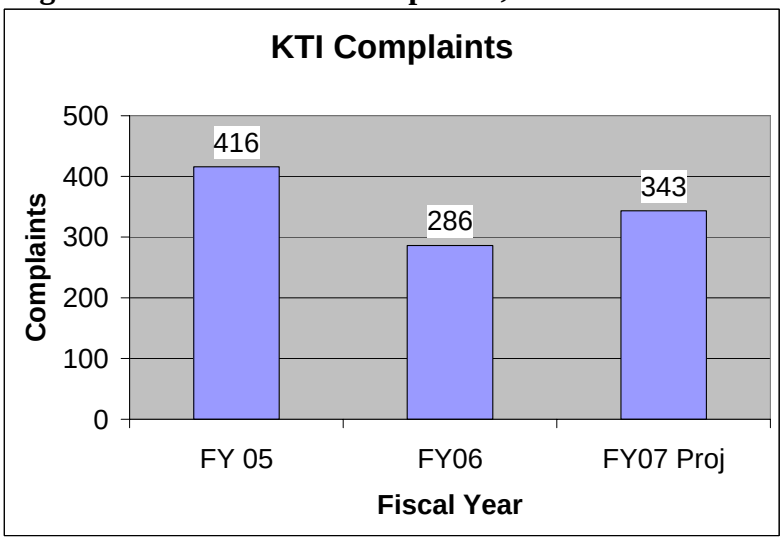


Figure 2.10. KTI Rider Complaints, FY2005 to FY2007



The Joint Venture (JV) Performance

Figures 2.11 and 2.12 on the following page show trends in JV on-time performance and rider complaints. In FY06, the first full fiscal year after the transition, JV ridership increased by about 8%. Based on the results of the first eight months of FY07, JV can anticipate and increase in trips completed of between 5.0% and 6.0%.

On-time performance prior to the transition (July through November 2004) was running at about 96%, with about 1% of trips more than 30 minutes late. From December 2004 through June 2005, following the transition, on-time performance dropped to 85%, and about 6% of trips were more than 30 minutes late. In FY06, on-time performance improved to 91% and the percentage of trips over 30 minutes late was reduced to 2%. So far in FY07, on-time performance has

remained in the 90% to 91% range, and the percentage of trips more than 30 minutes late has dropped to 1.6%. The percentage of late trips over 30 minutes therefore was less than before the transition, but the number of trips 16-30 minutes late remains above pre-transition levels.

Complaints increased significantly between FY05 and FY06, from 360 in FY05 to 497 in FY06. Complaints have dropped by 25% in FY07 over the same period in FY06.

Figure 2.11. JV On-Time Performance, FY2005 to FY2007

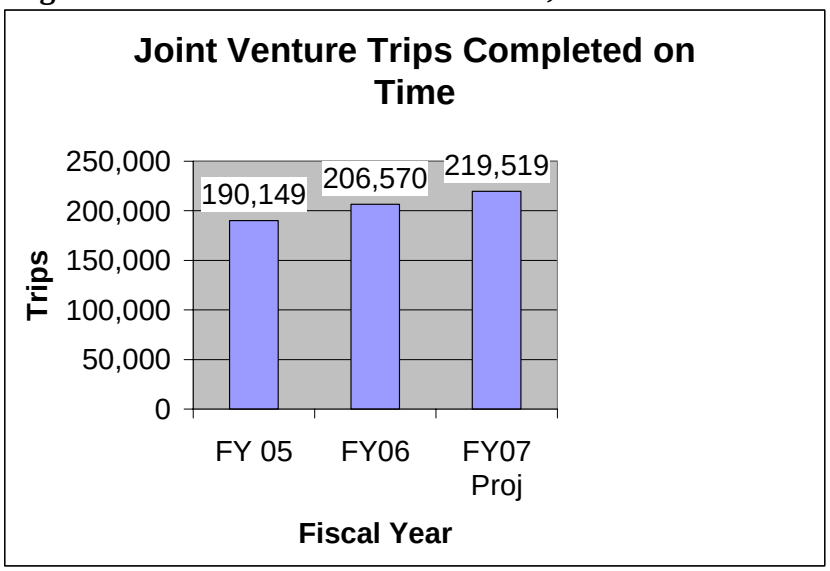
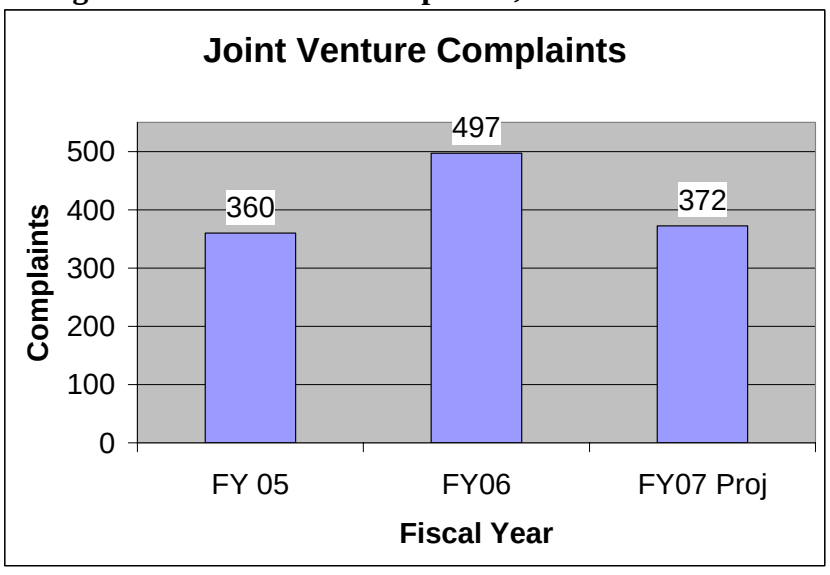


Figure 2.12. JV Rider Complaints, FY2005 to FY2007



Attachment A

Inventory of Elevators in MBTA Rapid Rail, Light Rail and Silver Line Stations

Elevators at MBTA Rapid Rail, Light Rail, and Silver Line Stations

LINE	STATION	MANUFACTURER	ID #	Year	Age
B	AIRPORT	KONE	931	2004	1
B	AIRPORT	KONE	932	2004	1
B	AQUARIUM	MONTGOMERY	913	2004	1
B	AQUARIUM	MONTGOMERY	914	2004	1
B	AQUARIUM	MONTGOMERY	915	2004	1
B	AQUARIUM	KONE	923	2004	1
B	AQUARIUM	KONE	924	2004	1
B	AQUARIUM	KONE	925	2004	1
B	BEACHMONT	CEMCO	886	1996	9
B	BEACHMONT	CEMCO	887	1996	9
B	REVERE	CEMCO	884	1996	9
B	REVERE	CEMCO	885	1996	9
B	WOOD ISLAND	CEMCO	889	2000	5
B	WOOD ISLAND	CEMCO	890	2000	5
G	NORTH STATION	MONTGOMERY/Delta Beckwith	941	2004	1
G	NORTH STATION	MONTGOMERY	895	1997	8
G	PARK STREET	OMARON	804	1991	14
G	PARK STREET	OMARON	812	1993	12
G	PARK STREET	OMARON	823	1993	12
G	PRUDENTIAL	OTIS	917	2002	3
G	PRUDENTIAL	OTIS	920	2003	2
G	PRUDENTIAL	OTIS	921	2003	2
O	BACK BAY	MONTGOMERY	853	1987	18
O	BACK BAY	MONTGOMERY	854	1987	18
O	BACK BAY	MONTGOMERY	855	1987	18
O	BACK BAY	MONTGOMERY	856	1987	18
O	CHINATOWN	OMARON	876	1996	9
O	CHINATOWN	KONE	922	2003	2
O	COMMUNITY COLLEGE	DELTA BECKWITH	933	2004	1
O	DOWNTOWN XING	SCHINDLER	892	1998	7
O	DOWNTOWN XING	SCHINDLER	891	1997	8
O	FOREST HILLS	MONTGOMERY	841	1987	18
O	FOREST HILLS	MONTGOMERY	842	1987	18
O	FOREST HILLS	MONTGOMERY	843	1987	18
O	GREEN STREET	MONTGOMERY	844	1987	18
O	HAYMARKET	MOTION	903	2000	5
O	HAYMARKET	MOTION	904	2000	5

