Request for Proposal
For a Parking Access Control System

For the City of Worcester, Massachusetts

DPW&P Parking Services

OVERVIEW

The City of Worcester, Massachusetts, Department of Public Works & Parks, Parking Services recognizes the importance of quality parking services for City of Worcester residents, tourist and business community. Through this Request for Proposal, the City seeks proposals from qualified Proposers to provide a Parking Management System to support the parking operations of Major Taylor and Union Station Garages. The goal of the parking management system is to provide a seamless, efficient, customer-friendly, cost-effective parking operation for the City and have the capability to expand and integrate the latest technology which would include smart parking/navigational capability.

SCOPE OF SERVICES

General Requirements

Proposer shall provide all equipment and services related to the design, setup, testing, maintenance, for the access control and revenue control system to function properly for the Department of Parking Services.

No part of the currently installed system shall be reused in the implementation of the proposed system.
This includes, gates, loops, ticket dispensing devices, ticket and card readers, computers, software, communication wiring, control wiring, etc. Conduit can be reused. The system shall be a complete new turnkey solution.

All parking control system equipment components shall be linked to the parking office located in the Worcester Common Garage. The Worcester Common Garage Parking office will be the focal point for day-to-day monitoring, operational management and maintenance. All components of the system shall communicate in real time to a Parking Management Computer located in the control center and have remote access. An administrator at the control center must have complete control of the system.

List of Abbreviations:

APS	Automatic Pay Station
ACS	Access Control System
PMS	Parking Management System
RCS	Revenue Control System CR
	Card Reader
TD	Ticket Dispenser

Submittals

Proposer will submit all Required Parking Equipment specifications related to their proposal, including but not limited to: product specifications, installation, and maintenance instructions for each proposed solution. Detailed information about the software and associated hardware to include:

a. Configuration diagram.

b. Hardware specification.

c. Firmware specification.

d. Communication protocol between devices.

e. Fault tolerance.

f. Communication error identification and recovery.

g. Software platforms and programming language.

h. Data storage and retrieval.

Submit five (5) complete and legible “as-built” field wiring diagrams and straight line diagrams (in AutoCAD 2013 or

compatible software) showing the electrical connections, functions and sequence of operations of all apparatus, together with oil lubrication charts, photographs or cuts of repair parts with part numbers listed. Wiring diagrams shall properly identify each device by name, letter or standard symbol identical with markings.

Samples: Submit samples of paint finish, tickets, standard reports, and other elements to be selected by Owner within thirty (30) days after approval of the contract. Approval/selections will be returned to the Proposer within thirty (30) days of submittal.

Operating manuals: Prior to the initiation of final testing and training, the Proposer shall deliver the following operation and maintenance manuals:

a. Supervisor Manual – This manual is designed for the Supervisor or authorized individual for day- to-day operation of specified software package(s). It shall explain all the features and functions (e.g., log-on/off, detailed instructions on how to access reports, monitors prepare and print standard and ad hoc reports) required for day-to-day management. The manual shall also have a section for problems and/or exception conditions so the Supervisor can resolve common operating

problems. The manual shall also contain instructions on how to perform normal maintenance (e.g., changing paper for the printer). Two (2) copies of this manual shall be provided for each workstation plus one (1) reproducible original.

b. Maintenance Manual – This manual shall contain detailed instructions on how to perform regular and preventive maintenance on all components of the parking control system and communications network that can be performed by City's staff. Two (2) copies of this manual shall be provided. The manual shall include: Description of unit and component parts, including complete terminology and commercial number of all replaceable parts.

c. Operating procedures: Include start-up; break-in; routine and normal operating instruction; regulation, control, stopping, shutdown and emergency instructions; and special operating instructions as applicable.

d. Maintenance procedures: Include routine operations; guide to trouble shooting; servicing and lubrication schedule; list of lubricants required; description of sequence of operation; as-installed control diagrams; as-installed color coded piping and wiring diagrams; and a list of spare parts and recommended quantities to be maintained in storage on-site.

e. Include trouble-shooting guide for repairs that can be performed by the City's staff. Include manufacturer's product data with each sheet annotated to clearly identify the data applicable to the installation and delete references to inapplicable information. Supplement product data with drawings as necessary to clearly illustrate relations of component parts of equipment and systems. Include copy of each manufacturer's warranty and give information sheet for proper procedures in the event of failure and instances that may affect the validity of warranties.

f. System Administration Manual – This manual shall contain all procedures necessary for the proper monitoring and administration of the parking control system as might be required by the City. At a minimum, the manual shall contain separate sections that cover the following topics: day-to-day operations, modification of field programmable settings, back-up and recovery, audit and control procedures, report production (with detailed instructions on report access), contingency plans, configuration control, and system diagnostics. A separate, removable section of the System Administration manual shall contain information on the proper administration and control of the security features built into the system. Some of the information to be contained in this section includes: maintenance of user identifiers, password control, and security policy review.

The Proposer shall also deliver to the City original copies of all licenses, registrations, documentation, disks and other media as may have been included with those commercially available software packages provided with the system. In addition, the Proposer shall ensure that all licenses, registrations and warranties have been transferred to the City prior to final software turnover.

Testing Plan and Documentation: Provide a test plan for review and approval by the City and Operator thirty (30) days prior to start of first test. The plan shall include demonstrations of compliance with specifications, contractual compliance, definitions of all test objectives, participant responsibilities, documentation for tests, and procedures for dealing with failures during test. Provide five (5) copies of checklists which detail tests for every functional

requirement of each entrance and exit lane, specified supplies/spare parts, training, operating and maintenance manuals and provide space for sign-offs by Proposer and City's Representative.

Payment Card Security

To ensure the security of credit card data, the entire system, including equipment and software, shall comply with all PA-DSS, FACTA regulations and credit card PCI rules and practices including (Visa/Mastercard's CISP program, Discover's DISC program) PA-DSS ver. 2.0. or newer version. The system must be "CHIP and PIN" compatible for easy conversion to the impending changes to the credit cards.

In addition to adhering to the PCI DSS compliance, validation is required for all service providers and shall be as follows: PCI DSS Compliance certificate or letter and Report of Compliance provided by a Qualified Security Assessor and must be subject to an annual assessment in order to remain PCI DSS compliant. The City of Worcester utilizes Vantiv Merchant Services for credit card processing.

Quality Assurance

To ensure reliability, serviceability and quality the parking equipment provided under this specification, it is recommended that the major equipment components shall be the standard product of one manufacturer. Any communication equipment components required of this system shall be provided by the same manufacturer who provides the parking equipment. This shall ensure that service and support of the equipment shall be carried out in a timely manner and will guarantee that one party shall be responsible for that service and support. If the Proposer elects to integrate components from different manufacturers, the Proposer shall be responsible for ensuring that all specified features are provided and fully operating when system is turned over to the City for testing and acceptance.

City and/or its representative(s) shall be allowed free access to facility(s) at any time to observe the installation process.

City shall be provided seven (7) days' notice to review the completed installation prior to acceptance testing.

Parking control system incorporating features which minimize maintenance shall be provided and meet the following requirements:

a. Provide for ease of performance verification and failure detection while minimizing effort required for adjustment.

b. Provide unobstructed access to equipment components.

c. Minimize requirements for special tools and test equipment.

d. Provide for easy removal and replacement of components.

e. Provide a system and components that have a service life of seven years (minimum) and specify periodic maintenance requirements in the maintenance manual to meet that life expectancy.

Project Site Conditions

Environmental Conditions: PMS components shall operate dependably within environmental conditions indigenous to the city and state in which the PMS is installed. Components located in a 24-hour climate controlled office shall be capable of normal performance in a business environment. Outdoor equipment shall be capable of operating in the temperature extremes (-25°F to 120°F) of the geographic area stated.

Electrical power and grounding – Furnish and install on-line, regulating computer grade uninterruptible power supply (UPS) for:

a. Servers and task computers (system controllers) with 30 minutes of back-up battery power.

b. Work stations, fee computers, entrance machines, APS, and local controllers (both revenue and access) (with 30 minutes of back-up battery power).

One UPS shall protect no more than two lanes or two workstations or servers.

The UPS status is to be monitored through the PMS computer.

The City shall provide power that for the purposes of this Project shall be defined as 115 VAC +/- 10% and 60 Hz from circuits dedicated to the PMS. Manufacturer/Installer shall provide any additional power conditioning required for the operation of the system as described herein.

