

Deputy General Manager for Systemwide Modernization

■ Systemwide Modernization



Systemwide Modernization

The Systemwide Modernization Department serves in the capacity of advancing automation and customer service of the MBTA's transit system. Through various new technologies, this department is directly responsible for enhancing security initiatives around unauthorized access and intrusion detection to subway and bus system portals as well as garage and bus yard infrastructures. The Department is also responsible for the site selection, design and development of a redundant Operational Control Center that will enable the MBTA to operate its transportation infrastructure from a remote location, as opposed to its primary operating control center. Systemwide Modernization is also comprised of various operating divisions that introduce new fare collection technologies, provide audit services for fare revenue, and maintenance oversight for all automated fare collection equipment.

Automated Fare Collection Division

The Automated Fare Collection (AFC) Division provides direct oversight of the Authority's Station Management Project (SMP) and is responsible for implementing state-of-the-art automated fare collection equipment throughout the subway and bus systems. This division is directly responsible for coordinating all design, testing, installation and commissioning of all new AFC equipment, as well as ongoing software changes and updates. This equipment includes fare vending machines and fare gates in the subway system and bus and light rail fareboxes designed to provide enhanced service and customer options. Upgrades to the revenue collection facilities back-office equipment and systems have been designed to provide more efficient functionality and use of resources. Finally, the new integrated central computer and garage computer system will interface with all system equipment elements. The central computer system will assure the Authority's ability to effectively monitor and report on all performance and required system maintenance activity.

This division will be expanding its responsibility to include the coordination of all design, testing, installation, and commissioning of new equipment for Commuter Rail, parking and MBTA Ferry Boat operations. This equipment will primarily include cashless fare vending machines, retail sales terminals for area merchants, and fare media validation equipment that will be distributed throughout the entire network of commuter rail stations and MBTA owned parking locations.

AFC Equipment Maintenance Division

The AFC Equipment Maintenance Division is responsible for the preventative and corrective maintenance associated with farebox, garage, fare vending and subway station fare gates system-wide, as well as ticket office equipment. The complexity and magnitude of maintenance coverage has significantly grown as a direct result of full implementation of the new automated fare collection equipment. The AFC Equipment Maintenance Division is directly responsible for more than 3,300 pieces of equipment and during this fiscal year will take over all workbench repairs as warranty coverage ends for the new AFC equipment.

Station Management Project

The Station Management Project introduced an improved experience to our MBTA customers in the following areas:

- Convenient ways to purchase passes and fares
- Flexible passes and tickets, and
- Ease of use

New communication infrastructure, customer service improvements, back-office money management systems, as well as enhanced station and employee management structures have been developed and deployed as a result of activity generated from the AFC Division. AFC has successfully begun and transitioned the process for transforming the Authority's ability to efficiently manage its stations, provide enhanced customer service, improve fare collection, and improve the general safety environment of the MBTA system.

These improvements in operating efficiencies are being achieved and maintained through a number of components: the construction and operation of six Hub Stations linked to newly installed CC-TV cameras, passenger intercoms, fire alarms, elevator and escalator alarms, fare vending equipment alarms and other safety systems. Many of the above referenced systems have been connected through a fiber optic-based wide area network (WAN) that will extend throughout the subway system. The WAN, which is also supported within SMP, is a critical component of the communications infrastructure necessary for the AFC equipment, CC-TV cameras and other systems and alarms highlighted above.

With the deployment of AFC to the core system successfully completed, the Station Management Project will now shift much of its focus to converting Commuter Rail, Ferry Boat, and MBTA-owned parking facilities to automated fare collection equipment. This initiative will involve new equipment and technologies on a wider deployment scale and renewed equipment design, development, testing and installation.

Revenue Audit and Administration Division

The Revenue Audit and Administration Division is responsible for oversight of the MBTA's Corporate Pass Program and the preparation of monthly revenue reports and related journal entries. This division utilizes the new technologies made available as a direct result of the automation introduced by the new AFC equipment, and will work to develop new interfaces between the AFC Central Computer System and PeopleSoft Financials. These interfaces will expedite the MBTA's ability to accelerate the monthly close process through the elimination of several outdated manual processes.

