Request for Proposal

Parking Revenue and Access Controls for City of Birmingham Parking Facilities

Pre-Proposal Conference:
Date and time       Thursday, May 18, 2017 at 9:30 AM
Address            1732 5th Avenue North, Birmingham, AL 35203

Proposal Due Date:
Date and time       Thursday, June 15, 2017 at 2:00 PM
Address            1732 5th Avenue North, Birmingham, AL 35203
PARKING ACCESS AND REVENUE CONTROLS

The Birmingham Parking Authority (BPA) seeks proposals from qualified firms to provide a Parking Revenue and Access Control for all of the BPA’s parking decks and lots. Exhibit 1 provides an overview of the facilities. The goal is to control the parking facilities with a single system capable of providing comprehensive, real-time reporting of all the facilities through a single user interface.

This RFP provides sufficient information for interested parties to prepare and submit proposals for consideration by BPA. By submitting a proposal, Proposer certifies that it understands this RFP and has full knowledge of the scope, nature, quality, and quantity of the services to be performed, the detailed requirements of the services to be provided and the condition under which such services are to be performed.

BPA follows a policy of nondiscrimination. No contractor working for BPA should discriminate on the basis of race, sex, religion or natural origin.

Proposals will be assessed to determine the most comprehensive, competitive and best value. BPA reserves the right, at its sole discretion, to reject any or all proposals, to award proposals based on location and/or equipment when applicable, to waive any proposal informalities and re-advertise for proposals when deemed in the best interest of the BPA.

Contract award shall be construed under and governed by the law of the State of Alabama and each party agrees to be subject to the jurisdictions of the courts of the State of Alabama.

PART 1 - GENERAL

1.1 SUMMARY

A. This is a performance based specification for a Parking Access and Revenue Control System (PARCS, or System); equipment and software required for a fully operational system. All products shall be manufactured or supplied as noted below. Proposal pricing shall not be withdrawn for a period of ninety (90) days from date of bid opening.

B. The Work of this Section shall include the procurement, installation, testing and commissioning, including furnishing all material, equipment, labor, and supervision for a fully operational Parking Access and Revenue Control System as specified herein and/or as indicated on the map. Proposals must be accompanied by a letter from a reliable surety company indicating they will issue a performance bond in the amount of 100% of contract price for successful bidder.

1.2 PROJECT DESCRIPTION

A. BPA is responsible for the operation of nine (9) facilities including eight (8) parking decks and one parking Lot as described in Exhibit 1.

1. The PARCS system must be able to control Monthly Contract (employee) and Transient parking (controlled access): BPA is seeking a cloud-based system allowing connectivity for at least five users simultaneously.

2. The Parking Operations contain approximately 8,204 parking stalls in 9 facilities as described in Exhibit 1. BPA desires that the spaces will be controlled by the new system. BPA desires to keep as many of the existing parking gate as is feasible. Please price necessary gates separately in your proposal.

3. In addition, BPA would like to optionally consider the Cooper Green Clinic at 1515 Sixth Avenue South. The facility currently has no access or revenue control system.

B. The PARCS for the facilities shall be capable of accommodating and managing up to 10,000 parking stalls.
C. The PARCS for the facilities shall be capable of managing up to 20,000 monthly parkers.

1.3 SYSTEM DESCRIPTION

A. Parking Access and Revenue Control System Software and Hardware with central management capabilities.

B. System Features

1. Central Application Server with redundant hard drives (RAID). Please describe how your system works and if your system uses an alternate redundant backup (for example, Cloud backup).
2. Configuration to reside on a network.
3. Card holder management software shall provide at minimum the following fields: name, card number, license plate (3 fields), account number, and group.
4. Data storage or backup for each PARCS device (ticket dispenser, pay-in-lane device, etc.).
5. System shall provide remote access for management, controls, programming, report generation. The system should be accessible by any internet enabled device.
6. The System shall be able to accommodate the addition of equipment, controls, and management of up to 10,000 parking stalls. The vendor shall state in their response the limit to the number of parking gates, ticket dispensers, POF, PIL, Fee Computers and Access Readers the System is capable of accommodating either individually or jointly. Please see Exhibit 1 for a listing of current equipment installed in the facilities and state whether or not the proposer’s System has the capability and capacity to manage that required number of devices.
7. Dates and time should be handled intelligently. Year changes, leap years and century changes should be transparent (i.e., no operator intervention required). Daylight savings time should also be transparent.
8. A real-time representation of lane activity will be present on the Central Application Servers for each lane. This representation will be interactive and allow for raising of gates, disabling of ticket dispensers, etc.
9. The system shall allow for any alarm status to be sent to a programmable e-mail address(s).
10. Accommodate zoned and nested parking areas.
11. Segregate groups (such as valet, self-park visitors, reserved, and staff parking) and must be capable of accommodating, identifying, controlling and billing.
12. Manage anti-pass back; allow for both hard and soft pass back.
13. Provide the number of active cards in the system at any given time.
14. Batch loading of cards
15. Provide gate status and allow control from designated locations.
16. Facilitate remote vending of all gates and provide a status view of all gates. All remote vends shall be recorded by the system.
17. Uninterruptible power supply and surge protection for Central Application Servers.
18. Allow a minimum of 5 users to remotely access the Parking Management System at any one time.