Provide lightning protection devices at both ends of all communication wiring longer than 25 feet.

Equipment layout shall be in strict accordance with manufacturer's recommendations to allow proper movement of air through and around equipment.

Provide data line grade, all silicon surge protection that will limit maximum volcarde to 200 volts (or less as required by equipment to be protected). Minimum peak power dissipation shall be 15,000 watts. Response time shall be less than 5 nanoseconds. The suppressor shall provide non-interrupting protection with instant automatic reset. The suppressor shall be U.L. listed and meet ANSI CG62.41-1991 Standards.

Facility Description

The City of Worcester operates these two Parking Garages.

Major Taylor Garage

Built and opened by the Worcester Redevelopment Authority in 2001, the Major Taylor Garage is located on 30 Major Taylor Boulevard opposite the Hilton Gardens Inn in close proximity to the DCU Center with entrances/exits on Central Streets and Thomas Streets. The 1000-space, 7-level facility is open 24 hours/day, 7 days/week and is the only municipal garage of the four that charges regular hourly rates after 5 p.m. (the others charge a $1 flat rate after 5 p.m.), reflecting night entertainment demand in the area. On DCU event nights, garage management in coordination with DCU Center management sets the event rate. The parking access and revenue control system in the garage, manufactured by Federal APD was installed in 2008. There are two credit card enabled pay-on-foot payment stations in the first floor lobby.

Union Station Garage

Built and opened by the Worcester Redevelopment Authority in 2008 as part of the Union Station Redevelopment Project, the Union Station Garage is located at 225 Franklin Street with entrance on Franklin Street. The 500-space, 6-floor facility is open 24 hours/day, 7 days/week. Because the garage was funded in part by the Federal Transit Administration, the City must reserve 250 of the 500 spaces for commuter parking. Therefore the City will not lease more than 250 non-commuter parking spaces. The parking access and revenue control system was manufactured by Federal APD and installed just prior to the garage opening. There are two credit card enabled pay-on-foot stations in the first floor lobby, as well as CCTV and emergency call boxes in other facility locations.

Both the Major Taylor and Union Station garages include retail areas on the ground floors.

Municipal Garage	Address	Total Spaces	Monthly Permits	Waiting List	Reg. Permit Rate	Max Daily Rate

Major Taylor	30 Major Taylor Blvd.	1000	894	None	$80.00	$10.00
Union Station	225 Franklin St.	500	392	None	$100.00	$10.00
TOTALS		1,500	1286			

The current estimated ratio of average daily transient to monthly permit parker transactions at the four garages is as follows:

Major Taylor – 27% transient / 73% monthly permits
Union Station - 45% transient / 55% monthly permits

The location and quantity of entry and exit control are described as follows:

Location	**No. of Entry Lanes**	**No. of Exit Lanes**	**No. of Reversible Lanes**	**No of Nested Lanes**	**No. of Access Controlled Doors**	**Parking Group**
Major Taylor Garage	2	2	0	0	0	Monthly permits, Validations, Transient, Event, Valet, Discounted Parking, (24hr access)
Union Station Garage	1	1	1	0	0	Monthly permits, Validations, Transient, Events, Valet, Discounted Parking (24 access)

The Parking Management Office shall house any server(s) and related components in a physical and/or virtual environment. The Parking Management Office shall be networked, such that all functions of the PCS can be performed from any individual workstation. The Parking Management Office will have a voice over IP to a cell phone for communications with all equipment components.

Specification for Daily Parker Entrance/Exit Process

During hours of operation, daily patrons will be permitted entrance to the parking facilities via the use of a barcode technology. Entrance Station equipped with a push-button activated ticket dispenser that will be installed in the transient entrance lanes in the parking facility. Once a vehicle pulls into the daily entrance lane, the Entrance Station will perform the following checks as a part of the entrance process:

a. Vehicle must be present on the arming loops.
b. The push-button (or insertion must be depressed while the vehicle is still on arming loop) if ticket is desired.
c. Gate lockout circuit must have enabled the Entrance Station.
d. A card has not been read by the card access reader.

If all of the above conditions are met, the Entrance Station shall permit entrance to the parking facility in the following method:

Issuance of a time and date encoded ticket to the transient patron. The time and date, along with a device number, shall be encoded on the ticket in both the manual and machine-readable formats. Once the patron pulls the ticket from the dispenser, the barrier gate shall rise. As the vehicle pulls forward through the lane, the barrier gate arm shall lower.

In the event that one or more of the aforementioned conditions are not met, the Entrance Station shall not issue a ticket.

In the event that the parker pushes the ticket issue button, but then backs out of the lane without pulling the ticket, the count and monitoring system shall report a back-out with a ticket in throat alarm message on the central system.

In the event that a parker backs out of the lane before pressing a button for a ticket, this event shall be recorded as a back-out without ticket on the central count and monitoring system.

In the event that a parker holds down the push-button while pulling a ticket from the dispenser, a second ticket shall not be issued.

When a daily parker wishes to exit the parking facility, the parker pays for the parking fee in the following method:

The parker approaches the APS on foot and scans the barcode ticket. The APS shall automatically calculate and display the required fee. The APS shall read and encode the scanned ticket with payment information when appropriate amount bank notes or credit/debit cards are inserted into the payment device. The parker must use the encoded ticket to exit the facility. A parker receipt shall be issued automatically or upon demand. APS microprocessor records transaction for future record and retrieval on hard drive.

Upon completion of payment at the APS, the parker now has a pre-programmed amount of time ("grace period") to present the pre-paid ticket at the Exit Station located at the daily exit lanes. If the parker does not present the ticket to the Exit Station within the allotted grace time, the ticket will not be accepted by the Exit Station and the parker will need to pay the additional fees at the exit pay station.

The fee computer microprocessor shall have the capability of processing and reporting separately numerous transactions including, but not limited to, the following:

a. Normal transaction

b. Lost ticket transaction

c. Insufficient funds transaction

d. Mutilated or unreadable ticket transaction

e. Non-revenue (no charge) transaction

f. Blank or used ticket transaction

g. Validation transaction

As the vehicle approaches the exit lane and stops at the Exit Station, the arming loop is covered allowing the Exit Station to be activated and accept tickets and bank credit cards. The parker scans the pre-paid ticket or inserts the bank credit cards into the Exit Station, which reads the information encoded and determines whether the parker has overstayed the grace time allowed for exiting. If the above conditions have been met, the Exit Station encodes the ticket as valid and retains the ticket; in the case of bankcards, they are returned to the parker. The Exit Station then signals the gate arm to rise. If the aforementioned conditions have not been met, the Exit Station will return the ticket or card to the parker, exit will be denied and the parker will need to make additional payment.

Fee computer microprocessor shall be capable of maintaining a minimum of 100 (separate) validation account numbers while identifying active/inactive status. The account identification and amount of validation shall be programmable by an authorized user of the system only. These validations could each be programmed by time or a fixed dollar value. Initiation of validation application shall be accomplished by the merchant validation being applied to the parking ticket via a web validation.

All transaction data from fee computer microprocessor terminals shall be transmitted by direct cable to an on-line revenue data collection system located in the control center. All information recorded locally at the fee computer and parking ticket shall be included in the transmitted transaction stream.

This information shall include but not limited to at a minimum:

a. Device Number

b. Fee computer I.D. number

c. Transaction number

d. Date and time of entrance ticket issue e.

e. Date and time of exit

f. Rate structure applied to ticket

g. Fee amount

h. Exception transaction identification

i. Validation account identification

The intent of collecting the transaction data on-line will be to perform individual and consolidated statistical analysis, exception transaction analysis and auditing, provide convenient back-up data to validation account billing and as a check and balance against actual revenue reporting. Raw transaction data should not be used as the only source for revenue reporting since the possibility of data transmission errors.

Primary auditing report numbers shall be captured from the internal tally or journal printer in the fee computer and automatic pay stations themselves. These transaction accumulators shall be non-resettable totalizes for dollars and tickets collected. The (non-resettable) counters shall continue to increment totals for the life of the system, such that a gross weekly revenue total for both transactions and cash for a single fee computer or automatic pay station could be determined by subtracting the beginning number from the ending number for that week, as one example. Additional totalizes will report totals for rate structure
categories and exception transactions. Auditing number should also provide a total vehicle count without having to manually subtract the start and finish number.

