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May 1, 1997



Los Angeles County
Metropolitan
Transportation
Authority

TO: BOARD OF DIRECTORS
FROM: LINDA BOHLINGER *Linda Bohlinger*
INTERIM CHIEF EXECUTIVE OFFICER

SUBJECT: IMPLEMENTATION OF STANDARD REGIONAL
REVENUE PROCESSING SYSTEM (SRRPS)

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RECOMMENDATIONS

1. Award contract for Development of Performance Specifications for the LACMTA Standard Regional Fare Revenue Processing System (see RFP No. OP-4230-0614 Scope of Services, Attachment A)
2. Establish Ad Hoc MTA Board Task Force on SRRPS with representatives of the MTA Planning and Programming Committee and Operations Committee to provide policy direction on the application of the SRRPS in the MTA bus and rail fleets.
3. Approve description of SRRPS (see Attachment B).
4. Review implementation schedule and outstanding issues summary (see Attachment C.)

ORGANIZATIONAL IMPACT

The Standard System and procurement of compatible components will allow seamless electronic fare collections and transfer payments for participating bus and rail systems.

Although the Board committees will continue to consider SRRPS issues and actions requiring Board approval, the SRRPS task force will improve project coordination and implementation by allowing more frequent, informal communication between the MTA Board task force members, MTA staff and representatives from the other agencies that are participating in the SRRPS.

BUDGET IMPACT

This report does not impact the MTA budget.

ALTERNATIVES CONSIDERED

Not achieving SRRPS compatibility would limit the ease with which transit riders use the system. Although the Board could decide not to create the SRRPS Task Force, staff is recommending the informal organizational structure to improve implementation coordination and policy development with the Board, MTA staff and other participating agencies.

BACKGROUND/DISCUSSION

At its April 1997 meeting, the MTA Board approved circulation of the RFP for development of performance specifications for the SRRPS (see RFP Scope of Services, Attachment A.) Although the administrative process to select the consultant should be complete by the May 1997 Board Meeting, the Board reserved the right to withdraw the RFP at the May 1997 meeting pending further review of the RFP scope by participating agencies. Per MTA procurement policies, formal board approval of the consultant selection is required when the contract amount exceeds \$100,000.

Board Members also requested a more complete description of the SRRPS (see Attachment B) and an implementation schedule/ summary of outstanding issues (Attachment C).

ATTACHMENTS

- A. Scope of Services for RFP No. OP-4230-0614
- B. SRRPS Description
- C. Application of SRRPS in MTA Bus/Rail fleets: Schedule, Issues Summary

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Executive Officer

Regional Transportation Planning and Development

Attachment A

**LOS ANGELES COUNTY METROPOLITAN
TRANSPORTATION AUTHORITY**

SCOPE OF WORK

**REQUEST FOR PROPOSAL (RFP) OP-4230-0614
LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY**

REQUEST FOR PROPOSAL (RFP) OP-4230-0614

SCOPE OF WORK

STANDARD REGIONAL REVENUE PROCESSING SYSTEM (SRRPS)

INTRODUCTION

Since 1990, the MTA, Culver CityBus, Foothill Transit, Montebello Bus Lines and Norwalk Transit have been developing the Metrocard, a multi-agency magnetic-stripped electronic fare collection system which is currently in revenue service on approximately 400 buses and is the installed base for the region. The Metrocard project has been developed under an MTA contract with GFI-Genfare Corporation. During the same period, outside of the Metrocard project, proximity card systems have been developed in Southern California and in transit operations throughout the world. Although there are more than 1,000 GFI fareboxes in the County, there are more than 2,400 Cubic fareboxes in the MTA fleet. And although GFI ticket vending machines are used in the MTA Metrorail system, the Metrolink five-county commuter rail system is equipped with Ascom TVMs. In addition, Smart Cards are being introduced in the financial, telecommunications and security industries that may have transit fare collection applications in the near future. Further, other electronic systems such as automated passenger counting, automated vehicle location, automated passenger counting and advanced radios are being added to bus fleets and complicating the bus operator area and functions with multiple controller keypads.

The Metrocard agencies now desire to expand the functionality and improve the integration of the Metrocard with other bus systems by obtaining a performance specification for a SRRPS that would accept and reconcile fare payments from multiple electronic media and allow control of SRRPS components and other bus systems from a single operator controller keypad. This new performance specification will be used to ensure that operators who participate in the SRRPS system acquire fare collection and other systems that will allow seamless electronic payment of fares and transfers and revenue reconciliation between participating operators.

Although the MTA Board of Directors initially approved an amendment to the MTA-GFI contract to develop the SRRPS specifications in December 1996, MTA has now concluded that the new functionality and integration is beyond the scope of the current MTA contract with GFI-Genfare and has determined that an independent specification is advisable in order to not preclude competitive procurement of the new specified SRRPS components. To this end, GFI will work to ensure full understanding of the functionality and operability of the installed base of Metrocard systems. It is the intent of the Metrocard participating agencies to add to the functionality and integration of the current Metrocard operating system rather than devising a new system.