C. Reports

1. The System software must be capable of providing multiple reports
2. Provide a list of standard reports for review
3. Provide pricing for customized reporting and state the number of BPA-required, customized reports included with quote.
4. Reports shall include:
   a. Validations and number of vehicles for hourly, daily, weekly, monthly, quarterly, and yearly time periods.
   b. Validations and number of vehicles for each time period with comparisons to historical time periods (e.g., Dec. ’14 vs. Dec. ’15; 1st Qtr. ’14 vs. 4th Qtr. ’14; 1st Thursday in Jul. vs. 1st Thursday in Feb.).
   c. Cumulative revenues and number of vehicles by period (e.g., week-to-date: year-to-date).
   d. Parking durations (length-of-stay) for hourly, daily, weekly, monthly, quarterly and yearly time periods.
   e. Miscellaneous administrative information: rate structures, limited personnel data including cashier time in/time out, program changes with user ID and date.
   f. This is not an exhaustive list of the reports that will be needed. Flexibility in adding and modifying reports is a critical requirement.
5. The report generator shall utilize SQL (Standard Query Language) and allow ad hoc reports.
6. Report layouts must be adjustable and customizable.
7. The report generator shall provide reports in multiple formats including:
   a. Required MS Excel: Data must be able to be used in EXCEL
   b. Format
D. Contract (Employee) Entry / Exit Operations
   1. Entry/Exit Controls: For both entering and exiting the garage Monthly parkers shall be required to present credential that shall identify authorized vehicles. Credentials shall include HID tags only.
   2. Once the System verifies an authorized user via the tag, the barrier gate will lift, allowing the vehicle to enter, or exit the garage. The entrance gate will be primed for automatic closure after the vehicle has passed over the exit loop. Once the vehicle has cleared the loops, the gate closure will begin. The adjacent lane gate will open only after the other lane’s vehicle has cleared the lane and the gate has closed.
   3. Activation of the access reader shall disable the ticket dispenser until the entrance cycle has been completed.

E. Visitor Entry Operations
   1. A ticket dispenser shall be located at each transient vehicle entrance equipment lane per Exhibit 1.
   2. Visitors will depress the ticket-issuing button and pull a time and date stamped machine-readable encoded ticket.
   3. Upon removal of the ticket, the gate will open and allow the vehicle to enter the parking facility. Activation of the ticket dispenser shall disable the access reader until the entrance cycle has been completed.
   4. The entrance gate will be primed for automatic closure after the vehicle has passed over the entrance loops. Once the vehicle has cleared the loops, the gate closure will begin.

F. Visitor Exit Operations
   1. Visitors will have the option to get a ticket validated to cover a limited or total parking time. Parking beyond the time limit will require payment.
   2. Non-validated tickets will require payment.
   3. Pay in lane (PIL) or Pay on foot (POF) machines shall be located on the ground level or in-lane which shall read a validated ticket and accept a cash/credit card payment. If the device is POF, it will reissue a validated ticket for them to present at the exit lane.
   4. Visitor exit lanes shall have either a PIL that will read a validated ticket and accept a credit card payment or a cashier fee computer capable of reading a validated ticket, accept a credit card payment or accept cash.

1.4 UNIT PRICING and LABOR COSTS
   A. Unit Prices and Labor Rates submitted shall be used for all proposed equipment costs. Attach a worksheet showing unit price, number of units and line price per location as shown in Exhibit 1. All line items will be totaled before labor, applicable taxes and shipping are added as additional line item prices.
   B. Unit Prices and Labor Rates submitted shall be used for all additions, deductions and alterations to the original contract and shall further be used for future purchases by the Owner from the Contractor for one (1) year from the Warranty Period. Provide Unit Prices for the following items:
      1. Validator devices.
      2. Monthly Parker credentials compatible with system or as defined in sections below.