Stratified rate structure reports (or duration of stay reports) for each fee computer, automatic pay station, and the parking facility as a whole shall also be available to the parking operator for analysis and audit control. This tool will be used to analyze the effectiveness of rate structures implemented.

Revenue control system central computer and operating software shall enable the control center staff to have the ability to control the operation of the lane equipment components, e.g., open/close gates, close lanes, etc. All control functions are executed by the staff through the central computer via the keyboard or remote access.

It is anticipated that in the event that any system component, including the central computer fails, that neither the transparent operation of the facilities nor the integrity of the revenue control system shall be compromised. In the event that a single lane device fails, that lane could conceivably be closed without harming the overall operation significantly. In the event that the central computer failed, the revenue totals would continue to be maintained by the independent fee computer microprocessor terminals, which would update the system once it was, brought back on-line. Fee computer microprocessor and terminals to provide
14 day memory for data and time clock retention is desirable.

Specification for Contract Entrance/Exit Process

The contract access system will allow card holders to be permitted access to and from the parking facility, and also designated areas within the parking facility, via the use of a unique, permanent access card. To use the system, cardholders will present (in close proximity) the access card to the reader device to be installed in the parking structure entrance and exit lanes. Once the card is initiated to the reader, the access system will perform the following checks as a part of the card ingress/egress transaction:

a. Vehicle must be present on arming loop.

b. Card I.D. must be recognized as valid I.D.

c. Anti-Passback status of card must be correct for reader used (ref: Section 3.4.3)

d. Gate lockout must have enabled reader.

e. Time zone of card access must be valid.

f. "Lockout" the adjacent Entrance Station – prevents issuance of ticket.

If all of the above conditions are met, the reader will accept the card and activate the vehicle access granted/denied indicator to display access granted audio alarm and also issue a gate raise signal. The card system will permanently record the transaction, along with the reader location and the date and time of the transaction, in the host PMS database for future retrieval and reporting. As the vehicle proceeds forward through the lane, the gate arm will lower.

In the event that one or more of the above conditions are not met, the card reader shall deny the transaction and activate the vehicle access granted/denied indicator to display access denied by visual (LED) and audible message. The denied transaction and unsuccessful attempt to use the card shall be recorded on PMS system. Additionally, an alarm message shall be displayed on the PMS system and alert the control center staff that an illegal use of a card access was attempted. The alarm message shall include the Port Number, Reader Number, Date and Time, Card I.D., and nature of illegal attempt.

Card access system to utilize anti-passback feature to prevent fraudulent use of card by not allowing free entrance/exit to other vehicles from a single access card. This prevention is achieved by the entrance reader encoding the pass card for valid acceptance at the exit reader machine only once the vehicle has entered the facility, and vice-versa. In the event that the patron backs out of the lane to illegally recycle the anti-
passback, the system shall, at a minimum, detect the illegal movement of the vehicle and report the activity as a card back-out alarm message shall be displayed on the PMS system.

The card system anti-passback feature to incorporate the capability to re-deal, i.e., reset in proper order, the entrance/exit status of each card holder in the event the access card get "out of phase" through attempted misuse or system failure. The re-sync capability shall be performed in the following two versions:

a. Re-deal a specific card in the system to allow the card holder a one-time access at an entrance or exit card reader.

b. Automatic re-deal which shall allow the system to be programmed to automatically re-sync all cards in the system at a predetermined time e.g., 4:00 a.m. (user defined)

The re-deal feature shall be initiated by a command at the facility control center computer and downloaded to the card readers.

A report of the active cardholder database, detailing the card I.D. number, parker description, card I.D. group, and issue status will be available from the PMS system upon demand. This report should be issued to the Manager along with the accounts receivable aging report on at least a monthly basis. The garage manager should also have the capability of pulling the active card listing from their terminal upon demand. At the close of each month, the active card file will be archived on the PMS system and tape drive backup for the entire life of the system.

A report of all card transactions for a particular day shall also be available to the Manager. A current accounts receivable report, to be maintained by the Manager, will show all cards used that day as being up to date, and paid in full. The accounts receivable program has to be able to integrate into any other accounts receivable program; example: PARIS. Historical data for activity on days prior to the current month should also be available (stored on drive backup to be compliant with PCI DSS standards) for the entire life of the system.

A report of all exception events, including after-hours activity, should also be available from the PMS system (upon demand) by the Manager for any day during the current month.

Card access system central computer and operating software to have capability to allow tracking of count totals as differential counters or as an accumulation of counts within control. This feature to allow manager to track real-time monthly occupancy or access duration's of each card holder or specific group of card holders in this system to produce accurate monthly records and applicable monthly parking fee charge.

Card access system central computer and operating software to have capability to allow tracing of a group with occupancy limits and with transients and monthly permits within the group. Once the group occupancy limit is met, the system will bill the tenant for all vehicles that exceed the limit. The system must have ability to keep accurate count of all vehicles in the group to ensure occupancy limits are met. Exiting vehicles within the group should be deducted for a true count.

Card access system central computer and operating software shall enable the control center staff to have the ability to control the operation of the lane equipment components, e.g., open/close gates, close lanes, etc. All control functions are executed by the staff through the central computer via the keyboard or by remote access.

Specification for Facility Count & Monitoring System Process

The operator shall be provided with a facility count and monitoring system that is completely independent from the revenue transaction system and shall be displayed and monitored at the parking facility central computer (PMS system). This system shall record the following information:

a. The total number of vehicles crossing the gate reset loop in each controlled entrance and exit lane (count to be obtained regardless of status of equipment components e.g., gate arm raised).

b. The total numbers of legal card access vehicles for each controlled entrance and exit lane.

c. The total numbers of legal daily vehicles for each controlled entrance and exit lane.

d. The number of forward illegal and reverse illegal vehicles for each controlled access lane. An illegal vehicle is defined as a directional movement through a lane for which no gate vend signal was detected.

This count and monitoring system shall provide a real time count of vacancies/occupancies of the parking facility for both transient and contract patrons by adding/subtracting numbers for vehicle entrance and exit. These count totals to be obtained regardless of the status of the peripheral equipment components (e.g., gate arm raised). Count totals will be used by the parking operator to reconcile paid exit transactions to count totals and most importantly, to control occupancy of the parking facility for daily and contract parkers.

System Components

Component Performance Specification

It is the intent of this specification to obtain proposals from the PMS Contractor to provide complete hardware, sub-systems and software systems in accordance with all sections of this specification. This specification requires that a complete turnkey solution be implemented for this project. All major component(s) to be provided as a part of the proposal must be considered by the manufacturer to be standard products as opposed to a prototype product developed exclusively for this project. The proposer will be required to demonstrate any individual component in order to authenticate its acceptability. The proposer will be required to document through the use of flow charts, sample control system reports, and operational narratives of how the proposal meets the specification. Each station and control box exposed to the weather conditions must have heater units installed with on/off and auto functions. The proposal should include a complete turnkey system and documentation that shows how each piece of equipment interacts with the other pieces of equipment.

Barrier Gates

The automatic barrier gates shall meet or exceed the following specifications:

Barrier gates shall be installed and shall provide an effective barrier to vehicles in entrance and exit lanes.
Barrier arm shall retract quickly in a vertical plane on command signal from Entrance Station, fee computer, and card access reader and return to lower position upon signal from inductive loop beyond gate location.

a. The cabinet housing shall be constructed of galvanized heavy gauge steel, aluminum or equivalent.
The unit shall be designed for all weather use. Exterior of cabinet will be primed and painted with powder coat paint in color chosen by the City.

b. The unit shall operate on 115vac power supply. The gate housing shall contain enough room to locate detectors and other electrical components.

c. Each gate shall be equipped with a folding or straight (breakaway) gate arm constructed of wood or aluminum.

d. Each gate shall support gate arm of up to 12 feet.

e. Direct drive

f. Low voltage operation

g. Minimum of three vend inputs (transient, contract, and miscellaneous)

h. Ability have three loop configuration (if applicable)

i. Ability to support a straight or folding arm

j. Ability to operate as a free gate from main control center

k. Ability to support multiple devices in one lane example; (card reader and ticket dispenser, and exit terminal)

l. In lanes where two devices reside, the device not processing the transaction must be disabled immediately so that the system cannot be manipulated. This must take place within 0.05 sec

m. Each gate shall have a sensory unit that will insure that the gate arm will automatically reverse its direction should an object be struck by the gate arm during its descent. The arm will remain in the open position until automatically reset by a variable with a time range of 2 to 60 seconds.

n. The gate motor shall be equipped with a thermal overload circuit breaker. In addition, all motor relays and solenoid power shall be provided with a circuit breaker.

o. Logic control and monitoring functions for barrier gate operations shall utilize microprocessor-based technology and have data communication capability with central computer while maintaining off-line transaction recording. The gate shall provide separate monetary contact closures for the count control, monitoring and software systems. Gate shall be equipped with non-resettable counter to record count for each gate operation. Counter to be located inside gate housing.

p. Gate shall be equipped with an Auto-Manual-Up switch to test motor and to raise gates manually. Battery backup shall be provided for barrier to be raised in the event of facility power failure.