LINE	STATION	MANUFACTURER	ID #	Year	Age
O	HAYMARKET	MOTION	905	2000	5
O	HAYMARKET	MOTION	906	2000	5
O	HAYMARKET	MOTION	907	2000	5
O	HAYMARKET	MOTION	908	2000	5
O	JACKSON SQUARE	MONTGOMERY	846	1987	18
O	MALDEN	DELTA BECKWITH	944	2005	0
O	MALDEN	DELTA BECKWITH	945	2005	0
O	MASS. AVE.	MONTGOMERY	852	1987	18
O	NEW ENGLAND MED.	CEMCO	857	1987	18
O	NEW ENGLAND MED.	CEMCO	858	1987	18
O	NEW ENGLAND MED.	CEMCO	859	1987	18
O	NORTH STATION	MONTGOMERY	910	2001	4
O	NORTH STATION	MONTGOMERY	911	2001	4
O	NORTH STATION	MONTGOMERY	912	2001	4
O	NORTH STATION	MONTGOMERY	909	2001	4
O	OAK GROVE	S. EASTERN	800	1987	18
O	OAK GROVE	S. EASTERN	801	1987	18
O	ROXBURY XING	MONTGOMERY	847	1987	18
O	RUGGLES	MONTGOMERY	848	1987	18
O	RUGGLES	MONTGOMERY	849	1987	18
O	RUGGLES	MONTGOMERY	850	1987	18
O	RUGGLES	MONTGOMERY	851	1987	18
O	STATE STREET	TRACTION	802	1985	20
O	STATE STREET	DOVER	803	1985	20
O	STONY BROOK	MONTGOMERY	845	1987	18
O	SULLIVAN	MITSUBISHI	840	1991	14
O	SULLIVAN	MITSUBISHI	881	1991	14
O	WELLINGTON	CEMCO	864	1991	14
O	WELLINGTON	CEMCO	865	1991	14
R	ALEWIFE	MONTGOMERY	813	1980	25
R	ALEWIFE	MONTGOMERY	814	1980	25
R	ALEWIFE	MONTGOMERY	815	1980	25
R	ANDREW	OMARON	872	1994	11
R	ANDREW	OMARON	879	1994	11
R	ANDREW	OMARON	880	1994	11
R	BRAINTREE	CEMCO	811	1989	16
R	BROADWAY	CEMCO	867	1985	20
R	BROADWAY	CEMCO	868	1985	20

LINE	STATION	MANUFACTURER	ID #	Year	Age
R	CENTRAL	MONTGOMERY	860	1985	20
R	CENTRAL	MONTGOMERY	861	1985	20
R	DAVIS SQUARE	MONTGOMERY	816	1979	26
R	DAVIS SQUARE	MONTGOMERY	817	1979	26
R	DOWNTOWN XING	MONTGOMERY	869	1985	20
R	DOWNTOWN XING	MONTGOMERY	870	1985	20
R	HARVARD	WESTINGHOUSE	821	1979	26
R	JFK	OMARON	830	1989	16
R	JFK	OMARON	831	1989	16
R	JFK	BAXCO	809	1992	13
R	KENDALL	MONTGOMERY	863	1984	21
R	KENDALL	MONTGOMERY	866	1984	21
R	NORTH QUINCY	CEMCO	897	1998	7
R	NORTH QUINCY	CEMCO	898	1998	7
R	NORTH QUINCY	CEMCO	899	1998	7
R	NORTH QUINCY	CEMCO	900	1998	7
R	PARK STREET	MONTGOMERY	808	1987	18
R	PORTER SQUARE	WESTINGHOUSE	818	1979	26
R	PORTER SQUARE	WESTINGHOUSE	819	1979	26
R	PORTER SQUARE	WESTINGHOUSE	820	1979	26
R	QUINCY ADAMS	OMARON	805	1989	16
R	QUINCY ADAMS	OMARON	806	1989	16
R	QUINCY ADAMS	OMARON	807	1989	16
R	QUINCY CENTER	OMARON	871	1991	14
R	QUINCY CENTER	OMARON	810	1991	14
R	QUINCY CENTER	OIL LIFT	896	1997	8
R	SOUTH STATION	MONTGOMERY	901	2000	5
R	SOUTH STATION	MONTGOMERY	918	2002	3
R	SOUTH STATION	MONTGOMERY	919	2002	3
S	COURTHOUSE	MONTGOMERY	937	2004	1
S	COURTHOUSE	MONTGOMERY	938	2004	1
S	COURTHOUSE	MONTGOMERY	939	2004	1
S	COURTHOUSE	MONTGOMERY	940	2004	1
S	SOUTH STATION	MONTGOMERY	926	2003	2
S	SOUTH STATION	MONTGOMERY/Kone	927	2004	1
S	WORLD TRADE CENTER	KONE	936	2004	1
S	WORLD TRADE CENTER	KONE	934	2004	1
S	WORLD TRADE CENTER	KONE	935	2004	1

Attachment B

Public Input Received on Fixed Route Accessibility Issues

1. **Summary of Information Contained in Affidavits**
2. **Summary of Input Received at Public Meetings**

1. Input on Fixed Route Accessibility Issues Contained in Affidavits Submitted as part of the Boston Public Meeting

Following is a summary of the comments on fixed route service included in affidavits submitted as part of a public meeting held in Boston. Comments are presented in modal and topic groupings.

Elevator and Escalator Issues:

- 37 people noted problems with elevators not working and being out of service for long periods;
- 27 people also cited issues with the elevators being very dirty and unsanitary;
- 11 people said that signage to the elevators was poor;
- 10 people said that the information on the elevator hotline was inaccurate;
- 9 people said it was difficult to get assistance at stations when elevators were broken: that intercoms were not answered or there were no attendants at the stations;
- 9 people commented on escalators being out of service frequently.
- 8 people said there was poor information about alternatives when elevators were out – either from the station attendants or on the hotline;
- 8 people cited incidents where elevators malfunctioned while they were using them, sometimes with dangerous outcomes;
- 5 people said that the paths of travel to the elevators were out of the way and hard to find. This was a common issue for riders with vision disabilities. Several people also noted that the isolated locations of elevators made them feel unsafe.
- 3 people said the elevators did not have adequate signals indicating each levels;
- 3 people also found the control buttons in the elevators hard to locate and confusing. It was suggested that the button locations and functions be more standardized;
- 2 people who were blind said that it was difficult when paths of travel in the stations were changed and there was no notice to riders;
- 2 people said that there was no information available about elevator outages once riders are in the system;
- 2 people noted that the on-line trip planner did not provide elevator outage information;
- 2 people said lights in the elevators were often out;
- 1 person who had limited fine motor skills and found it difficult to use a cell phone to get information while traveling suggested that the elevator hotline be voice activated to facilitate easier access to information;
- 1 person found the gate and fenced-in area at the elevator at Park Street to be difficult to manage.