1.5 WARRANTY PERIOD
   A. The Contractor shall provide complete and comprehensive System Warranty services, and Maintenance services, during the two calendar years (Warranty Period) following the issuance of the Notice of Substantial Completion, issued by the Owner.
   B. The Contractor shall provide pricing for a complete and comprehensive System Warranty services for an additional one, two, and three year Warranty Periods to follow the termination of the original Warranty Period.
   C. The Contractor shall provide pricing for a Maintenance Service contract for a one, two, and three year period to follow the termination of the original two year Warranty Period.

1.6 SERVICE WARRANTY
   A. The Contractor shall provide a complete and comprehensive System Warranty to the Owner for all servicing and maintenance including labor, material, transportation, and support services needed to maintain the continuous operation of the entire System.
   B. Warranty shall be “Joint and Several” in which Contractor and System Manufacturer will jointly and severally warrant and provide at no charge to the Owner all material, equipment, labor, and transportation needed to properly maintain the system.
   C. Nothing contained in the contract documents shall be construed to establish a period of limitation with respect to any other obligation, which the Contractor might have under the contract documents. The establishment of the time period of two years after the date of completion or such longer period of time as may be prescribed by law or by the terms of any warranty required by the contract documents relates only to the specific obligation of the Contractor to
correct the work, and has no relationship to the time within which proceeding may be commenced to establish the Contractor’s liability with respect to his obligations other than specifically to correct the work.

D. As part of the Bidder’s submission, he/she shall include separate pricing for a preventative maintenance contract and an extended warranty for the period of year three, year four, and year five.

1.7 EXCEPTIONS
A. Provide a statement describing in detail any and all exceptions taken with regard to this specification. Provide recommendations for alternate solutions for those items where exceptions are taken.

1.8 DEFINITIONS
A. Owner Birmingham Parking Authority
B. PARCS Parking Access and Revenue Control System
C. System Parking Access and Revenue Control System
D. Central Application Servers Computer Central Processing Unit
E. Servers Computer Central Processing Unit
F. Parking Management System System software
G. VMS Variable Message Sign

1.9 RELATED REQUIREMENTS
A. Submittals
B. Concrete
C. Miscellaneous Metals
D. Electrical

1.10 PERMITS
A. The Contractor shall obtain all permits required for this Scope of Work, from the governing agencies having jurisdiction over any aspect of the project.

1.11 OWNERS APPROVAL
A. The Owner shall approve the design and all submittals prior to purchase and installation of any equipment.

1.12 QUALITY CONTROL
A. References: The Contractor shall provide the following information to the Owner.
   1. A list of at a minimum of three parking facility projects where a similar System has been installed within the last five years.
   2. Contact information for each of the parking facility projects listed above.
      a. Project address
      b. Project details: size, scope, System cost
      c. Project contact name, telephone number and email address
B. The Contractor (System Installer) shall be trained, approved, and certified by the System Manufacturer for the installation of the System.
C. The Contractor’s (System Installer) Project Manager (PM) shall have a minimum of two years’ experience with the installation of the System or two years’ experience with similar Systems. The PM shall act as the main point of contact with the Contractor and Owner’s representatives and shall be responsible for managing and coordinating all aspects of the Work including project management, administration, coordination, and attending regularly scheduled meetings. PM shall provide regular written communication throughout the course of the Work with no less than weekly project status updates from the issue of the Notice to Proceed.
D. The System Manufacturer shall provide a qualified Manufacturer’s Technical Representative to participate with the following at a minimum:
1. Pre-installation meeting with the Contractor, System Installer, related Sub-Contractors, Owner’s Authorized Representative, Architect, and Engineer/Parking Consultant.

2. To assist with trouble shooting and issue resolution if System Installer is unable to resolve an issue that remains unresolved for more than 48 hours.

3. During testing for the 20-Day Final Acceptance Test.

E. Personnel providing Service and Warranty work for the System shall have direct and local supervision.

F. Service and Warranty Supervisor shall be trained, approved, and certified by the System Manufacturer, and have a minimum of two years’ experience maintaining the System, or similar Systems.

G. Supervision or maintenance personnel shall have an office within forty miles of the Project property.

1.13 SUBMITTALS

A. Certification that System Installer is trained, approved, and certified by the System Manufacturer for the installation of the System.

B. Qualifications of System Installer’s Project Manager responsible of installation oversight and has minimum experience requirements.

C. Qualifications of the Service and Warranty Supervisor. Certification that Supervisor has been trained, approved, and certified by the System Manufacturer for System maintenance, and has a minimum experience requirements.