Entrance Station

The Entrance Station shall meet or exceed the following specifications:

LCD or LED display

Minimum capacity of 5,000 tickets

Flash memory

Ability to be programmed remotely

With the use of a key switch mounted on the side of the device, the ticket dispenser shall have a Normal Mode or an Event Mode which will allow the attendant to toggle between the two modes depending on the operation

Alert parking office in the event of malfunction or low tickets.

Ability to report a back out or illegal tickets or lane travel alarm to the parking management PC

Ability to retract a back out ticket

Each machine must contain a Commend IP intercom to communicate to the parking office or cell phone during business hours

Capability to communicate with facility management computer

Entrance Station shall issue a ticket within 1.5 seconds after activation by depression of designated button.

Dispense a barcode or mag stripe ticket

The dispenser must have the capability to dispense tickets by push button

Ability to buffer transaction in the event of a communication failure. Minimum of 2,000 transactions

Ability to arm before a transaction can begin in the lane, as well as the ability to be disabled/locked out if another device is utilizing the same lane.

A dispensed ticket must have the following information visible and encoded in the barcode stripe:

a. System Ticket Number

b. Rate Code

c. Device Number d. Time

e. Date

f. Facility

g. Facility code

The following types of conditions and transactions shall be recorded and reported to central computer:

a. A current ticket was issued.

b. A ticket jam occurred in the ticket transport mechanism.

c. A ticket was retracted

d. Barrier gate not operational

e. The Entrance Station is not in operation.

f. Low ticket supply.

The Entrance Station shall have access doors to permit ticket loading and electronic/programming, then each door shall be separately key-coded. All units shall be keyed alike.

On the face plate of the Entrance Station a “Please Push Button for Ticket” sign shall be provided and an access card identifier.

All necessary electronic communication devices, firmware, and electrical connection components that are necessary for this device to function within the overall system shall be provided.

Ability to read a 3rd party barcode or smart phone applications (capable)

Exit Station

The Exit Station shall meet or exceed the following specifications:

LCD or LED display

Minimum capacity of 5,000 receipt /tickets

Alert parking office in the event of malfunction or low receipts/tickets

Ability to accept credit cards and process in less than 10 seconds

Meet "Chip and Pin" compliancy

Meet PA-DSS, FACTA and PCI compliance standards and practices

Ability to report a back out alarm to the PMS PC

Each machine must contain a Commend IP intercom to communicate to the parking office or cell phone during business hours

Capability to communicate with PMS computer

Ability to read a barcode ticket and calculate fee

Ability to buffer transaction in the event of a communication failure. Minimum of 2,000 transactions

Ability to accept voucher/validation/discounts

Ability to accept a grace/lag period ticket which was pre-paid at a pay station

Ability to read a 3rd party barcode stripe or smart phone applications (capable)

Ability to be armed before a transaction can begins in the lane, as well as the ability to be disabled/locked out if another device is utilizing the same lane.

The receipt when dispensed must have the following information visible:

a. Transaction Number

b. Rate Code

c. Device Number

d. Time e. Date

f. Facility Name

g. PA-DSS, FACTA and PCI compliance standards and practices PA-DSS ver2.0 or the latest version

Event

Ability to accept Sporting Venue, TicketMaster, Equivalent Barcode, and prepaid event capability (cash & credit card)

Ability to track prepaid Sporting Venue, TicketMaster or equivalent barcode tickets unused, used & illegal

Ability to have anti passback for duplicate tickets

Ability to read barcode tickets at the revenue or hand held devices

Ability to support hand held device

Wireless communication for hand held devices

Ability to be monitored/managed from a remote location

Fee Computer

Support a fee display and validator/ticket reader

Central credit card processing capability with ability to complete a transaction under 10 seconds

Meet PA-DSS Certification compliance standards and practices

Log out/Log in for cashiers w/revenue totals calculated (employee breaks). Display parking fee to customer

Accept validations/discounts

Local reporting and central reporting capability

i. Daily lane report
ii. Rate report
iii. Time card report
iv. Credit card report by type
v. Validation
vi. Non resettable totals
    a) Cash
    b) Transaction
    c) Validation

Ability to communicate to the Parking Management Computer in the Parking Office

Ability to buffer transaction in the event of a communication failure. Minimum of 2,000 transactions

Ability to accept a grace/lag period ticket which was pre-paid at a pay station

A processed ticket shall have the following information printed on it:

i. Entry and exit time
ii. Entry and exit date
iii. Transaction Number
iv. Cost of Parking
v. Device Number
vi. Payment Type
vii. Cashier ID

Ability to read the information on the barcode ticket and calculate the fee based on the rate, time, date, etc.

Ability to print a patron receipt on demand or automatically with the following information in compliance with PA-DSS Certification standards and practices

i. Entry and Exit Time
ii. Entry and Exit Date
iii. Facility Name
iv. Transaction Number
v. Parking fee
vi. Device Number

Intercom to communicate to parking office or remote/mobile alert.

Automated Pay Station

The Automated Pay Station shall meet or exceed the following specifications:

General: APS shall be an unmanned central cashiering station that calculates the required parking fee to be paid upon scanning of a ticket. The APS shall then read and encode the inserted ticket with payment or prepayment information for decrement cards when appropriate amount of bank notes or credit/debit cards are inserted into the devices to System Acceptance Test the payment due. The APS shall then return the properly encoded ticket for exit to the patron.

The APS shall include slot reader(s)/encoder(s) for performing all of the following functions:

a. Reading and re-encoding entrance ticket for exit

b. Issuing a receipt (upon request)

c. Reading bank credit and debit cards

d. Reading 3rd party barcode or mag stripes and smart phone applications,

APS will not accept coin.

APS will be bill to bill. An attendant must be logged in before any vaults or hoppers can be removed, otherwise an alarm shall be generated audibly and via data communications.

Pay on foot stations shall accommodate credit card and debit cards only.

APS to generate a variety of reportable data, including but not limited to cash balance audits, statistical reports, total amount reports, cash content reports, shift reports, and non-resettable totals. Data shall be transmitted to central computer. Internal tally or journal printer (off-line) shall be provided for transaction logging and local audit reporting of all activities.

Logic control and monitoring function electronics for APS operations shall utilize microprocessor based technology and have data communication capability with central computer while maintaining off-line transaction recording. Local programming shall be allowed. All memory contained in the control electronics shall be maintained for a period of time in the event of power failure. The real time clock of the system shall also be maintained to provide immediate operation of the system when the power is restored.

Each pay-on-foot unit shall be equipped with a real time clock implemented as a portion of the microprocessor. The clock shall be used to track and record current time on exit transactions and should be displayed in military time. Updates should be supplied from the central computer only.

APS to provide a visual display to prompt the customer through the transaction and to advise of the parking fee.

The cabinet housing shall be constructed of heavy gauge galvanized steel or aluminum. Unit shall be designed for all weather use. Unit will be primed and painted with polyurethane vinyl texture enamel, in color chosen by owner. Provide separate doors with high security locks for engineer access to the computer section, for supervisor access to the note box section, and for operator access to the ticket encoder module.

The pay-on-foot unit shall validate the tickets as well as produce receipts. The receipt printer shall be easily accessible and shall require no special tools for servicing.

The APS shall include a bank note acceptor capable of allowing a patron to terminate their transaction at any time prior to completion by depressing the cancellation button and retrieving the bank notes. In this situation, the ticket shall be returned to the patron unaltered.