Bus Service Operations and Issues:

- 20 people commented on rude, insensitive, and unprofessional treatment by drivers and system personnel. Three others noted that most drivers were helpful but that some were rude and insensitive;

- 18 people complained about lifts that were inoperable;
- 15 people noted that they were often passed-by by drivers – many describing situations where they were fairly certain drivers were aware that they were there;
- 9 people commented that they were often not secured or were secured inadequately (drivers putting securement belts through the wheels of their wheelchairs);
- 7 people described incidents where lifts malfunctioned as they were using them – sometimes causing injury;
- 6 people said that drivers do not kneel the buses when asked. Some felt drivers were not trained properly on how and when to use the kneelers. Lack of kneeler use was noted as a particular problem on low-floor buses because the angle of the ramp is too steep if the bus is not knelt;
- 6 people also complained that drivers do not curb the buses even when there appears to be room to do so;
- 4 people indicated problems with enforcement of the priority seating policy. Three people said drivers don't ask others to vacate the seats even when they ask for assistance. One rider with an ambulatory disability said a driver had made her move from the priority seating (not aware she might have a disability);
- 3 people said drivers did not call dispatch after telling them that lifts were inoperable;
- While most people felt the low-floor buses were an improvement, three commented on the limited interior space which made it difficult to turn around to get into the securement areas;
- 3 people said drivers pulled away from stops before riders were seated;
- 3 people who called the Call-A-Bus phone number to make sure functioning lifts were on the runs they planned to use reported that the extra effort to notify personnel did little to ensure working lifts on those runs;
- 2 people said more benches and shelters were needed at bus stops;
- 2 people said drivers refused to assist them up the ramp of the low-floor buses;
- 2 people noted a lack of grab-handles on the trolleys;
- 2 people commented on the general upkeep and maintenance of buses;
- 2 people said they observed inaccessible buses placed on designated accessible routes;
- 2 people commented that the rides on the buses were very jerky and that drivers sometimes drove too fast;
- 1 person indicated buses with inoperable lifts were kept in service for extended periods of time (much more than 3 days);
- 1 person complained that the flip-seats on buses sometimes fell down onto her;
- 1 person who was blind commented about being left off in a dangerous traffic situation;
- 1 person commented on a long wait (4 hours) for a supervisor van to assist them after a lift had malfunctioned;
- 1 rider with an ambulatory disability said a driver refused to let her use the lift to enter a bus;
- 1 person said the stop request strips on buses were hard to reach;
- 1 person with a vision disability said drivers don't pull up to designated stop locations, making it difficult for her to locate the buses;
- 1 person who travels with a dog guide noted an incident where a driver closed the door too soon leaving her on the street and her dog still on the bus.

Rapid Rail and Light Rail Station and Operational Issues:

- 16 people noted problems with the gaps between platforms and trains in rapid rail operations;
- 10 people said they would use the service more if more stations were accessible. Many of these comments related to lack of Green Line accessibility;
- 8 people complained that train operators closed doors on riders. 5 people had experienced these problems on the Green Line, while 3 had problems on other rapid rail lines;
- 5 people had experienced difficulties with the wayside lifts on the Green Line. They said the lifts were sometimes inoperable and that they had encountered staff that did not appear to know how to operate the lifts. At North Station, they said the station staff did not seem to know about the lifts;
- 3 people described problems with snow banks at rapid rail and light rail stations;
- 2 people said Green Line operators passed them when they were waiting on mini-high platforms even though they felt certain the operators saw them waiting;
- 2 people described problems with the gaps along tracks in the street on the Green Line;
- 2 people said they had difficulty when only one door opens on rapid rail cars;
- 1 person said signage in general needed to be improved;
- 1 person said tactile edging was needed at the edges of platforms at some stations;
- 1 person said tactile edging was needed at track crossings on the Green Line;
- 1 person said the lighting in stations was poor;
- 1 person said better entrance rails were needed on the new Green Line cars;
- 1 person said the smooth tiles being installed in some rapid rail stations were very slippery when wet;
- 1 person with a vision disability found the platforms at some Green Line stations to be very narrow and felt unsafe being so close to moving trains;
- 1 person who is blind suggested tactile pathways in rapid raid stations;

Commuter Rail Station and Operational Issues:

- 1 person noted problems with platform gaps on the commuter rail service;
- 1 person said it was difficult to find the correct cars to board at North Station to then have access to platforms at outlying stations;
- 1 person said the long distances to mini-high platforms at commuter rail stations made it difficult to use the service.

Stop Announcement Issues:

- 5 people said on-board stop announcements on rapid rail trains was inconsistent;
- 4 people said stop announcements on buses were inconsistent;
- 2 people said the volume of the rapid rail announcements was too low for them to be audible;
- 2 people noted that announcements on rapid rail trains needed to indicate which side of the car the exit to get to elevators at certain stations;
- 2 people noted a lack of in-station platform announcements in rapid rail stations;
- 1 person said drivers were not using the PA systems to make announcements on buses;

- 1 person said on-board stop announcements on commuter rail trains were inconsistent;
- 1 person noted a lack of external announcements at bus stops.

General Issues:

- 5 people indicated no responses or inadequate responses to complaints they had filed;
- 2 people said their wheelchairs had been seriously damaged and that they had experienced difficulty working with legal department staff to receive reimbursement for the damage;
- 1 person said more system maps were needed: they were not available when requested;
- 1 person said the new Charlie Card system was difficult for blind travelers to use. It was hard to know where to insert the cards.
- 1 person was concerned that the new automated fare system would result in fewer station personnel, which would mean fewer people at stations to assist travelers with disabilities;

2. Input on Fixed Route Accessibility Issues Received at Public Meetings

Following is a summary of the comments on fixed route service received at the six open public meetings. Comments are presented in the same groupings as the affidavit information above to allow for easy comparison of the issues.

Elevator Issues:

- 11 people commented on elevators being out of service and certain elevators being out of service for long periods of time;
- 5 people commented on escalators often being out of service. A couple people also suggested that repairs should be made at off-hours;
- 2 people noted that the intercoms at elevators are linked to the MBTA police, which is not appropriate since they are typically only looking for basic assistance from station personnel;
- 1 person noted that elevators are dirty and have strong and offensive odors;
- 1 person said that elevator outage information on the hotline was inaccurate;
- 1 person said signage directing people to elevators was poor;
- 1 person indicated that elevator reliability had improved in recent months.

Bus Service Operations and Issues:

- 6 people commented on rude, insensitive and unprofessional treatment by drivers;
- 5 people noted that bus stop signs are often missing at stops, which makes it hard to know where to wait;
- 5 people said that drivers don't pull buses to the curb even when there seems to be space to do so;
- 4 people commented that lifts on buses are often not working;
- 4 people also noted that cars often are blocking bus stops which makes it impossible for drivers to pull to the curb;
- 4 people said some drivers don't kneel buses when requested and that other drivers seem reluctant to use the kneelers;
- 4 people commented on bus schedules being "uncoordinated" and not facilitating timely transfers;
- 4 people said that they find it difficult to use buses because they cannot get to the door to exit when there are a lot of other riders. One person noted baby strollers blocking the aisles as a particular problem;
- 3 people with vision disabilities said that locating bus stops is a significant problem. The idea of a unique material that can be attached to bus stop poles at a standardized height to help people find bus stops was suggested;
- 3 people commented on the LED signs on buses and said they were not easy to read. One person said they were too far forward on the sides of the buses and would prefer to see them more toward the middle of the bus;
- 2 people said that bus drivers are very helpful and courteous;

- 2 people said that drivers pull away before they are seated;
- 2 people commented on the need for more fixed route service and for bus stops at more places;
- 1 person indicated a need for more benches and shelters at fixed route bus stops;
- 1 person noted that wheelchair securement systems are sometimes broken and that flip-seats sometimes don't work;
- 1 person comments on problems with snow removal at bus stops;
- 1 person said that better on-board hand-holds are needed on the new low-floor buses;
- 1 person said they find it difficult to reach and use the stop request strips on buses;
- 1 person said that the outer edges of ramps on the new low-floor buses are not detectable by persons who are blind;
- 1 person said that bus drivers pass-by riders who use wheelchairs and are waiting at stops;
- 1 person indicated that drivers do not properly secure riders who use wheelchairs;
- 1 person said that buses needed to pull into certain rapid rail and commuter rail stations. Wonderland and the Swampscott commuter rail stations were noted in particular;
- 1 person said bus drivers drive too fast making it hard for them to maintain their balance;
- 1 person indicated that the new low-floor buses were much easier to use;
- 1 person cited safety and security on buses as an issue and suggested that surveillance cameras on buses;
- 1 person complained about the condition of the buses on routes served by the Albany Street garage and said that garage seems to get the oldest vehicles;

Rapid Rail and Light Rail Station and Operational Issues:

- 4 people commented on the lack of accessibility at many of the Green Line stations;
- 2 people noted problems with the platform gaps in rapid rail operations;
- 2 people said that riders often are occupying priority seating and that the signs on these seats need to be more obvious;
- 1 person said that the doors on rapid rail cars malfunction frequently (only one-half of the double door opens) and that he is unable to exit when this happens;
- 1 person noted that construction at or in stations can be a hazard when navigating the system;
- 1 person commented on heavy doors at rapid rail stations and suggested automatic doors;
- 1 person commented on the lack of curb-cuts where buses drop-off riders at the Airport Blue Line station;
- 1 person said that the step risers on Green Line cars are high and that she has difficulty negotiating the steps;
- 1 person commented on the lack of accessibility at some of the rapid rail stations;
- 1 person commented that a TTY was needed at the public phones at the Savin Hill station.