D. Certification that the personnel maintaining the System will have direct and local supervision.

E. Proposed Schedule for:

1. System Design documents submittals
2. Installation
3. Testing
4. Training
5. Start up and commissioning

F. Submit 30 days after contract award:

1. Full System Design Documents with all devices including connectivity.
2. Shop Drawings
   a. The Contractor shall submit a complete set of shop drawings to the Owner for review and approval.
   b. All submittals and materials must be in English with Imperial units. Any Metric dimensions must be accompanied with Imperial units of measurement. Shop drawings shall include enlarged floor plans (entry/exit lanes), wiring diagrams, conduit runs, and mounting details.
3. Product Literature
   a. All Manufacturer’s literature must be in English with Imperial units. Any Metric units must be accompanied with Imperial units. Cut sheets shall be submitted for all products, equipment, and manufactured items.
4. Service Warranty Plan

G. Submit 90 days prior to first Installation Test:

1. Testing protocols for installation tests and the 20-day final acceptance test.
2. Detailed installation schedule.
3. Operation and Maintenance Materials:
   a. Two printed hard copies
   b. Two electronic copies
   c. Two CD/Video versions of the training program with tutorials
Part 2 - PRODUCTS

2.1 PARKING MANAGEMENT SYSTEM
   A. The Parking Management System shall consist of all hardware and software for access and revenue control necessary to manage the parking facility as outlined in this specification.

2.2 SYSTEM MANUFACTURERS
   The equipment, software, and all peripherals shall be provided by one of the following equipment manufacturers:
   1. Amano McGann
   2. Skidata
   3. WPS
   4. TIBA
   5. DESIGNA
   A. All System components shall be furnished new and from a single manufacturer.
   B. Any and all proposed substitutions must be submitted for review and approved by the Owner, Architect, and Parking Consultant.

2.3 EQUIPMENT LIST
   A. See Exhibit 1.

2.4 CENTRAL APPLICATION SERVERS
   (Also identified in this specification as Computers)
   A. The System will have one Central Application Server computer (or acceptable cloud equivalent) located in an area designated by Owner that shall communicate directly with ticket dispensers, gates, exit verifiers, the pay-in-lane device, AVI readers, validation devices, etc. This CAPS computers will also provide operating information about the status of the equipment, lane activity, revenue statistics, etc cetera. The following software modules will be present on the CAPS at a minimum:
      1. Revenue with Ticket Tracking.
      2. Access Control, Counts and Monitoring.
      3. Any other modules/features, which are necessary to accomplish the tasks described in this specifications (i.e. Accounts Receivable/Billing).
      4. The software shall not be limited to a certain number of devices that it can control or monitor, now or in the future.
   B. Please specify the proposed Operating System (Windows or LINUX).
   C. If the proposed Operating System is to be Windows based and not Cloud based then: The Central Application Server computers shall be an IBM compatible PC with the following (at a minimum):
      1. Operating System: Current Generation of Microsoft Windows (10 or newer)
      2. Processor: Intel 4th Generation Core i7, or equal
      3. Process Speed: 3.4 GHz 9with Turbo Boost up to 3.9 GHz
      4. Cache Memory: 8 MB
      5. System Memory (RAM): 16 GB
      6. System Memory (RAM) Expandable to: 32 GB
      7. Hard Drive Size: 1TB
      8. Hard Drive Type: SATA (7200 rpm)
      10. Video Memory: 4GB DDR3 (dedicated)
      11. Wireless Networking: Built-in 802.11a/b/g/n/ac wireless LAN
      12. Networking Card: Built-in 10/100/1000Base-T Ethernet LAN
13. USB 2.0 Ports: 4 USB 3.0 (2 top, 2 rear), 6 USB 2.0 (4 front, 2 rear)
14. CD-RW
15. DVD-RW
16. 21” monitor
17. Wireless QWERTY style keyboard
18. Wireless Mouse
19. Laser jet printer

2.5 SOFTWARE

A. General: Software shall be Windows or Linux based to control access and revenue, provide information on cardholders and display usage. The Parking Management Software shall reside on its own network.