Intercom speaker with “Press for Help” button and should be able to redirect to a cell phone.

The system shall require 120 vac (factory set).

Bank credit/debit card transactions must be at the APS.

a. The credit/debit card transaction handling system shall be based on the City's system or other of equal functioning capability.

Each APS to have capacity to be preprogrammed with up to seven (7) different rate structures. Each rate could be different in time increments, on different hours of the day and different days of the week. Fees may be both variable and fixed within one structure. There shall be separate tax computation and automatic grace period time allowance feature. The fee structure shall be initially set up

by Manufacturer/Installer to the City's requirements. Subsequent changes to the fee structure and/or allocated grace time shall be locally programmable at the central computer (password protected) and downloaded to the selected pay-on-foot unit.

Vehicle Detector Loops (Arming and Closing)

General: Loop detectors shall be installed and shall provide for detection of vehicle presence essential to equipment component operation and facility entrance/exit count totals. Loop detector shall be a solid state electronic device with fully self-tuning and self-scanning features provided.

Central Computer (PMS System)

The Parking Management System (PMS) shall be a software package operating on a network of computers and/or servers that provide on-line monitoring and control of all PCS equipment for the parking facility such that the facility can operate independently, but have complete network communication for both operation and data communication between facilities. Proposer shall completely describe technology for inter-communication during proposal process. PMS system shall include individual and multiple software packages capable of running concurrently with other active programs under control of operating system that is multi-user and multi-tasking. System to have ability to retrieve data without changing "read only" data. The system shall support concurrent users on the system.

1.11.57.3 The Revenue Reporting/Control Subsystem shall accomplish the following tasks from any workstation in the PMS, with appropriate password:

a. Remote programming of payment stations and fee computers

b. Test fee structure against existing facility usage statistics.

c. Uploading and consolidating reports from fee computers and payment stations.

d. Retrieval and review of individual transactions. Retrieval shall be based upon user defined parameters. Reports shall be displayed on a monitor, printed on a printer, and/or converted to an ASCII file.

e. Consolidating and retaining data that allow for report generation. The following are the minimum required reports. The reports shall be either viewed on a work station monitor or printed.

i. Daily Event Log - A listing of changes to the system and users who made the changes. It shall include print communication messages, facility lane equipment alarms, remote gate opening, and system log on/offs.

ii. Daily, Event, and Monthly Reports - A summary report of daily, event, valet or monthly activity. The report shall provide but is not limited to:

1. A revenue total.

2. A summary of non-revenue by transaction type.

3. A summary of revenue by transaction type and rate.

4. A summary of the number of transaction by type.

5. The exit lane count totals (equipment "vend" for exit machine, ACS access, gate, activation loop, and closing loop counts)

6. A summary of validations by days, dollars, groups

iii. Monthly Lane Volume Report - Shall provide entrance and exit counts by date and time. This report is used for management planning and statistical information.

iv. Monthly Duration Report - Shall provide duration of stay (variable by owner) based on patrons' elapsed parking time and the patron time of entrance. This report is utilized in rate structure and facility usage analysis, management planning, statistical information, rate analysis, and revenue analysis.

Ticket Tracking: The PMS shall provide the following reports and information:

a. Ticket Sequence Report – Provide a complete sequence of transactions related to individual tickets (i.e., information about how and when the ticket was issued shall be tied to how and when it was processed at exit).

b. Monthly Ticket Value Report - Provide a ticket stratification based upon the value of all transactions processed. Breakdowns shall be provided for each rate structure. This report is used for revenue analysis, rate analysis, management planning, and statistical information.

c. Outstanding Ticket Report – Provide a listing of tickets that have been issued but are not yet processed at an exit.

The PMS shall be capable of projecting revenue represented by tickets outstanding at any one time.

The PMS shall be capable of identifying if a series of tickets issued from one dispenser is outstanding and are all processed as exception transactions or are all processed by one individual.

a. The system shall not require manual entrance of the serial number of every ticket at exit to perform ticket-tracking functions specified herein.

b. The system shall be capable of voiding outstanding tickets from the PMS but shall thereafter generate an alarm when a voided ticket is presented at an exit. Voided tickets shall be reported to the daily exception transaction log.

Access Control Software: The ACS shall be an on-line, computer-based access control system for those authorized by the City to have access to the parking facility without being processed through the ticket/fee computer system. Distributive, networked or centralized processing may be employed, so long as required multi-lane control features such as anti-passback, occupancy and activity tracking are maintained. Optional: The system shall employ AVI read as specified herein for access. The system shall control access for the following distinct user groups:

a. City vehicles requiring free and fast ingress and egress to parking facilities.

b. Monthly parkers who will prepay for parking on a monthly basis and have unrestricted in and out privileges during certain hours of operation.

The PMS shall receive data on each ACS transaction from the ACS controller, adding it to the transaction log and consolidating it into the daily activity reports. It shall also be capable of retrieving from the transaction data base information for ad hoc reports on ACS activity.

The system shall:

a. Provide Active Card User Report - Provide a chronological listing of all cards that have accessibility into or out of the facility. This report can be generated on demand. This report is used to compare revenue generated to card users.

b. Individually recognize and process at least 2,500 ACS users at reader locations.

c. Have at least 16 preprogrammed access levels. Access level of tags shall be capable of being changed without reprogramming of ACS. User capacity shall not be lost due to changes to ACS programming and access levels.

d. Provide anti-passback control. With this feature, users must enter and exit in proper sequence (i.e., entrance, exit, entrance, exit, etc.). System must be selectable to allow either "hard" (out of sequence user is rejected and an alarm is generated at the ACS controller and PMS) or "soft" mode (out-of-sequence user is allowed access.) Access must be programmable as soft or hard per user. In both hard and soft modes, each out-of- sequence event is reported as an exception transaction in the daily ACS access log. Timed anti-passback (in which tag cannot be used out-of-sequence until programmable time period has elapsed from last ACS use) is not acceptable. A password-protected "resynchronization" of all users to one access before return to anti-passback control shall be provided.

e. Link users to each other to allow one entity to be identified with and/or pay for a group of users. Up to 100 such ACS groups shall be provided.

f. The two garage systems will interact to allow access from either garage customer groups and also interact with the two other current garages systems.

The central ACS controller, independently or in concert with the PMS, shall:

a. Issue and reprogram ID devices.

b. Allow the authorized supervisor to create, store, send and receive user programming from the ACS readers. Access to programming shall be password protected, with multiple levels of access. The system shall have password-protected access to any and all information regarding specific blocks and/or suites of cards.

c. Provide a data base for ACS management, at least 20 record fields on each monthly parker, frequent parker and commercial vehicle tag holder. Record fields may include, but not be limited to:

i. ID Number

ii. ii. User Name

iii. Employer/Department (coded numbers may be used)

iv. Billing Address

v. Home, Mobile, and Work Phone

vi. Primary vehicle license plate number

vii. Access level (coded numbers may be used)

viii. Date first issued

ix. Expiration date

x. Last access point (with date, time and location)

xi. Current ATS status

xii. Date record last changed

xiii. Last changed by (coded numbers may be used)

xiv. Current account payment status (declining balance, month to date billing or credit card charges outstanding.)

d. Record fields on Owner vehicles shall include:

ID Number

i. Department (coded numbers may be used)

ii. Responsible Individual (supervisor in dept)

iii. Work Phone

iv. Mobile Phone

vi. Home Phone

vii. Vehicle license plate number

viii. Access group (coded numbers may be used)

ix. Expiration date

x. Current ACS status

xi. Date record last changed

xii. Last changed by (coded numbers may be used)

e. Allow specific parker record files to be retrieved, displayed and/or printed based on selectable criteria, such as current ACS status, access group, access level, and/or ID numbers (except data that is password protected.)

f. The system shall have the ability to place notes in the client accounts for review by staff.

g. Allow sorting and printing of the database for routine and special forms such as invoices or mass-mailings.

h. Monitor and report counts of ACS holders present on hourly basis by group, lot and total occupancy. Track occupancy and report peak occupancy during each hour to PMS. Provide for reports to show daily and/or weekly peak occupancy by access level, group and lot.