Commuter Rail Station and Operational Issues:

- 5 people comments on the very long distances that must be traveled at commuter rail stations to get to and from mini-high platforms. One person noted that she misses buses at the Salem Station because she can not get to the bus pull-in area before the buses leave. She said longer

wait times for buses connecting with commuter rail trains are needed to serve riders with disabilities;
- 3 people comments on the lack of accessibility at certain commuter rail stations;
- 3 people commented on difficulty navigating the platform gaps at commuter rail stations;
- 1 person said more tactile warnings are needed on platform edges at commuter rail stations;
- 1 person said that the variable message signs on the commuter rail service often don't work;
- 1 person noted issues with safety and security at some rail stations and suggested better surveillance might make people feel more comfortable with using fixed route services;
- 1 person said the commuter rail schedules do not accommodate reverse commutes;
- 1 person said that in off-peak hours most cars are closed-off and it is a long walk through the train to get to and from the one car that is open. He suggested also leaving a car open closer to the accessible entrance at the stations;
- 1 person with an ambulatory disability noted problems with standing in long lines for tickets at North Station. It was also noted that some conductors on trains did not appear to be familiar with the policy to not attach a surcharge for tickets purchased on-board if purchased by a rider with a disability.

Stop Announcement Issues:

- 3 people said that the stop announcements on commuter rail are inconsistent. More consistent use of the PA systems and the addition of variable message signs were suggested;
- 2 people said better in-station announcements are needed on the Red Line to alter people to the different branches being served;
- 2 people said that the automated stop announcements work well – they are accurate and clear;
- 2 people commented on the lack of external announcements at stops served by more than one route;
- 2 person said the announcements on rapid rail trains are inconsistent and often not clear;
- 1 person said he felt that the poor location of PA controls on some Red Line cars is one cause of announcements not being clear;
- 1 person noted that on-train announcements at some stations needed to let riders know which side of the train to exit to get to elevators;
- 1 person said that information about shuttles around areas under construction are not announced adequately;
- 1 person said that stop announcements on buses had been very good in her experience;
- 1 person said the tone/bell at the beginning of announcements on rapid rail trains was much too loud and when sitting next to a speaker was "painful;"
- 1 person indicated that when they ask drivers to announce specific stops the drivers often don't know where those stops are on the route.

General Issues:

- 4 people commented on the lack of bus schedules at rail stations and said that staff at the stations are not always helpful in providing information about buses;
- 2 people suggested maps of the area/neighborhoods at bus stops;

- 2 people said there is too much "sign clutter" and said simpler signs would be easier to understand;
- 2 people commented that the lack of etiquette and consideration by other riders makes it difficulty and suggested that more public service announcements related to disability issues be included in on-board and in-station announcements as a way to educate the public to disability issues;
- 2 people said schedules in Braille and large print need to be more readily available;
- 1 person said that inaccessible sidewalks are a major barrier to use of the fixed route service;
- 1 person noted that the public information phone line is not staffed at all hours of operation;
- 1 person said more public information on the new fare system is needed;
- 1 person said it would be better for riders if head signs on rapid and light rail trains indicated the end points rather than "inbound" and "outbound;"
- 1 person said more on-board and in-station announcements service conditions and issues would be appreciated by riders;
- 1 person said better public information on service changes was needed;
- 1 person felt that more input from riders with disabilities was needed in station design.

Attachment C

Public Input Received on THE RIDE Service

1. **Summary of Issues Raised in Board Testimony, News Articles and AACT Meetings**
2. **Summary of Input Received at Public Meetings**

1. THE RIDE Service Issues Identified in Testimony Presented to MBTA Board, News Articles and AACT Meeting Minutes

Issues Raised	# of Times Mentioned
Late pick-ups (particularly on return trips)	28
Late drop-offs for appointments	18
Insufficient time allowed for trip	1
Inadequate dispatch support from dispatch for drivers	1
Incorrect trip information (wrong day, wrong addresses, PCAs and companions)	6
Driver manifests don't include rider-specific special instructions	1
MBTA policy regarding late trips (>30 minutes) is too long	1
Notice of lateness not given by vendors	1
Early vehicle arrivals for pick-ups	6
Very early drop-offs	3
Vehicle no-shows	9
Already booked trip not on file when rider calls back	2
Pick-up times change without notice to riders	2
Missed connections at pick-ups (drivers not making effort to locate riders)	3
Drivers not waiting when they arrive early	1
Policy that vehicles wait only 5 minutes is a problem	1
Miscommunications between drivers and dispatchers	1
Long ride times	10
Circuitous routing causing long rides and late arrivals	5
Illogical routing, multiple vehicles for similar trips	1
Overcrowded vehicles, particularly when three riders using wheelchairs on-board	2
Lack of coordination between vendors on transfer trips	1
Times negotiated more than an hour from requested times	1
Very early pick-up times negotiated	2
Trips not available at the times needed	2
Scheduled ride times given not compatible with appointments	2
Difficulty scheduling rides, placed on "stand-by"	2
Difficulty getting rides after 6:00 PM	1
Can't get subscription service for regular trips made less than 3 times per week	1
Difficulty getting through on the phone with dispatchers	6
Long hold times to get reservationists	1

Summary of Issues Raised in Board Testimony, Correspondence and AACT Meetings, cont.

Issues Raised	# of Times Mentioned
Rude treatment by vendor staff (dispatchers, reservationists, supervisors)	4
Driver performance/attitude/professionalism and inadequate training	5
Drivers refusing to allow service animals	2
Unsafe (fast) driving	1
Dispatchers not giving accurate information about trip status	2
Riders left unattended on vans	1
Drivers not securing riders who use wheelchairs properly	4
Unsafe boarding practices, riders dropped off in unsafe locations	2
Accommodating individual rider needs	1
Drivers leaving windows open in the winter	1
Long driver shifts (10-12+ hours)	1
Driver turnover, inexperienced drivers, pay issues	3
Drivers not familiar with areas served	2
Vendors understaffed	1
Get inconsistent information from vendor staff on service policies	1
Vehicle condition	2
Rough ride on vans	1
Chemical sensitivities due to vehicle cleaners/fresheners used	2
Missing or faulty or dirty wheelchair securement equipment	3
No real changes made in response to complaints	2
Policy of requiring full applications to be submitted again for recertification.	1
Fixed route feeder sites not cleared of snow in the winter	1

2. Public Input on THE RIDE Service Presented in Five Public Meetings

Trip Handling and Scheduling:

- 11 people said that when they schedule based on an appointment time they are given pick-up times that are very early (60-90 minutes before the appointment time was often cited as too far ahead);
- 11 people said that the routing is circuitous and that they often seem to way out of the way rather than somewhat direct to their destination;
- 5 people indicated problems with the new automated call-back system. Four said that they do not always receive the automated call-backs giving them their scheduled pick-up times. Several indicated a preference to have their names rather than ID number used in the call-backs. Problems with compatibility with answering machines were noted. One person said there is a long delay when the phone is answered and that other people answering for her sometimes hang-up. One person said they get call-backs very late at night. This person also said she has requested that she not get call-backs, but they continue anyway. One person said the automated system used previously by GLSS and VTS was better;
- 4 people said that special pick-up instructions they give to the reservationists doesn't seem to make it to the drivers. Drivers have noted that the information is not provided on the MDTs;
- 3 people said that their rides times seem to change and that drivers have times that are different from what they were given;
- 2 people said that problems develop when subscription trips are automatically cancelled on holidays;
- 2 people said that the schedules do not appear to leave enough time for drivers to get from point A to point B;
- 2 people said they were given pick-up times that were too close to their appointment times and were late to their appointments;
- 2 people said that when they call to check on their rides they are sometimes given the appointment time rather than the scheduled pick-up time;
- 2 people noted that vehicles still show up even after they call-in and cancel trips;
- 2 people said that when they call to check on scheduled rides they are only given the pick-up times and are not told the scheduled drop-off times. They felt it would be helpful to know when they are scheduled to arrive;
- 1 person said that common destinations need to be identified by their names as well as their addresses. He said many drivers may not recognize the address but now the name of the building or facility;
- 1 person noted that scheduled trips seem to sometimes "disappear from the manifest;"
- 1 person said scheduling seems to have improved in recent months;
- 1 person noted that there seems to be a problem with the automated system correctly handling 3-legged trips (i.e., scheduling from one appointment time to a second appointment time);
- 1 person complained about the compounding issues related to scheduling (i.e., a return trip being scheduled 30 minutes after the requested pick-up time then the vehicle showing up 30-

45 minutes after the scheduled time, which means the pick-up actually takes place 60-75 minutes after what was requested);

- 1 person said that providers were sometimes exceeding vehicle capacities when scheduling rides;
- 1 person noted that her subscription trips worked well but individual rides were often unreliable;
- 1 person said she needs sedans and has requested only sedan service, but that vans will still sometimes be sent;
- 1 person said that multiple vans are sometimes sent to get people traveling between the same two points;
- 1 person said she liked the IVR system for checking on rides;
- 1 person said the on-line system for checking on ride times doesn't seem to work;
- 1 person noted that the automated call-backs only give one time (pick-up time) and that the automated voice is not always clear;
- 1 person who uses multiple mobility aids said they had been told by the service provider that they had to chose one because they system could not accommodate them being listed with more than one type of mobility aid;
- 1 person complained that her trip requests were being negotiated by more than 30 minutes.

On-Time Performance and Travel Times:

- 11 people said pick-ups were often very late. Very late pick-ups for afternoon return trips seemed to be a particular problem;
- 11 people said they were often late for appointments. Add-ons by dispatchers were cited as something that seemed to cause drop-offs to be late;
- 6 people said that very early drop-offs are a problem and that sometimes the facilities/programs where they are dropped off are not open at the time they arrive;
- 4 people said the on-board ride times were too long;
- 3 people said they had been stranded on return rides;
- 3 people said that phone hold times are very long when checking on late rides (afternoon) and when calling in the evening to check on pick-up times;
- 2 people said they have been made late for appointments by having to wait for other riders for a long time;
- 2 person felt that poor driver/dispatcher communications was a contributing factor to poor performance;
- 1 person complained about pick-ups being too early;
- 1 person said they sometimes miss rides because they are calling to check on the ride when it is late and the vehicle arrives while they are inside on the phone;
- 1 person said that last minute add-ons don't give drivers time to plan-out changes to their routes;
- 1 person complained of very long waits at inter-region transfer sites.

Fare System Issues:

- 10 people cited problems related to knowing their current balances. Five people said it would be very helpful to get periodic statements showing use and account balances;
- 3 people said they would like to be able to buy monthly passes like other fixed route riders. One person noted that because monthly passes are not provided to RIDE users their employers are not able to take advantage of federal and state commuter tax benefits;
- 2 people said it was not fair that two fares were charged when going a few communities away (across regions), while much longer trips within the region were only one fare);
- 2 people said that better public information on the new fare payment system was needed. One person questioned what happens to funds in an account when someone stops using the service or is not recertified as eligible;
- 2 people suggested that when trips show-up as being late in the automated scheduling system that the system automatically credit riders for the fares. One person added that a postcard telling the rider their account has been credited should then be sent;
- 1 person suggested that the MBTA should allow riders to pay by credit card (which indicated they were not aware that this was an option).

Driver and Employee Performance:

- 10 people commented that the drivers are good;
- 9 people complained that dispatchers give incorrect information when they call to check on late rides (e.g., "the vehicle will be there in 5 minutes");
- 7 people said that most drivers are good but that new drivers don't seem to know the area and get lost;
- 6 people complained about rude, insensitive and unprofessional drivers;
- 4 people said that drivers drive too fast or drive unsafe;
- 4 people said some drivers will not provide assistance to and from vehicles or with packages;
- 4 people complained of inappropriate securement of their wheelchairs. Three people felt that wheelchair securement was too loose or not done correctly, and one person said the securement had been done so tight that it damaged his wheelchair;
- 4 people said that some drivers speak very little English;
- 4 people said provider staff or drivers often give misinformation about service policies – two people noted being told there was no policy for fare reimbursement for late trips, while another person indicated they were told door-to-door assistance was not required;
- 3 people said drivers refuse to deviate from the schedule even if the schedule seems to make no sense. One person noted that drivers seem hesitant to request routing changes from dispatchers and suggested more guidance to drivers on how to best utilize dispatch;
- 2 people complained that drivers play radios loudly;
- 2 people said drivers sometimes leave the vehicles with no explanation of what they are doing and leave the doors open, which makes then feel unsafe;
- 1 person said that the dispatchers are sometimes rude;
- 1 person complained that a driver dropped them off and left them in an unsafe situation;

- 1 person said that drivers sometimes refuse to turn on the air conditioning because it makes them too cold.

Vehicles:

- 3 people complained about securement straps being left on the floor and felt that was an unsafe practice;
- 3 people said that torso belts were missing from vehicles and also said that some of the torso belts in use were of poor quality;
- 2 people said that late ride cards were often not on the vehicles;
- 1 person said the seat backs on vans were not high enough to provide neck and head support;
- 1 person complained of heavy scents from cleaners on the vehicles;
- 1 person said the vans provided a very rough ride;
- 1 person felt that seats were too small for very large riders;
- 1 person complained that lifts sometimes malfunctioned on vans;
- 1 person said the flip-up seats sometimes fall down and hit her in transit.

Service Design:

- 3 people said that same day requests are often not accommodated, that same day changes to scheduled trips are sometimes not allowed, and felt that more same day service was needed;
- 2 people said that coordination with the Merrimack valley RTA was needed to allow for travel between the MBTA area and the Merrimack Valley. They cited similar arrangements with the Lowell and Brockton RTAs;
- 2 people said that designated pick-up spots needed to be created at large facilities to minimize missed connections;
- 2 people said that THE RIDE needed to be extended to other communities. North Reading and Wrentham were mentioned specifically;
- 1 person said additional same day flexibility was needed and said he would like to see a supplemental taxi program implemented;
- 1 person suggested giving same day service priority to medical trips;
- 1 person said it would be helpful if subscription service was allowed for trips made twice each week;
- 1 person had concerns with recent eligibility recertification efforts. Some riders reportedly were seeing their eligibility lapse because recertification applications were not submitted far enough in advance and reviews of the applications were not completed. It was noted that getting appointments with medical professionals to assist with completing applications can take a long time. It was suggested that recertification notices be sent out farther in advance and that postcards acknowledging receipt of applications be sent out;
- 1 person said the service should be expanded to include seniors and that seniors without disabilities could be served at a premium fare;
- 1 person suggested a premium service with a higher fare for more direct service for people traveling to and from work.