B. Data Manager:
   1. The data manager module shall provide utility software that allows IT management to maintain and support the System. There shall be automatic backup and exporting functions.
   2. Count and Monitoring Module
      a. The count and monitoring module shall provide occupancy levels/percentages multiple locations and be capable of activating multiple level alerts and action alarms.
   3. Access Control Module
      a. The access control module shall provide the capability for management to change reader parameters, add, delete and edit time/day schedules for cardholders. The module shall have search capabilities that will allow searches by card number, name, access group, account, vehicle and status.
   4. Carpooling Module
      a. The carpooling module shall provide issuance of access cards to a group of contract parkers and setting an occupancy limit. When the group reaches the limit all other cards in the group are automatically locked out. When occupancy drops below the threshold the system allows additional cardholders in again.
   5. Fleet Management Module
      a. The Fleet Management module shall provide fleet management; a tenant may be issued a number of valid cards above the threshold they are paying for. The module shall allow any of the cards into the facility up to the preset threshold. The module shall allow the facility manager to let cards over the threshold enter the garage or lock them out. The module shall provide reporting of the number of cards/vehicles over the threshold and in the garage at any time.
   6. Revenue Management Module
      a. The revenue management module shall provide the following functions for Retail Visitor Parking:
      b. Display real time transaction details for ticket dispensers and other visitor parking control devices.
      c. Remote programming revenue control devices for rates, validations and other parameters.
      d. Search and review ticket transactions by lot, machine number, ticket number, entry date and exit date or status.
   7. Accounts Receivable
      a. Please describe your system’s Account Receivable/Billing module. If the manufacturer does not provide an Accounts Receivable/Billing package, please describe what 3rd party Accounts Receivable/Billing programs is compatible with (provide cost for adding 3rd party software).

C. The Parking Access and Revenue Control System Software shall provide integration as described below:
   1. Data export to the Microsoft Excel spreadsheet program.
   D. Ticket issuing machines, gates, pay-in-lane devices, etc., shall be on-line with the Central Application Server computers. All equipment alarms (e.g., open gate, out-of-tickets, and out-of-change) are managed and monitored via the Central Application Server computers.

2.6 PHONE/INTERCOM SYSTEM

A. General: A phone/intercom shall be located at all entrances (mounted on pedestals or integrated into the ticket dispenser) and exits (mounted on pedestals or into the exit station devices). The phone/intercom shall be an IP addressable one-button-call that will ring at a location designated by the Owner. The General Contractor will be responsible for providing phone lines and conduit where necessary. The phone/intercom will have the ability to forward calls to land lines or cell phones.

B. The Parking Equipment Contractor shall provide a voice communication master station at the Security/Reception desk in the existing building so that during times when an operator is on site, that person can respond to and handle
any voice calls coming from the lanes. During non-staffed times, the voice calls shall route to an offsite monitoring location, landline or cell phone.

C. The Owner shall require an interface to the parking system that allows an override-open of any vehicle control point, if needed. This would be registered in the parking system as an override request. The Security subcontractor shall provide a dry relay contract signal for each parking control point. The Parking Contractor shall coordinate with the Security Contractor to locate the exact location of this connection and incorporate this signal into the parking control system to allow an override.

2.7 VISITOR PARKING SYSTEM

A. The ticket issuing machine shall incorporate, at a minimum, a 4-Line 20 Character LCD. Messages such as personalized greetings, instructions, and remaining card values shall be relayed to the individuals in the lanes.

B. General: Ticket Dispensers shall be provided and installed as noted on the plans and equipment list summary. They shall dispense individual barcoded entry tickets printing the entry information on the parking ticket. Ticket dispenser shall encode and dispense only barcoded tickets. Each ticket dispenser shall also serve as a communication device in that it shall transmit the data that it receives to the Central Application Servers as specified hereunder. All field devices shall be IP addressable. Visitors will pay for their parking (or insert a validated ticket) at the pay-in-lane machine to exit the garage.

C. Main Features: Ticket Dispenser

1. Each Ticket Dispenser shall issue a ticket, via Push Button or other means acceptable to the Owner, only if a vehicle is present at an arm loop and gate memory present. A dispenser lockout controller, or similar device acceptable to the Owner shall be an integral part of the Dispenser and it shall disable the card reader when a vehicle is not present, when gate memory is not present, and/or when a ticket is in the chute. Each dispenser shall be equipped with a phone system and a voice announcement kit that shall deliver at least two messages designated by the owner.

2. Each Ticket Dispenser shall be equipped with a low ticket indicator that is activated when the ticket supply reaches a pre-set threshold. Once the pre-set threshold has been reached, the Low Ticket indicator will be actuated and displayed at the Central Application Servers. Upon receipt of the Low Ticket indicator, the Central Application Servers will send an e-mail to alert the appropriate individual of the alarm status.