The system shall be capable of the collection of fees from parkers on monthly prepayment, declining, decrementing, end of month billing, and/or credit card basis. If not otherwise generated by the PMS, the system shall monitor and report revenue associated with the ACS system to PMS. The system shall provide for positive posting of payments and automatic lockout of ACS users within programmable grace period after expiration of a prepaid account.

a. The system shall issue billing invoices for monthly accounts.

b. The will allow for automatic pro-rations for new and existing accounts

c. The system shall send automated receipts to customer via email

d. The system shall track accounts receivables and provide an aged trial balance for all customer accounts

e. This section left blank

f. The system shall be able to transfer cards from one customer account to another without re-entering the information

g. The system shall provide billing for internal and external validations

h. The system shall provide a credit card billing interface to allow automated credit card billing for those electing that payment option.

i. The system shall have the ability to email and/or print customer invoices and/or permits

j. The system shall provide automatic on-line real-time monitoring of ACS usage with tape drive storage of transaction data for audit and analytic purposes.

k. The system shall allow the supervisor user with appropriate password to change rate structures and selectively activate additional (transient) rate charges; separate rate structures anti-pass back violations.

l. The system shall have the capability of monitoring and reporting of alarm conditions to the PMS.

m. The system shall have the ability to detect and read foreign cards that are not part of the Parking system with the ability to report the alarm to the PMS.

n. All credit card features shall meet all current PCI and PA-DSS credit card requirements

o. All administrative actions shall be password protected and report to the PMS in the daily log.

Vehicle Counting System shall provide the following counting functions:

a. Every vehicular entrance or exit lane shall serve as a counting location. Each counting location shall be equipped with two vehicle detection loops to provide directional logic at each location and shall transmit counting pulses to the PMS. Each entering vehicle shall subtract a count of one from the number of available spaces. Each exiting vehicle shall add a count of one to the number of available spaces. Directional logic shall be installed so that a vehicle entering an area through an entrance lane or through an exit lane shall be counted as an inbound vehicle. Vehicle exiting an area through an exit lane or through an entrance lane shall be counted as an outbound vehicle.

b. The total number of parking spaces within the facility shall be field programmable. The number of available parking spaces within each area shall be tracked and displayed, upon demand, on the computer monitor(s). Anti-coincidence packages shall be provided which accurately monitors entering and exiting traffic that may occur simultaneously.

c. A threshold shall be used to trigger "full status".

d. The count subsystem shall maintain and display separate differential counters for the each with the following:

xiii. Total vehicles present

xiv. Total transient patrons present
   a. By event mode
   b. By transient mode

xv. Total access patrons present
   a. By tenant
   b. By monthly parker

xvi. Total spaces available

xvii. Total ACS spaces reserve

xviii. Total RCS spaces available

1. The count system shall:

i. The count system shall maintain for each entrance and exit lane:

ii. Non-resettable counters tracking monthly, transient, event, and total parking patron usage.

iii. Counts of illegal entrance/exit for each lane.

iv. Vends, loops, and gate counts.

d. The system shall store lane, facility and zone counts at hourly intervals in daily files. This data will be available for specialized reports to analyze lot utilization and activity levels.

e. Transaction Counts: The count system shall provide and compare three separate counts related to each transaction. At entrance lanes the entrance machine count must be compared against the directional loop counter and the gate counter. The gate counter records the number of gate operations. Similar counts are also necessary to track the activity first at the central payment area and then through an exit lane. The fee computers and pay stations vend count records the number of transactions processed. At the exits, the verifiers and AVI readers also vend counts. The loop counter records the number of vehicles passing through the lane. The gate counter records the number of gate operations.

Equipment Monitoring: The System shall have the following characteristics:

a. Monitor the operational status of all entrance and exit lanes with equipment supplied by this contract.

b. Allow remote opening of any barrier gate.

c. Allow remote activating power to any entrance or exit lane.

For each entrance lane indicate and display:

a. Lane status; open or closed.

b. Gate failure.

c. Gate up.

d. Low ticket supply.

e. Illegal exit – reverse direction through lane.

f. Back-out.

For each exit lane indicate and display:

a. Lane status; open or closed.

b. Gate failure.

c. Gate up.

d. Illegal entrance - reverse direction through lane.

e. Back-out.

Abnormal status conditions shall be flashed on the monitor(s) and accompanied with a visual and an audible alarm. The display shall continue to flash until the abnormal condition is corrected. The audible alarm shall continue until it is turned off by a command issued through the monitoring computer(s). Acknowledgement and turning off of any alarm condition shall be able to be performed at any of the workstation connected to the PMS. It shall not be necessary to acknowledge the alarm condition at every workstation. The system shall record the abnormal status condition and the acknowledgement of the alarm condition by time, workstation and operator.

Monitor electrical circuits and frequency of operational error in PMS components to identify maintenance actions that would prevent later failure of a component.

Computer System for PMS:

Network server(s) as required with all connectivity. The computers, with the following specifications, are to be from a commercial hardware Proposer and are to be located in the Parking Office.

The printers:

a. 100base T Jet Direct network connectivity

b. Letter and legal size paper trays

c. 24MB memory, as a minimum.

d. 16 PPM speed, as a minimum.

Security: The PMS and all subsystem controllers shall have security protocols, password protection and reports to the exception transaction log that prevent unauthorized access to and manipulation of data and reports, including individual transactions. The security measures must comply with PCI DSS standards. All databases of transactions, ACS users, reports, etc shall be secured from unauthorized entrance and tampering from either within or outside the PMS.

The PMS Contractor shall furnish and install all computer hardware devices needed for the PMS. The computer hardware configuration shall be of sufficient size and capacity to meet or exceed the functional and performance requirements as well as accommodate growth and expansion as set forth elsewhere herein. The server platform shall be a network operating system that is multi-user and multi-tasking (e.g., Novell NetWare, UNIX or Microsoft NT) that is in compliance with the City's Technical Services Department. Ethernet technology shall be employed for interconnection of computers in the parking facility. Subsystem controllers shall be capable of processing all required functions as specified for each task in a timely manner. Performance of any specified function shall not be slowed or delayed by performance of any other function. In particular any of the workstations may be used to generate any and all reports without disruption to, or being slowed by count/occupancy monitoring or any other functions.

Data Storage:

a. All equipment provided shall be capable of dependably processing this volume of traffic.

b. Data storage capabilities shall be based upon the traffic levels delineated above with the following data requirements for each parking transaction:

v. Ticket Number (or ACS ID number)

vi. Entrance Lane

vii. Entrance Date / Day of Week / Time

viii. Exit Lane

ix. Exit Date / Day of Week / Time

x. Pay Station Number

xi. Parking Rate

xii. Parking Cost

xiii. Length of Stay

xiv. Transaction Type (normal, specific exception, ACS)

c. Provide on-line storage solution with software and sufficient capacity to automatically back-up data at the end of each day and to store all data for the current calendar year so that it is accessible from the server without manual loading of disks, tapes, etc. Provide additional storage solution, including all required hardware, to store all data from the prior calendar year so that it can be efficiently loaded into the system from a single disk, tape, etc.

d. PMS shall periodically or on demand provide revenue reports to the City's financial department.

e. All software shall have Graphical User Interface (e.g. Microsoft Windows).

f. All printers shall be Hewlett Packard Laser Jet 5000 series, equal, or better and be that is in compliance with the City's Information Technology Department.

Implementation

Upon selection, Proposer shall provide an installation schedule based on the priority of the parking needs and operation. The schedule must include the time for the complete project including but not limited to; start date, site construction, electrical, training, testing, etc. The successful Proposer shall meet with the City of Worcester Parking operator(s) to determine the parking needs during installation.

Training

Proposer shall provide thirty hours (30) minimum of training time during a one-month period, followed by another fifteen hours (15) of refresher training to be scheduled within 30 days of acceptance. Per day pricing for additional training shall also be included.

Proposer shall maintain records of the training periods given. Any part of the initial period of 45 hours training not utilized prior to the end of system commissioning shall be available for future training of the City's representatives during the first twelve months of operation.

Proposer shall offer the option of additional periods of training, each period being of a maximum of 20 hours, at any time during the first three (3) year period of equipment maintenance.

Testing and Acceptance

The System Acceptance Test shall be conducted by the Proposer as a demonstration to the City that the installed equipment complies with these Specifications.