CONSULTANT SERVICES

The Consultant shall propose professional services necessary to prepare a performance specification for the SRRPS system described in the April 12, 1997 MTA Board of Directors Status Report Agenda Item and in the referenced November 25, 1996 Board Item, including Attachment A, Standard Regional Revenue Processing System Elements (Enclosure 1). The performance specification shall describe the hardware and software, procedures and controls necessary to integrate the current LACMTA Metrocard system with a radio-frequency proximity card and reader component, with current electronic ticket/transfer issuing components, current bus fareboxes and rail ticket vending machines. Several configurations of the SRRPS components are envisioned, including, but not limited to:

- A free-standing SRRPS that can be installed in a transit vehicle or near a Ticket Vending Machine
- An SRRPS attached to an existing farebox manufactured by GFI-Genfare or other vendors
- A fully-integrated SRRPS/Farebox contained within a single fare collection cabinet using SRRPS components and other fare collection systems from multiple vendors
- A fully-integrated SRRPS/TVM cabinet

Integration must use a universal bus operator's controller/keypad capable of controlling: the range of current fareboxes installed in LA County fixed-route bus and rail ticket vending systems; the current and proposed electronic fare collection components; and other peripheral devices including, but not limited to, bus radios, bus stop annunciators, head signs, automated passenger counting and geographic positioning systems. The integrated system must be specified so that system components are procurable in an open architecture environment which anticipates competitive procurements and phased implementation of specified components and provides interfaces for later integration of emergent revenue processing system components, such as smart cards.

Consultant shall propose services to assist MTA and other interested SRRPS operators to negotiate contracts with hardware and software providers. The Consultant's proposed services shall include preparation of the Scopes of Work for subsequent competitively procured contracts which would provide the technical specifications or specified professional services necessary to implement SRRPS elements. The Consultant shall identify the anticipated schedule for SRRPS elements and anticipated issues/conditions for negotiated procurements of the SRRPS components by LACMTA or other operators. During preparation of the specifications, all interested manufacturers shall be identified and contacted on an informal basis to review the requirements for integrating their components.

Consultant shall identify the specific Resident Engineer services that are typically provided for these types of procurements and shall propose, as an option, on a time and material basis, the recommended categories of resident engineer services. These Resident Engineer services could include, but are not limited to, services such as: development, implementation and monitoring of performance tests for durability, maintainability, and system interface performance; design reviews and site visits to hardware and software suppliers selected to provide SRRPS components to ensure that software and hardware supplier's components are designed consistent with the SRRPS specifications; development of change orders and specification changes required to ensure the most cost effective integration of currently available components; documentation of prototype performance to meet the SRRPS specification standards; development and implementation of a program to document performance of system components during their first year in revenue service.

All specifications and supporting documentation will be submitted to LACMTA for review by interested operators and distribution as the LACMTA sees fit.

Consultant shall propose cost estimates and a critical path schedule for the proposed tasks.

Deliverables:

1. Preliminary drafts of Specification - 4 weeks after receipt of contract.
2. Final Specification - 6 weeks after receipt of contract.
3. Project status meetings - As required
4. Follow on Support - As required

END OF SCOPE OF SERVICES

Attachment B

DESCRIPTION OF LACMTA'S STANDARD REGIONAL REVENUE PROCESSING SYSTEM

INTRODUCTION

Since 1990, the MTA, Culver CityBus, Foothill Transit, Montebello Bus Lines and Norwalk Transit have been developing the Metrocard, a multi-agency magnetic-stripped electronic fare collection system which is currently in revenue service on more than 400 buses and is the installed base for the LACMTA's Standard Regional Revenue Processing System (SRRPS) in the region. The Metrocard project has been developed under an MTA contract with GFI-Genfare Corporation.

The initial configuration of the Metrocard base system hardware includes:

- Metrocard Bus On-Board Equipment (includes card reader, stand-alone operator control pad, transfer issuing components, mounting hardware)
- Metrocards (magnetic-stripped, stored-value polyester debit cards)
- Transfers (Metrocard-system readable, magnetic-stripped paper tickets)
- Garage Computer system (includes 2 portable data probes to collect in-vehicle data)
- Agency Computer system to compile all garages and transmit to Central Computer System
- Central Computer to function as the regional data and financial clearing house
- Card Sales/Value Recharge Components

During the same period, outside of the Metrocard project, other electronic fare collection technologies, such as computer-chip-based proximity cards, have been developed and tested in Southern California and adopted for use alongside, or instead of, the magnetic stripe systems that have been in service for two decades in transit operations throughout the world. In addition, Smart Cards are being introduced in the financial, telecommunications and security industries that may have transit fare collection applications in the near future. Further, other electronic systems such as automated passenger counting, automated vehicle location, automated passenger counting and advanced radios are being added to bus fleets and complicating the bus operator area and functions with multiple controller keypads.