3. Each Dispenser shall be capable of recognizing, in a manner acceptable to the Owner, when it has issued an invalid ticket and shall provide at least the following features acceptable to the Owner:
   a. Stolen or “Back-Out” ticket data capable of being downloaded to the Central Application Servers computers which in turn shall be equipped to transmit this data to the pay in lane or pay on foot machines and prevent the use of such ticket; and
   b. Untaken tickets shall be automatically “Voided”. The Dispenser shall be able to automatically retrieve the unused ticket and store the ticket(s) in the container within the Dispenser.

4. Each Dispenser shall be equipped with a low-ticket warning and be capable of transmitting the warning to the Central Application Server computers.

5. Ticket Dispenser to be provided with a storage battery (2+ hour capacity).

2.8 VALIDATION SYSEM

A. Please provide pricing and description for an electronic on-line or cloud based validation program. Please describe and detail all costs (initial and recurring) associated with the on-line validation program.

B. Provide an alternate price and description for a traditional validation system, i.e. clam shell validators, chaser tickets, etc.

2.9 EXIT STATION (EXIT VERIFIER)

A. There shall be an Exit Station that will accept processed tickets or credit cards (for payment of unprocessed tickets).

B. The Exit Station shall be a self-service terminal for the payment and of parking fees. It shall be used for the payment and extra payment of short-term parker tickets, as well as for the extra payment if the parking time has been exceeded or for charging of money and time balances. The purpose of the Exit Station shall be to read the encoded entry data from the parking ticket, recognize a paid ticket, provide instant fee computation, and accept payment in the form of credit card for any unpaid tickets. It shall recognize only valid system tickets or cards. Upon completion of
the transaction, or the presentation of a processed ticket the Exit Station shall vend the gate. The Exit Device shall be interfaced with the Central Application Server computers to create an “on-line” parking management system acceptable to the Owner. The Exit Terminals shall be compliant with latest PCI standards. The Exit Station shall be provided with acoustic alarm devices, which are activated in case of attempted burglary (loud or silent).

C. Each Exit Station shall have the following features:
1. Real-time clock synchronization with Central Application Server computers.
2. Built-in crystal controlled perpetual calendar
3. Programmable Daylight Saving Time adjustment
4. User recordable voice announcement.
5. Shall be designed so that in case of power failure no data is lost. Exit Station to be provided with a storage battery (2+ hour capacity) so that a started payment procedure can be properly cancelled and a cancelled payment procedure can be properly completed.
6. Provide a modular ticket transports to be interchangeable with those in the ticket dispensers and exit verifiers.
7. The payment procedure is completed when the inserted means of payment is sufficient for or exceeding the remaining amount to be paid. Pay on foot shall be certified compliant with PCI.
8. The Exit Station shall access permanently updated lists of Back out tickets and unauthorized validations in the entire system. Tickets, which are contained in this black list, will always be rejected by the Exit Station.
9. The Exit Station shall be provided with an intercom speakerphone (integrated into the proposed phone/intercom system) with the ability to forward calls to land lines or cell phones.

2.10 BARRIER GATES AND VEHICLE DETECTORS
A. Barrier Gates shall be located at all exits and entrances as noted on the Plans. Each Barrier Gate shall be capable of being selectively programmed for two way operation with the Ticket Dispensers, Card Readers, Fee Computers, Exit Verifiers and Central Application Server computers as required by the Owner. All gates should have safety reversing logic or rebound feature. All gates must be capable of being vended from a remote location. Security shall have the capability of remotely vending the gate from the security desk for vehicles entering or exiting the garage. All remote vends must be reported by the system.

B. The gates shall include two detectors of a self-tuning type with the capability of activating a third loop internal detector. External hardwired detectors shall not be acceptable as they are prone to higher failure rates and require greater service.

C. The vehicle detector shall contain two fully separate, self-tuning, vehicle loop detectors and directional logic circuitry. The detectors shall incorporate a sensitive tailgate recognitions system capable of distinguishing two automobiles within six inches (150 mm) of each other on a standard 2.5’x 6’ loop. Detectors without this capability shall not be acceptable since they will not accurately provide the required outputs for each vehicle passing over the loop which causes illegally entering vehicles to go undetected and vehicle counts to be inaccurate. The vehicle detector shall each be capable of operating in three separate sensitivity modes: high, medium, and low. Different sensitivity settings shall allow vehicles of varying height and size to be properly detected.