After completion of the process and approval of the Installation Plan, the equipment, software, and subsystems may be installed. When system installation has been completed, the Proposer shall conduct its internal testing of the installed equipment. Internal testing shall follow the System Acceptance Test procedures. Upon successful completion of the Proposer's test, the Proposer and the City shall perform the System Acceptance Test to verify performance. The System Acceptance Test shall only be performed by the City after a fully completed and signed test script verifying successful completion of the Proposer's internal

testing is submitted. Signed internal test scripts shall be submitted at least one calendar day prior to the scheduled test with the City.

If an option is implemented, an additional System Acceptance Test shall be required. System Acceptance Test shall be conducted on each phase of the project. One System Acceptance Test shall take place after the base System installation and System Acceptance Test shall take place for any subsequent phases that the City elects to implement.

The Proposer shall not activate the PMS System until the System Acceptance Test has been successfully completed and the City has notified the Proposer to implement the PMS System.

The Proposer shall provide the City test procedure documents for the System Acceptance Test in accordance with the submittal guidelines, including:

i. narrative describing the general procedures to be followed;

ii. definition of all minor and major deviation types;

iii. checklist of all items necessary to conduct the test (e.g. transponders, equipment keys, etc.);

iv. checklist for the components of each reader/antenna or device;

v. signature page for all System Acceptance Test participants' signatures;

vi. step by step instructions for testing each functionality;

vii. tests for verifying the reporting requirements;

viii. area within each test section to denote "pass" or "fail"; and

ix. Section for listing and describing test deviations.

Delivery, Storage and Handling

The equipment shall be delivered to the site packaged to prevent damage and marked for easy identification of each component when ready to install.

The equipment shall be stored in a clean, dry location. Damaged equipment shall be replaced at no cost to the Owner.

Proposer shall include all pricing for freight charges to deliver the new system to site.

Software Upgrades - Upgrades necessary to correct problems or deficiencies must be provided at no charge for a period of five (5) years. Upgrades to the software that provide new capabilities and compliance must be provided to the owner/operator for five (5) years, including but not limited to PCI, FACTA, PA-DSS compliance.

Spare Parts - Each equipment system will be unique in design and therefore each will have different internal components. Proposer shall provide itemized pricing for spare parts. Proposer shall determine the type and quantity of spare parts that are essential for maintaining the system.

Base Section Notes - All items shall be priced per unit, and Proposer shall commit to the unit prices for a period of (2) two years.

Warranty

All equipment shall be covered by a manufacturer's warranty via the Proposer, covering all parts and labor for a two-year period, excluding misuse or vandalism.

The warranty period will start once the equipment is installed, operational, and is approved in writing by

the City of Worcester.

Proposer shall provide extended parts and labor warranty for years three, four, five, and six.

Service shall be provided to maintain all equipment and systems during the warranty period with four (4) regularly scheduled preventative maintenance calls included during each year covered by the warranty.

During the warranty period, software modifications (upgrades) that improve the functionality of the system shall be provided to the owner at no additional cost.

All warranties are to be delivered to the City of Worcester prior to commencement of the warranty period.

Service / Maintenance

Preventative maintenance to be carried out on a monthly basis, with appropriate equipment functions being checked monthly or more frequently if necessary. Documentation shall be made available for customer inspection on site.

Repair requests are subject to a 48 hour response time.

Contract hours normally 7:30 AM to 6:00 PM Monday-Friday. Additional call out on demand for other periods at predetermined hourly rates.

Non-performance rebates for failure to respond and/or repair within the stated times. For each excess hour or part thereof, a financial credit to the client equivalent to 50% of the hourly rate for call out during non- contract hours, or 0.05% of the annual contract value, whichever is higher.

Software update and error correction shall be provided as part of the service support function, so that the system is not outmoded or disadvantaged in terms of reliability, spares availability, and repair diagnosis.

Equipment or parts to be excluded from the maintenance contract are to be defined, together with estimates of operational life and replacement costs.

A monthly analysis of faults and repair statistics will be required.

The Proposer should identify the staff commitment for the maintenance operation, in particular defining proposals for accommodation and storage facilities on site.

The option of first line maintenance, e.g. to respond to a ticket jam, will be evaluated. The Proposer should propose a combination of response time and training level appropriate for this category of response by parking facility staff that may be assumed to have no previous experience of the Proposer’s equipment.

PRICING INFORMATION

PRICING

Please note that the City is not providing a pricing form. Proposers shall include separate pricing documentation as noted below and elsewhere in the proposal instructions.

All hardware, software, licenses and related equipment shall be included in an itemized price breakout. Equipment shall be sorted in accordance with the system plan. Equipment proposed to be installed at each physical location shall be clearly identified by part and/or model number, quantity and unit pricing. Non-site specific items such as software licenses, test/training equipment, spare parts, miscellaneous supplies and materials, etc. shall be itemized separately.

Parking Management System (Access Control and Revenue Control System) pricing shall be detailed and itemized. All software applications and modules, configurations, firmware, standard options, special options, and accessories available from the manufacturer shall be included in a price list.

Proposer shall provide the cost details for providing System Warranty and Support Services. This includes all equipment, hardware, software and services. Proposer shall describe manufacturer and installer warranties that are provided as part of your proposal. Any required maintenance of the system during the warranty period shall be detailed. Maintenance responsibilities and services with related costs should also be detailed.

Include a price for the extended warranty and preventative maintenance for a 3rd year on your price proposal submission.

Proposers must include a listing of all services to be provided by the vendor and any services or materials that must be provided by the City.

Proposers are required to provide a complete fee proposal of all equipment, hardware, software, maintenance, implementation, and training for the proposed Parking Management System.

All costs are to be expressed in unit cost and total cost to the City. One-time charges, software modifications charges and conversion charges must be detailed. Any additional charges above the annual maintenance costs should be listed in detail.

Fee Proposal: Proposer should submit its fee proposal for equipment and services in a separately sealed envelope clearly marked on the outside as instructed elsewhere in this proposal.
There is no limit to the number of pages submitted as part of the fee proposal**.**
Proposers should differentiate all costs clearly so that they may be properly evaluated without interpretation.
Proposer shall provide a description of all costs associated with a turnkey system .

Proposal Qualifications

This solicitation is limited to Proposer organizations who are established prime manufacturers of Parking Management Systems (Access Control and Revenue Control) and/or qualified contractors who have equivalent Parking Management System deployments (equivalent in terms of functionality, size, applications, modules and number of users) that are in current production use.

- Proposals will not be accepted from Proposer systems that do not meet the equivalency requirements and productive use requirements established in this section
- The proposed Parking Management System technology, including all proposed applications, modules, software, database servers, equipment and any special purpose hardware components must be non- developmental and in current operation use
- Proposer will be evaluated on their ability to provide at least three (3) references, and as many other references as are pertinent, up to a maximum of six (6) references, that demonstrate compliance with the requirements of this

solicitation for successful delivery performance and the use of proven, non- developmental technology in equivalent Parking Management System. References for systems installed in
North America are preferred. Information that must be supplied for each reference is as follows:

- Agency and Department
- Address
- Point of Contact (Name and Title, Telephone and E-mail)
- Brief Parking Management System overview
- Date of Contract
- Date system became fully operational

- The technical information provided with the references must demonstrate or support the capability of the proposed technology to satisfy the identification functionality and performance requirements of this solicitation.

Qualifications / Criteria - Minimum

1.) Proposer shall have at least five (5) years' experience in the parking control field and maintain an adequate supply of replacement parts for the equipment specified.

2) Proposer shall have current version of each primary component currently operating successfully in three or more parking facilities of similar size and activity.

In the event the parking control system manufacturer is not the Proposer, then the system equipment manufacturer shall have worked successfully on other projects for a minimum of three (3) years and also approve the Proposer in writing. The said manufacturer shall submit names, locations, contacts and telephone numbers for the five (5) most recently completed projects of similar scope projects. This process is the responsibility of the Proposer and shall be submitted for approval during review.

Proposer shall have approved equipment service center in sufficient proximity to respond to on-site service calls within a twenty four (24) hour period.

Proposal shall include all product submittals and MDS sheets for a turnkey system.

Proposal Contents / Comparative Evaluation Criteria

Proposals shall include the following parts in the below order. Please separate and identify each part by tabs for quick reference. Each proposal should be organized so as to facilitate its evaluation. Only proposals that meet the minimum criteria above shall be considered for comparative evaluation.