General Comments:

- 12 people said the service was good. Four of these people specifically said service was better in recent months;
- 7 people said that they do not receive responses to complaints, that they responses are not adequate, or that staff taking the complaints are rude;
- 2 people said that better public information and ongoing communications with riders was needed;
- 1 person expressed concern about emergency evacuation from vans;
- 1 person noted that they had been told that the phone lines to dispatch were not recorded;
- 1 person said that driver pay seemed to be very low;
- 1 person noted long delays in getting fare credits for late trips;
- 1 person said alternate times for AACT meetings were needed to allow people who work to provide input;
- 1 person suggested ID cards for THE RIDE with the ID number and other useful information;
- 1 person said that on weekends when the OTA central office is closed, providers are not able to get approval to override the computer system and that sometimes this is necessary. She said an OTA contact should be available 7 days a week. She also said public information on how to contact OTA was needed;
- 1 person said that many people were not aware of THE RIDE service and that the service needed to be advertised better;
- 1 person said that comment cards and late ride fare reimbursement cards are often missing from vehicles.

3. Input Received on THE RIDE Service From Focus Group Participants

Have you placed a trip request in advance (not same day) and not gotten an offer for a ride?

Very few participants reported problems with getting trips when they placed requests in advance. One participant at the Lynn meeting and two in Boston cited examples of not being offered one or two rides, but then noted that this was a year or more ago. They had received all trips requested since that time. One participant at the Quincy meeting said that the service provider (Kiessling) would sometimes say that nothing was available and to "call back in an hour." This seemed to be related to same day trip requests, though.

Only one participant, an agency representative who arranged trips for several clients, indicated recent ongoing problems with trip denials. This person, who indicated that the agency used Veterans Transportation, said that when booking trips for multiple clients she is told that "nothing is available" about 2-5 times a month.

How is the automated call-back process working for you?

While the majority of participants did not report significant issues with the automated call-back process, some still seemed to be experiencing problems. One participant at the Lynn meeting noted problems with answering machines – she felt that if the greeting on the answering machine was long, it would affect the automatic call, which would not come through. A few participants in Boston and Waltham said that they were aware that the call-back system sometimes would be "down," but said this was very infrequent and that they got call-backs except a few times a year. Two people in Waltham and one in Quincy reported more significant issues, saying that call-backs are not received several times each month (or in the case of the person in Quincy "about 2/3 of the time").

Several people in Boston, Natick, Quincy and Waltham said that the calls are typically received but that the message is not always understandable and clear. An agency representative at the Waltham meeting also said that call-backs are not received 2-5 times a month, that the process "does not seem to work for group bookings," and that she therefore has to call every evening to confirm the next day's rides.

One person at the Natick meeting also reported getting call-backs very late at night, after going to bed.

Are the pick-up times you are given in the call-back process reasonably close to the times you requested?

This question was asked at four of the meetings (all except Boston) and seemed to be a significant issue with riders. Several cited examples of being given what they felt were very early pick-up times for morning appointments. Four examples of pick-up times two hours before appointment times were given. Several examples of pick-ups 60-90 minutes before

appointments for what participants described as 25-30 minute trips were also noted. One person cited being dropped off at work 45 minutes early – before the building was open. This seemed to be a particular problem when riders booked going trips based on an appointment time. One rider said she books going trips by a pick-up time (even though she has an appointment) to avoid this problem.

An agency representative reported getting times that were very early for both ends of the trip because the service provider was combining rides with another program that had different hours. Her program ran 8:30 to 4:30, the other program ran from 7:30 to 3:30, and her clients were being given times that were much to early.

While very early pick-ups for going trips were most often cited, a few participants also noted getting times that were later than desired for afternoon return trips. Return trip offers of 40-45 minutes later than requested were noted.

Do you often call to request a change to the pick-up times you are given? If yes, when do you call, and are you able to get the times changed?

This question was asked at three meetings (Natick, Quincy and Waltham). Several people reported calling some of the time to request changes to scheduled times, but only if the times given were really bad. There was a sense that changes are discouraged by dispatchers. Participants also noted problems getting through on the phone to the evening dispatchers and if they got through simply being told they would need to call back in the morning and speak to the morning dispatchers. One participant also said she had been told by morning dispatchers to call in the evening. One person in Natick said that she is often told "we will see what we can do" and then told to call back later. One participant in Waltham said dispatchers will accommodate his request "about 50% of the time."

If you are given a 9:00 AM pick-up time, when do you expect the vehicle to arrive?

Very few participants seemed to have an understanding of the pick-up widow or the "be ready" time as detailed in the Rider's Guide. One person in Lynn, one in Boston, and one Waltham said vehicles should arrive 5 minutes before to 15 minutes after the scheduled time. Three people at the Quincy meeting seemed to be familiar with the window. So, only six of the participants at all five meetings knew the formal policy. One person reported being told by the service provider that the window was 30 minutes after the scheduled time.

Are you able to get information about your pick-up if it is running late and you call the service provider and is the information given accurate?

There was mixed response at some meetings and at other meetings this seemed to be a significant issue. At the Boston meeting the response was mixed with some people saying the information provided by dispatchers is not accurate and others saying it "varied." This was a significant issue in Natick, with all participants saying dispatchers give standard answers ("around the corner, "10-15 minutes") and that dispatchers are also very rude. At the Quincy meeting, the response seemed to depend on the service providers used. Those who used GLSS and Keissling

said the information from dispatchers seemed to be reliable, while a participant who used JV said the information given is not reliable. And in Waltham the reaction was mixed, with three people saying it "was better recently" and three people saying it was still a problem.

For every 10 trips you make, how many times is the vehicle pick-up on-time? More than 15 minutes late picking you up? More than 30 minutes late?

The experience of participants with on-time pick-ups was mixed. In Lynn, Natick, Quincy and Waltham, several people noted that 9 out of 10 pick-ups were on-time. The majority or respondents reported slightly lower performance, though, with 6-8 of 10 pick-ups on time. One or two people at each meeting noted very poor performance. Two people in Lynn noted that local trips seemed to be on-time, but trips to Boston were more often late. Most people indicated that pick-ups were 16-30 minutes late. A few people noted many pick-ups more than 30 minutes late.

Staff of dialysis clinics who attended in Natick and Quincy reported more significant issues than most. The staff person at the Natick meeting seemed to have detailed stats and said only 20% were on-time; 40% were 15-20 minutes late; and 40% were over 60 minutes late. Representatives of two clinics in the Quincy area also noted very late return trip pick-ups, with patients waiting 1-2 hours for rides. It was also noted that poor on-time performance on the drop-off affected performance for returns. It was noted that dialysis patients are sometimes dropped off late and as a result start their treatments late. It was reported that no allowance is then made for the return trip (even though treatment must take a set amount of time). Vehicles would still show-up at the scheduled time for the return and riders would not be ready to go. As a result, the vehicle would leave and would return much later.

For every 10 trips you make on THE RIDE, how many times do you get to your appointments on-time?

Again, experience varied significantly. In Lynn, one person said very few arrivals were late; two said arrivals were on-time 80% 0f the time; and one person said arrivals were on-time because she had started giving an appointment time that was 30 minutes earlier than her real appointment. In Natick, one person said there were no problems with on-time arrivals; three said 70-90% were on-time; three said only about 50% of arrivals were on-time; and one agency representative said they don't use THE RIDE for clients when they have appointments because the service is too unreliable.

More significant issues with arrivals were noted at the Boston meeting. Two people said arrivals were mostly on-time, but seven participants said 60% or fewer of arrivals were on-time. One person again said they cannot trust the service when going to appointments.

In Quincy, three riders said that arrivals were mostly on-time. The two dialysis clinic staff people, however, said 30-40% of arrivals are late, causing problems with times of treatments and return pick-ups (as noted above).

In Waltham, three people said 90-100% of drop-offs were on time, but five people reported on-time arrivals at only 60-80%. Two people said they have started giving appointment times that are 30 minutes before the real times to help ensure they get there on-time.

Do vehicles arrive early? If yes, how early? Do drivers pressure you to leave early?

Many participants reported that vehicles will arrive early, and several said vehicles arrive very early. For the most part, though, riders said drivers did not pressure them to go early. Only one rider in Waltham said she felt pressured by the drivers. A second person at the Waltham meeting said drivers do not pressure her, but she feels pressured anyway if she sees that there are passengers waiting on the vehicle for her.