D. Gate arms shall be straight arms where appropriate and articulating gate arms inside the parking facility. Articulating gate arms must provide a minimum of 8’-2” clearance at Accessible Entrances and a minimum of 7’-0” clearance at all other entrances. The Parking Equipment Contractor shall be responsible for providing arms that will open without striking obstructions. The Parking Equipment Contractor will be responsible for providing 2 arms per gate, 2 keys per gate, and 1 manual per gate, to be given to the Owner at the time of acceptance. Gate arms shall be made of a durable material as recommended by the manufacturer and shall be designed to break away so as to prevent damage to the gate mechanisms if struck by vehicles or other objects. The vendor should also provide alternate pricing for lighted gate arms.

2.11 HID MULTI-CLASS SE READERS
(or Owner approved equal)

A. Main Features: HID Multi-Class SE Readers
1. The HID Multi-Class SE Readers shall be designed to incorporate state-of-art technology for flexibility, performance and longevity. The system shall include the necessary hardware and software to provide a complete access control
system. HID Multi-Class SE readers shall read user credentials without physical contact, process card encoded data and output data to access system controller resulting in instructions to allow or deny access.

2. HID Multi-Class SE readers shall be on pedestals for contract only entrance lanes if mounting them into the ticket dispenser is not feasible. HID Multi-Class SE readers shall be mounted on pedestals at the exit lanes if mounting them into the exit station is not feasible. Read range should be a minimum of 24".
PART 3 - EXECUTION

3.1 INSTALLATION

A. The Central Application Server computers and supporting software shall be located in a room designated by the Owner, within a locked cabinet.

B. An inventory of on-site spare parts shall be provided to the Owner. Provide pricing for any manufacturer recommended spare parts.

C. Contractor shall provide and install all necessary conduit, cabling, et cetera.

D. Communications network cabling from each entry and exit location should have its own home run conduit back to the Owner designated location. All conduits shall terminate into a gutter box, and all network control equipment shall be installed in a lockable box (size to be determined by amount of equipment to be installed). If the home run does not appear to be the most efficient configuration, the vendor should specify their preferred method. All runs over 300 feet will require fiber to be installed. Please refer to the project drawings to determine the length of runs.

E. All lane equipment must be factory painted per Owner requirements.

F. Any equipment not listed but required to meet the performance specifications shall be included in the bid.

G. Manufacturer/Vendor of Parking Control System shall provide those responsible for related work with:
   1. Installation diagrams and details for setting mounted equipment
   2. Templates for setting mounted equipment and bollards
   3. Templates and cast-in inserts to anchor free standing equipment to the curbs and bases
   4. Electrical wiring diagrams and details
   5. Electrical installation requirements
   6. Electrical power requirements

H. The system shall be installed with following maintainability goals:
   1. Incorporate features that minimize requirements for preventive maintenance, failure correction, and performance verification.
   2. Provide for unobstructed access to equipment components as permitted by basic design constraints.
   3. Minimize requirements for special tools and test equipment. Provide for easy removal and replacement of component items.
   4. Provide for ease of performance verification and failure detection, while minimizing effort required for adjustment.

I. The system installation shall be neat and workmanlike with all circuitry well labeled.

J. Maintenance of the equipment will include activities that are necessary to meet the conditions of the warranty as described herein.

K. Parking Equipment Contractor shall coordinate with Owner for the design and installation of the pay-on-foot machines. The Parking Equipment Contractor shall provide the General Contractor with dimensions and other information required to facilitate the installation of the pay-on-foot machines.

L. Equipment: All equipment shall be installed as indicated on the drawings provided by the Parking Consultant. Included will be supply, delivery, unloading, setting, anchoring, and control wiring installation and wiring termination, and start-up of all Parking Control equipment including operating software. The Parking Equipment Contractor shall be responsible for providing a complete and working system.

M. Wiring for Data, Communications and Electrical Devices: The Parking Equipment Contractor shall pull all wires for the data and communication requirements. Conduit runs from each device back to each termination location point, shall be the responsibility of the General Contractor. The Parking Equipment Contractor will make final wire connections of all equipment. Electrical devices and other necessary devices or interfaces required to make the system function properly shall be included as part of the work.

N. Loop Installation: Parking Equipment Contractor shall install new loops, 1 inch deep (maximum) and no less than ½ inch deep (to top of loop wires). For structured slabs, Parking Equipment Contractor must verify location of slab tendons and reinforcing prior to any new saw cutting to avoid damaging post tensioned slab tendons. All loop cuts will be reviewed and approved by the Owner’s representative prior to any work being done. All loop locations will be illustrated on a drawing and supplied to the Owner’s representative upon request of the Owner or immediately after the selection process is complete.
3.2 ENVIRONMENTAL REQUIREMENTS
   A. Environmental Requirements in accordance with all State and Federal requirements.