The evaluation /technical proposal shall be comparatively evaluated based on the following sections:

1. Executive Summary / Profile & Plan of Services

The Executive Summary should provide a complete and concise summary of Proposer's experience and ability to meet the requirements of this RFP. The summary should be organized so it can serve as a stand- alone summary apart from the remainder of the proposal. The plan of services should demonstrate how the proposer will provide for a complete turnkey operation that meets the goals and objectives of this RFP.

The Proposer will provide a profile of its organization and all other sub-consultants who will be providing services. At a minimum, the Proposer will provide the following information:

- Number of years in business
- Number of years involved with services as proposed
- Total number of employees by trade/occupation
- Number of signed contracts in progress

2. Qualifications

Each Proposer should state in detail its qualifications, and experience, and how its services are unique and best suited to meet the requirements and intent of this RFP. This should include the qualifications of sub- consultants included in the proposal. Proposer may include as much information as needed to differentiate its services and product(s) from other Proposer's. At a minimum, please include the following:

A. Staffing: Qualifications must include resumes and description of organizational and staff experience including the Project Manager and key technical staff proposed for the project. Additional resumes are not required unless that resource will likely play a key role in the project.
B. Organizational and Staff Experience: Proposer must describe their qualifications and experience of the organization as a whole to perform the work described in this RFP. Information about experience should include direct experience with the Parking Management Systems and implementation. Relevant experience must be associated with projects completed not more than five years prior to the date of this RFP.

3. List of Representative Projects

Provide a list of at least three (3) equivalent projects that the Proposer has successfully completed within the last five years.

Provide at least three (3) client references (verified name and telephone number) of someone closely familiar with each project and your firm's performance.

Each project description shall be presented in the format consistent with the table below.

PROJECT NAME AND DESCRIPTION
Agency & Department:
Address:
Point of Contact
Verified Telephone Number for Contact
Parking Management System Overview
Date of Contract
Date System was fully operational

4. Project Management Approach/Project Methodologies

A. Describe your Methodologies you will employ on this project to deliver the Parking Management System. Describe and/or provide examples of the Deliverables requested in the Scope of Services.
B. Provide a detailed project work break down structure to include tasks, subtasks, timeline, milestones, work efforts and resource assignments.
C. Define the technical approach and document project deliverables to address the requirements outlined in the scope.

5. Financial Statements & Business History

Proposals shall include financial statements which reflect a solid business standing without any significant financial concerns as determined by the City. Proposals shall also include historical information about the business and the product manufacturers.

Proposal Evaluation

Proposals that meet the minimum criteria shall be evaluated based on the comparative criteria. The proposal responsiveness to the information noted below shall be used in the City's evaluation.

- Capability of the Proposer to Provide a Parking Management System
- Proven successful past performance on equivalent projects with other Municipal Government Parking Systems
- Experience, qualifications, technical competence and availability of proposed personnel assigned to the project
- Proposer's understanding of project scope and goals as well as clarity, completeness and general quality of

proposal

- Proposer's reference and client recommendations
- Written and Verbal presentations
- Demonstration of financial resources
- Office location and response time
- Manufacturer's years in business
- Vendor representative years in business
- Vendor representative years with product history
- Vendor representative with product maintenance history
- Product market share
- Product history
- Response Time

Fees will not be considered in the technical evaluation. Proposals shall be evaluated first on qualifications and technical merit. Once rankings are established, the fee submittals shall be considered.

In addition to scheduled maintenance, in the case of any malfunction, the response time for repair shall be limited to twenty four (24) hours. No equipment, system, or component shall be left non-operable after a 24-hour period following notification by the City. Saturdays, Sundays and holidays shall be included in the expected repair warranty coverage.

Evaluation / Comparative Criteria - The proposals received will be evaluated and ranked as per the below criteria. The City's selection committee may contact a select number of qualified firms before making the final decision. ***The number assigned to each criterion corresponds with the five (5) criteria noted above. Proposals contents shall be responsive to each of these criteria.***

Criterion	Highly Advantageous	Advantageous	Not Advantageous
1. Overall Proposal Organization and Responsiveness to Project Scope/Goals	The proposal is professionally prepared, answers all asked and unasked questions and responds to the City's goals in a superior manner.	The proposal responds to the requirements of the project and is adequately organized but minimally responsive to the City's goals	The proposal is poorly written and does not address the City's goals / project scope.
1. Operating Plan Maintenance	The plan depicts equipment that enhances the customer's parking experience; and addresses all of the needs of the parking facility.	The plan depicts equipment that maintains the current customer's parking experience.	The plan depicts equipment that will not maintain the customer's parking experience.

1. Garage revenue control Equipment	The equipment will process payments (cash, credit & debit cards) and allow access in and out of the garages. It will also have Validation and event parking programs.	The equipment will process most payments (cash, credit & debit cards) and allow access in and out of the garages and have most Validation and event programs.	The equipment does not have the ability to process multiple payment methods and does not have additional programs.
1. Operating Plan Special Event/ Traffic Management	The Event Plan offers enhanced entrance and exit plans; and a tight audit control of cash operations.	The Event Plan offers efficient entrance and exit plans; and a simple audit control of cash operations.	The Event Plan offers little or no improvement to the existing system.
1. Operating Plan Other Services	Proposer will provide efficiency gains associated with leveraging technologies and proposing cost cutting measures.	This plan offers standard operations and customer services.	This plan offers no additional services.
1. Operating Plan Transition Plan	The Firm/Team shows a deep understanding of the transition phase and is fully committed to a smooth transfer of revenue equipment.	The Firm/Team shows an understanding of the transition phase.	The Firm/Team has no special plan for the transition.
2. What type of experience does the equipment manufacturer have? How many years have you been in business?	Manufacture only parking equipment. Ten plus years	Manufacture some parking equipment. Five plus years	Just started manufacturing the equipment One plus years
2. Qualifications Org. Chart/ Key Staff	Org. Chart and Key Staff show history of innovation and successful project completions.	Proposer presents standard org. chart and key staff has experience in similar cities.	Org. Chart is insufficient to improve operations in Worcester and Staff has less than desirable experience.

2. How many years have you been servicing this equipment?	Ten plus years	Five plus years	Less than five years
2. Qualifications Org. Chart/ Key Staff	Org. Chart and Key Staff show history of innovation and success.	Proposer presents standard org. chart and key staff has experience in similar cities.	Org. Chart is insufficient to improve operations in Worcester and Staff has less than desirable experience.
2. Qualifications Firm/Team	Firm/Team shows a history of selling and servicing garage revenue equipment. Ten to Twenty plus years in business.	Five to Ten plus years in business.	Less than 5 years in business.
3. Provide a List of references Provide a List of successful installations	Five plus positive references. Five plus successful installations	Three to Five adequate references Three to Five successful installations	Less than three adequate references Less than Three successful installations
3. Proven successful past performance on equivalent projects with other Municipal Government Parking Systems	5 or more Municipal Government Parking Systems	3 to 5 Municipal Government Parking Systems	Less than three Municipal Government Parking Systems
4. Office location and response time	Twenty five miles or less and a 24 hour response time	Twenty Six to Sixty miles and a 30 hour response time	Sixty or more miles and a 36 hour response time
4. Operating Plan Accounting, Auditing, and Revenue Control	Proposal depicts policies/controls that provide for higher standards for the collection and reporting process.	Proposal depicts policies/controls and standards that minimally safeguard the collection and reporting process	Proposal shows a lack of understanding of accounting, Auditing, or Revenue Control requirements.

5. Demonstration of financial resources	Proposer provides five or more years of financial statements reflecting superior business performance	Proposer provides two to five years of financial statements reflecting acceptable business performance	Less than two years of financial statements and limited business performance
5. Manufacturer's years in business	Twenty plus years in business	Ten to Twenty years in business	Less than Ten years in business
5. Vendor representative years in business	Twenty plus years in business	Ten to Twenty years in business	Less than Ten years in business
5. Vendor representative years with product history	Twenty plus years in business with products offered	Five to Twenty years in business with products offered	Less than Five years in business with products offered
5. Vendor representative with product maintenance history	Ten plus years with product maintenance history	Five to Ten years with product maintenance history	Less than Five years with product maintenance history
5. Product history	Ten plus years of product history	Five to Ten years of product history	Less than five years of product history