One agency representative at the Boston meeting said that drivers will sometimes try to get clients to leave work programs very early and that the staff will step-in to make the driver wait.

Are THE RIDE travel times reasonable?

Experiences with travel times seemed to vary by area. No issues were reported at the Lynn meeting. In Boston, about half of the participants felt travel times were too long and noted problems mostly in the afternoon and evening. In Natick and Quincy, most felt that travel times were "okay" but that there might be an occasional long ride. A dialysis staffer noted that even though rides were reasonable, some were 6 minutes, which was a long time for someone returning from dialysis treatment. In Waltham, three people felt most rides were okay, one said about 25% of rides are too long; and two people reported significant problems with long rides. With in-region trips regularly taking 60-90 minutes when the direct travel time was only 20-25 minutes.

For those who noted long rides, circuitous routing was typically also noted. Several people felt that vehicles went way out of the way. One participant at the Waltham meeting said it would help if rivers told riders what they were doing when they went way off-route. Otherwise, riders think the driver is just lost.

How would you rate driver performance and assistance?

Most participants indicated that the vast majority of drivers were very good. Some problems with driver performance were noted, though. In Lynn, the problems noted were a lack of assistance (3 people); drivers not knowing the area (particularly when traveling to Boston); and securement straps being left on the floor (1 person). In Boston, issues included drivers not knowing directions (1 person); drivers being afraid of service animals and needing more training on this (1 person); and drivers not knowing English (1 person).

In Natick, several people mentioned drivers not knowing the area. One person said that the add-ons via MDTs did not give drivers time to plan their routes. In Quincy, past problems with a lot of new drivers who didn't know English and didn't provide assistance were cited, but this seemed to have changed recently and many of those drivers were reported to have left. An

agency representative in Quincy suggested that when drivers have problems with riders an attempt should be made to reach agency staff for guidance.

In Waltham, several people mentioned issues with drivers not knowing the area. Problems with drivers not having good English skills and not providing assistance were also noted.

Are there trips that you do not use THE RIDE for? Why?

This question was asked at the Natick and Waltham meetings. Most people indicated that they use the service for all types of trips. A few people, though, said they do not use it for trips that are "time sensitive" or when they have important appointments because of reliability issues. Two agency staff people said they do not use the service when arranging job interviews for clients – again because of reliability issues. One person said they do not use THE RIDE to go into Boston at night for fear of being stranded.

How would you rate the overall performance of THE RIDE in meeting your travel needs?

Participants at four of the meetings were asked to rate the service as either excellent, good, fair, or poor. Responses were:

Excellent: 2 people
Good to Excellent: 3 people
Good: 12 people
Fair to Good: 10 people
Fair: 4 people
Poor to Fair: 0
Poor: 0

It is interesting to note that while most participants had some kind of issues with the service and several had significant issues, the majority (17 out of 31) still indicated they felt the service was good or better. Most of the remaining participants rated the service as "fair." None of the participants rated the service worse than "fair."

Are there any changes in the way that THE RIDE works (service policies) that might make it work better for you?

Numerous suggestions for changes to service policies or ways that the service could be improved were offered. These included:

Several staff members of dialysis clinics felt that automatic cancellations of subscription trips on holidays caused significant problems. They noted that dialysis clinics typically don't close for holidays (with the exception of Christmas) and suggested that the policy be more specific to the type of agency and not a broad blanket policy.

Other agency staff noted that service providers need to work more closely with agencies to address issues.

The fare structure was mentioned by a few riders. It was noted that relatively short trips between regions cost $3.00, while much longer trips within the region were only $1.50.

A few riders also mentioned that information on account balances were needed. It was noted that some riders have trouble keeping track of balance in debit accounts; tickets were easier to keep track of. The idea of making call-backs using the automated technology to give people account balance information was suggested.

A few riders had comments and suggestions related to the eligibility determination process. One person said better and more timely information about recertification was need. A second person thought that certain riders should be granted permanent eligibility.

Several riders suggested that service providers should keep the same drivers with group subscription runs. It was also suggested that drivers be used in areas that they are familiar with and not in areas they don't know. One person said to designate some drivers for appointments, others for leisure trips.

Two people said to pay drivers more so that they work fewer hours and can attract better people. One rider noted that there was a lot of turnover of drivers which created change and a lack of continuity. Another person specifically said that the 12 hour shifts that were worked by drivers were too long.

Several people suggested additional employee training. Two people said to train drivers better and noted the need for sensitivity training and more knowledge of the areas they serve. One person commented that drivers need respect for customers' time. Another participant said that dispatchers need training in sensitivity and being courteous on the phone. A fifth person said more training is needed on communicating on the phone with riders as well as effective and appropriate radio communications between dispatchers and drivers.

One person said much improvement is needed in scheduling and reservations. One person indicated the need for floater drivers to help get back on schedule. Another suggested that schedulers should observe service, to get a better feel for travel times and how long it takes to provide assistance and secure wheelchairs

One person said THE RIDE needs an Ombudsman for customers who is an expert with the ADA.

One rider indicated a need for more flexibility in changing trip times on the day of service and still getting reliable service.

One person noted that more information needs to be communicated to drivers, such as rider needs and special address information.

Another person said to communicate schedules to drivers in a better way – MDCs only show an hour's worth of trips at a time

One person said that drop-off times and late drop-offs needed to be tracked.

One rider noted the need for printed RIDE Guides for people who don't have computers

Other Comments

Four participants reported trouble with phones ringing busy for 40-45 minutes (repeated calls), and with repeated recorded messages (3 complaints referred to Kiessling, the other Joint Venture).

Attachment D

THE RIDE Service and Performance Statistics
By Service Contractor
July 2004 through February 2007

Table A-1. VTS Trips Completed, On-Time Performance and Complaints per Month, July 2004 through February 2007

FY05	July	August	September	October	November	December	January	Febraury	March	April	May	June	Total
On Time	33,894	34,960	35,157	35,353	34,576	31,690	29,162	32,868	38,906	37,232	38,315	39,482	**421,595**
Late 16 to 30	1,654	1,678	2,964	3,334	3,009	4,634	4,343	4,174	3,734	3,598	3,728	3,546	**40,396**
Late >30	331	367	819	1,099	1,070	3,396	2,691	2,092	1,256	1,311	1,254	1,071	**16,757**
Trips completed	35,879	37,005	38,940	39,786	38,655	39,720	36,196	39,134	43,896	42,141	43,297	44,099	**478,748**
Complaints	19	33	30	63	58	99	102	111	91	83	53	75	**817**
FY06	**July**	**August**	**September**	**October**	**November**	**December**	**January**	**Febraury**	**March**	**April**	**May**	**June**	**Total**
On Time	36,091	39,955	39,576	39,647	40,242	38,504	39,384	37,086	45,137	40,336	43,249	42,903	**482,110**
Late 16 to 30	2,971	2,791	3,875	3,902	3,345	3,317	3,530	2,984	3,321	3,347	3,781	3,412	**40,576**
Late >30	700	547	860	915	771	1,032	854	562	566	498	627	526	**8,458**
Trips completed	39,762	43,293	44,311	44,464	44,358	42,853	43,768	40,632	49,024	44,181	47,657	46,841	**531,144**
Complaints	56	61	81	81	65	58	66	61	64	67	37	85	**782**
FY07	**July**	**August**	**September**	**October**	**November**	**December**	**January**	**February**	**March**	**April**	**May**	**June**	**Total**
On Time	39,727	43,216	41,311	45,025	43,292	42,816	43,846	38,551					337,784
Late 16 to 30	3,200	3,274	4,192	3,843	3,959	3,184	3,198	3,575					28,425
Late >30	549	559	771	610	705	458	401	738					4,791
Trips completed	43,476	47,049	46,274	49,478	47,956	46,458	47,445	42,864					371,000
Complaints	57	64	67	72	68	39	60	50					477

Summary	FY 05	FY06	Change	FY07*	FY07 Proj	Change
On Time	421,595	482,110	14.35%	337,784	506,423	5.04%
Late 16 to 30	40,396	40,576	0.45%	28,425	42,616	5.03%
Late >30	16,757	8,458	-49.53%	4,791	7,183	-15.08%
Trips Completed	478,748	531,144	10.94%	371,000	556,222	4.72%
Complaints	817	782	-4.28%	477	715	-8.55%

*Through February 28.