In addition, the division will be restructuring its operation to refocus its efforts on performing periodic audits of revenue collection equipment, reporting, and field collection compliance. Once improved automation of the monthly reporting process is established, staff will be able to enhance their ability to perform a wider array of revenue auditing activities.

Finally, this division oversees the management and operation of the Authority's transit and commuter rail parking facilities by third-party contractors. Moving forward, the division will continue to explore new technologies that focus on introducing automated fare collection initiatives to the parking division similar to those established in subway, bus, and light rail operations.

Systemwide Modernization

PROGRAM	ACTIVITY	MEASURE	FY09 BUDGET
Fare Collection Auditing	Ensure fare compliance	Perform 15 weekly fare audits	\$494,427
		Perform 15 weekly station observation audits	
		Balance 99% of accounts by the 10th of each month	
		Service all accounts by the 25th day of each month	
Fare Media Procurement	Design and development of fare media and new ticket types	Inventory of smart cards and magnetic tickets to maintain a steady state system operation	\$1,974,288
AFC System Software Maintenance/Technology Development	Continued implementation of AFC Contract	Completion of three system software upgrades	\$1,046,735
		Completion of AFC System Acceptance Testing	
		Planning of future electronic fare payment strategies	
	Provide engineering support	Design, test and implement enhancements to Bus, Subway and Green Line AFC Equipment	
	Introduce fare policy modifications	Coordinate, test and implement changes to fare structure, new ticket types and screen displays	
	Improve customer interfaces	Design and implement new screen flows for all fare vending machines (FVMs), ticket office machines (TOMs), retail sales terminals (RSTs), fareboxes, and fare media validators (FMVs)	
	Expand customer service fare media network	Increase distribution outlets for reduced fare customers, students, employers, etc.	
Audit data system and reports	Review data system generation requirements, data warehousing/data mining, and interface		
Introduce special project applications and services	Expand AFC applications to the parking system, Commuter Rail system, security access system, and other related programs		
Third Party Initiatives	Monitor third party support	Develop RFPs and conduct oversight of internet sales, Corporate Pass Program, and other related initiatives	\$1,935,605
Pass Program	Pass account administration	Receive pass returns monthly	\$119,639
AFC Equipment Maintenance	Preventive and corrective maintenance	Complete 3200 average monthly corrective maintenance actions to AFC equipment	\$3,604,006
		Complete 350 monthly preventive maintenance actions to AFC equipment	
	Equipment workbench repair	Complete 145 weekly fare vending machine inspections	\$1,988,942
		Complete 400 weekly farebox inspections	\$1,024,954

PROGRAM	ACTIVITY	MEASURE	FY09 BUDGET
Revenue Administration	Analyze revenue and expense information and provide recommendations to improve efficiencies	Prepare, distribute and review revenue reports on a timely basis	\$386,889
	Provide financial/administrative support for Revenue Audit operations	Ensure effective financial controls	\$344,544
TOTAL BUDGET			\$12,920,029

Automatic Fare Collection (AFC)

PROGRAM	ACTIVITY	MEASURE	FY09 BUDGET
Program Management	Begin AFC Phase II Project for expansion of the AFC/CharlieCard system to Commuter Rail, Parking, and Ferry Boat service locations throughout the system	Successful update of the original AFC Phase I technical specifications to provide a comprehensive AFC System covering all MBTA transit and parking services	\$4,000,000
		Ensure that all contract specifications are met for unified system and equipment functionality Determination through factory testing that new equipment functions as designed Successful system integration	
	FTA Grant Management	Timely reporting to the Project Management Oversight Committee (FTA Oversight)	
Program Management	Oversee the design, installation, and contractual agreements specific to the procurement of automated fare collection equipment and related project activity for AFC Phase II	Ensure that project is completed on schedule and within budget	\$30,500,000
TOTAL BUDGET			\$34,500,000

Note: The above expenses are funded 100% from capital funds and do not impact the FY 2009 operating budget.