3.3 TESTING
   A. The Parking Equipment Contractor shall submit a testing plan for review and approval by the Owner and Parking Consultant 30 days prior to the start of scheduled test. The plan shall include industry standard tests for the entry/exit lane equipment and Central Application computers as recommended by the manufacturer. Test forms shall provide space for sign-offs by both the Parking Equipment Contractor and the Owner’s Representative.
   B. Maintenance of the equipment will include activities that are necessary to meet the conditions of the warranty as described herein.

3.4 AS BUILT DRAWINGS
   A. Parking Equipment Contractor shall provide as-built drawings (in AutoCAD format and hard copy format) that illustrate the location and placement of the new parking equipment in the garages and lot(s).

3.5 SYSTEM TRAINING
   A. After equipment has been installed, personnel designated by the Owner shall be trained on the operation of all aspects of the system.
   B. Training shall be performed on site at locations designated by the Owner and there shall be a minimum of:
      1. Sixteen hours of operator training.
      2. Eight hours of maintenance training.
   C. An adequate amount of training materials shall be provided including:
      1. Functional flow charts, block diagrams, and descriptive material for all software.
      2. Schematic drawings for hardware components.
      3. All procedure manuals, specification manuals, maintenance manuals, and Central Application server computers manuals.
      4. Record drawings.
      5. Hands on training sessions.
   D. An agenda and syllabus for each session shall be prepared and submitted for review at least one week before the scheduled date of the training session.
   E. Other training materials or aids that would facilitate the training of the new staff on an ongoing basis. These materials should include videotapes and/or interactive video programs.
Exhibit 1: Birmingham Parking Authority Decks and Lots

<table>
<thead>
<tr>
<th>Deck</th>
<th>Address</th>
<th>Stalls</th>
<th>Entry Lanes</th>
<th>Exit Lanes</th>
<th>Nested Access</th>
<th>Access</th>
<th>Optional Access</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>401 North 19th Street</td>
<td>1,472</td>
<td>4 4 4 - 2 1</td>
<td>1 - 7</td>
<td>Y Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>401 North 20th Street</td>
<td>1,339</td>
<td>4 4 4 - 3 1</td>
<td>1 - 3</td>
<td>Y Y</td>
<td></td>
<td></td>
<td>Nested Reserved Parking</td>
</tr>
<tr>
<td>4</td>
<td>2128 Fourth Avenue North</td>
<td>673</td>
<td>2 2 2 - 1 1</td>
<td>1 - 4</td>
<td>Y Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2012 Fifth Avenue North</td>
<td>401</td>
<td>2 1 2 - 1 1</td>
<td>1 - 4</td>
<td>Y Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2010 Second Avenue North</td>
<td>638</td>
<td>3 2 3 - 1 1</td>
<td>1 - 5</td>
<td>Y Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>509 North 17th Street</td>
<td>1,607</td>
<td>4 4 4 - 1 1</td>
<td>1 - 8</td>
<td>Y Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2021 Third Avenue South</td>
<td>1,114</td>
<td>3 3 3 - 1 1</td>
<td>1 - 6</td>
<td>Y Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Points South</td>
<td>2012 Magnolia Avenue South</td>
<td>237</td>
<td>1 - 1 - - -</td>
<td>2 - 2</td>
<td>Y Y</td>
<td></td>
<td></td>
<td>Crossover gate to lots</td>
</tr>
<tr>
<td>Lot A</td>
<td>20th-24th Street &amp; Morris Avenue</td>
<td>723</td>
<td>4 - 2 - - -</td>
<td>1 - 6</td>
<td>Y Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8,204</td>
<td>27 20 25 - 10 7</td>
<td>5 51</td>
</tr>
</tbody>
</table>

Optional

| Cooper Green Clinic | 1515 Sixth Avenue South | 915 | 1 - 1 - - - | - - N Y | No access or revenue control |

Equipment Summary

<table>
<thead>
<tr>
<th>Equipment Summary</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking Gates</td>
<td>57</td>
</tr>
<tr>
<td>Ticket Dispensers (TD)</td>
<td>20</td>
</tr>
<tr>
<td>Pay on Foot (POF)</td>
<td>-</td>
</tr>
<tr>
<td>Pay in Lane (PIL)</td>
<td>10</td>
</tr>
<tr>
<td>Fee Computer (Cashier)</td>
<td>7</td>
</tr>
<tr>
<td>Access Readers</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>145</td>
</tr>
</tbody>
</table>
Request for Proposal
May 2017

Birmingham Parking Authority

PARKING ACCESS AND REVENUE CONTROLS