With the emergence of the new payment technology options and other computerized in-vehicle systems, participants in the Metrocard agencies now desire to expand the functionality and improve the integration of the Metrocard system by adopting the SRRPS. Using the Metrocard system as the base upon which SRRPS performance specifications are built will ensure that SRRPS that will continue to accept and reconcile fare payments from multiple electronic media and allow control of SRRPS components and other bus systems from a single universal, programmable operator / controller keypad. This new performance specification will be used to ensure that operators who participate in the SRRPS system acquire fare collection and other systems that will allow seamless electronic payment of fares and transfers and revenue reconciliation between participating operators. It is the intent of the Metrocard participating agencies to add to the functionality and integration of the current Metrocard operating system rather than to develop an entirely new SRRPS system..

In December 1996, the MTA Board adopted the following SRRPS elements:

- Compatible system hardware and fare media options (including the magnetic stripe Metrocard, proximity cards and other emergent store-value electronic fare payment technologies such as smart chip cards) that allow incremental upgrades of system components as budgets allow, technology evolves or as older equipment is replaced.
- An integrated operator console to control driver log-on, all cash and electronic fare transactions and other optional operator-controlled in-vehicle systems (i.e.: automated passenger counting, automated head signs, automated stop announcements, passenger security systems, automatic vehicle locator systems, smart bus stops).
- An integrated software system and regional financial clearinghouse to collect data from cash and electronic transactions of all participating operators, reconcile interagency transactions and produce integrated financial reports at the end of each service day.
- Convenient off-bus value restoration systems for each electronic medium accepted (Metrocard and others) to allow high value, credit card and debit card transfers to the stored value fare cards.
- The ability to electronically issue and accept Metrocard transfers on the bus.
- An ergonomic design that replaces current fareboxes, meets ADA requirements, does not delay passenger loading and improves current ergonomics of the entrance and/or exits of the bus and rail station.
- A life-cycle capital and operating cost that does not adversely affect operator cost-effectiveness.

- A system that is able to be procured, operated and maintained using traditional or non-traditional financing (i.e.: vendor financing, turnkey proposals).
- An optional on-bus Metrocard sales system that accepts coins, \$1 and \$5 bills and provides electronic change in the form of a paper Metrocard or added value to the Metrocard and other electronic fare cards in the Standard Regional Revenue Processing System. Such a system could issue tickets and would replace the traditional electronic registering cash farebox and back room cash collections systems and equipment.

The Performance Specification will integrate the SRRPS elements into several configurations, including, but not limited to the following:

- A free-standing SRRPS that can be installed in a variety of transit vehicles (ranging from shuttles to standard buses) or near a rail system ticket vending machine (TVM).
- An SRRPS attached to an existing bus farebox manufactured by GFI-Genfare or other vendors.
- A fully-integrated SRRPS/Farebox contained within a single fare collection cabinet using SRRPs components and other fare collection systems from multiple vendors
- A fully-integrated SRRPS/TVM contained in a single cabinet using SRRPS components and other fare collection systems from multiple vendors.

ATTACHMENT C

**APPLICATION OF SRRPS IN MTA FLEETS:
STEPS, SCHEDULES AND OUTSTANDING ISSUES**

Steps	Outstanding Issues	Due Dates
Performance Specifications / Call for Projects Coordination		
Hire Performance Spec. Consultant	RFP in Circulation	5/97
Prelim. Draft of Spec.	Proposals yet to be received	6/97
Call for Projects Awards	New SRRPS Participants Identified	6/97
Final Spec. following Industry Review	Comments may require revisions	7/97
Determine Procurement Method for SRRPS Elements	Each agency's methods may differ	7/97
Call for Projects MOUs executed	None expected	8/97
SRRPS Procurement RFPs issued	Depends on procurement method	8/97
Funding of future operators	Depends on future Calls/other funds IDed	6/99
MTA Application of SRRPS in Bus/ Rail Fleets		
Final Perf. Spec. Approved	See above	7/97
Determine procurement method	Regional buy or indiv. agency buys	7/97
Identify funding in LRP Update	depends on bus expansion requirements	9/97
Adopt Cubic Fareboxes Replacement Strategy	Lifecycle cost analysis needed	12/97
Adopt SRRPS Config. Strategy for Bus/Rail	Depends on LRP funding strategy	1/98
Incorporate into MTA budget	Depends on \$ and Configuration chosen	6/98
Issue RFP for MTA procurements	Depends on \$ and Configuration chosen	7/98
In revenue service	None expected	1/99

Key Implementation Issues for MTA

Will performance specification consultants successfully complete contract scope in a timely way?

What configuration strategies does MTA want to assume for SRRPS applications in our bus and rail fleets? Do we retrofit current equipment or wait to procure new SRRS systems that are integrated with new fareboxes and ticket vending machines?

How does MTA provide funding necessary in the Long Range Plan Update to replace wornout fare boxes, ticket vending machines, and radio systems with new systems that incorporate SRRPS elements? How much new capital and operating funding is needed initially and annually thereafter?

What procurement and administrative structures make sense for the SRRPS? Decentralized coordination? A regional procurement and administrative organization (i.e.: a joint powers authority, a non-profit corporation, a for-profit corporation)?

Should financing drive procurement options? In example, financial institutions may be willing to provide financing for procurement of the equipment (or to lease the equipment to a regional consortium) in exchange for providing the clearinghouse function. Another option to be explored would be to create a turnkey revenue operation that includes electronic and cash transactions, either for MTA or for a regional consortium.