Table A-2. GLSS Trips Completed, On-Time Performance and Complaints per Month, July 2004 through February 2007

FY05	July	August	September	October	November	December	January	Febraury	March	April	May	June	Total
On Time	29,326	30,839	31,355	31,424	30,856	24,472	22,208	25,176	28,180	28,251	29,981	30,765	**342,833**
Late 16 to 30	451	435	559	651	534	2,811	2,229	2,167	2,044	2,076	2,092	1,809	**17,858**
Late >30	152	199	245	284	189	1,330	794	675	608	534	521	476	**6,007**
Trips completed	29,929	31,473	32,159	32,359	31,579	28,613	25,231	28,018	30,832	30,861	32,594	33,050	**366,698**
Complaints	21	24	39	33	41	113	44	53	60	36	43	20	**527**
FY06	**July**	**August**	**September**	**October**	**November**	**December**	**January**	**Febraury**	**March**	**April**	**May**	**June**	**Total**
On Time	28,900	32,010	31,712	31,679	32,388	31,887	32,008	30,238	36,526	32,828	34,811	35,786	**390,773**
Late 16 to 30	1,487	1,677	2,307	1,783	1,566	1,887	1,426	1,296	1,391	1,394	1,831	1,698	**19,743**
Late >30	352	385	656	399	314	472	322	270	261	277	497	384	**4,589**
Trips completed	30,739	34,072	34,675	33,861	34,268	34,246	33,756	31,804	38,178	34,499	37,139	37,868	**415,105**
Complaints	20	28	37	30	20	11	22	18	17	21	23	13	**260**
FY07	**July**	**August**	**September**	**October**	**November**	**December**	**January**	**February**	**March**	**April**	**May**	**June**	**Total**
On Time	33,300	37,405	35,498	37,053	36,764	36,802	37,289	33,310					287,421
Late 16 to 30	1,681	1,858	2,196	2,440	2,362	2,006	1,542	1,640					15,725
Late >30	362	305	491	602	550	465	283	357					3,415
Trips completed	35,343	39,568	38,185	40,095	39,676	39,273	39,114	35,307					306,561
Complaints	24	22	20	24	23	12	5	10					140

Summary	FY 05	FY06	Change	FY07*	FY07 Proj	Change
On Time	342,833	390,773	13.98%	287,421	430,916	10.27%
Late 16 to 30	17,858	19,743	10.56%	15,725	23,576	19.41%
Late >30	6,007	4,589	-23.61%	3,415	5,120	11.57%
Trips Completed	366,698	415,105	13.20%	306,561	459,612	10.72%
Complaints	527	260	-50.66%	140	210	-19.27%

*Through February 28

Table A-3. KTI Trips Completed, On-Time Performance and Complaints per Month, July 2004 through February 2007

FY05	July	August	September	October	November	December	January	Febraury	March	April	May	June	Total
On Time	22,814	23,184	22,537	23,045	22,221	17,150	16,179	18,532	21,845	21,773	22,514	22,387	**254,181**
Late 16 to 30	861	954	1,313	1,081	1,321	2,486	2,238	1,902	1,233	1,169	1,431	1,683	**17,672**
Late >30	182	213	406	359	383	1,873	1,285	1,086	370	228	316	456	**7,157**
Trips completed	23,857	24,351	24,256	24,485	23,925	21,509	19,702	21,520	23,448	23,170	24,261	24,526	**279,010**
Complaints	12	20	46	35	18	84	44	59	22	16	28	32	**416**
FY06	**July**	**August**	**September**	**October**	**November**	**December**	**January**	**Febraury**	**March**	**April**	**May**	**June**	**Total**
On Time	20,830	22,491	21,537	21,878	21,763	20,737	21,798	20,463	24,604	21,246	23,322	22,431	**263,100**
Late 16 to 30	1,137	1,320	1,763	1,693	1,868	1,917	1,204	1,034	1,364	1,273	1,455	1,531	**17,559**
Late >30	350	380	540	456	564	725	212	194	206	211	257	245	**4,340**
Trips completed	22,317	24,191	23,840	24,027	24,195	23,379	23,214	21,691	26,174	22,730	25,034	24,207	**284,999**
Complaints	15	25	30	39	29	29	9	21	23	25	16	25	**286**
FY07	**July**	**August**	**September**	**October**	**November**	**December**	**January**	**February**	**March**	**April**	**May**	**June**	**Total**
On Time	21,309	23,476	22,080	23,019	22,115	21,587	21,916	19,862					175,364
Late 16 to 30	1,335	1,457	1,840	1,659	1,456	1,344	1,237	1,436					11,764
Late >30	247	314	390	293	299	270	210	297					2,320
Trips completed	22,891	25,247	24,310	24,971	23,870	23,201	23,363	21,595					189,448
Complaints	20	32	23	33	31	23	23	44					229

Summary	FY 05	FY06	Change	FY07*	FY07 Proj	Change
On Time	254,181	263,100	3.51%	175,364	262,915	-0.07%
Late 16 to 30	17,672	17,559	-0.64%	11,764	17,637	0.45%
Late >30	7,157	4,340	-39.36%	2,320	3,478	-19.86%
Trips Completed	279,010	284,999	2.15%	189,448	284,030	-0.34%
Complaints	416	286	-31.25%	229	343	20.04%

*Through February 28

Table A-4. JV Trips Completed, On-Time Performance and Complaints per Month, July 2004 through February 2007

FY05	July	August	September	October	November	December	January	February	March	April	May	June
On Time	17,103	17,797	18,148	17,832	18,274	12,409	12,242	13,342	15,458	15,069	16,089	16,386
Late 16 to 30	489	631	704	839	522	1,553	1,380	1,245	1,439	1,687	1,547	1,546
Late >30	125	126	136	137	135	1,564	1,089	812	1,065	918	691	721
Trips completed	17,717	18,554	18,988	18,808	18,931	15,526	14,711	15,399	17,962	17,674	18,327	18,653
Complaints	13	18	19	22	34	56	41	21	44	30	31	31
FY06	**July**	**August**	**September**	**October**	**November**	**December**	**January**	**Febraury**	**March**	**April**	**May**	**June**
On Time	15,447	17,396	17,198	17,458	17,106	15,829	16,441	15,903	19,536	17,148	19,002	18,106
Late 16 to 30	920	1,016	1,451	1,310	1,268	1,674	1,170	930	903	1,304	1,672	1,713
Late >30	324	339	427	360	603	1,072	593	369	233	385	563	407
Trips completed	16,691	18,751	19,076	19,128	18,977	18,575	18,204	17,202	20,672	18,837	21,237	20,226
Complaints	26	28	43	34	35	76	60	42	15	45	33	60
FY07	**July**	**August**	**September**	**October**	**November**	**December**	**January**	**February**	**March**	**April**	**May**	**June**
On Time	17,594	19,131	18,569	19,617	18,865	18,248	18,023	16,372				
Late 16 to 30	1,116	1,059	1,257	1,588	1,788	1,488	1,446	1,456				
Late >30	227	310	217	259	362	427	457	318				
Trips completed	18,937	20,500	20,043	21,464	21,015	20,163	19,926	18,146				
Complaints	10	36	36	41	26							

Summary	FY 05	FY06	Change	FY07*	FY07 Proj	Change
On Time	190,149	206,570	8.64%	146,419	219,519	6.27%
Late 16 to 30	13,582	15,331	12.88%	11,198	16,789	9.51%
Late >30	7,519	5,675	-24.52%	2,577	3,864	-31.92%
Trips Completed	211,250	227,576	7.73%	160,194	240,171	5.53%
Complaints	360	497	38.06%	149	223	-55.05%

Through February 28