DEPARTMENTAL INPUT
CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

Rev 1

[X]	New contract	[ ]	OTR	[ ]	CO	[ ]	SS	[ ]	BW	[ ]	Emergency	Previous Contract/Project No.

[ ] Re-Bid [X] Other (RFP)

LIVING WAGE APPLIES: __YES _x__NO

Requisition/Project No: RQAV1600024

TERM OF CONTRACT: _5_ year with _5_ one-year options-to-renew

Requisition/Project Title:- Checkpoint Queue Wait Time Analyzer

Description: Miami-Dade Aviation Department (MDAD) wishes to deploy a System to provide accurate real-time and historical data analytics for determining the average checkpoint wait times at all MDAD checkpoints, as well as tracking passenger, staff and key asset movements.

User Department(s): Miami Dade Aviation Department (MDAD)

Issuing Department: MDAD Contact Person: Neivy Garcia Phone: 305-876-8482

Estimated Cost: $700,000.00 Funding Source: Proprietary Revenue REVENUE GENERATING: No

ANALYSIS

Commodity/Service No: 205-54 SIC:

Trade/Commodity/Service Opportunities

Contract/Project History of Previous Purchases For Previous Three (3) Years
Check Here _x_ if this is a New Contract/Purchase with no Previous History

	EXISTING	2ND YEAR	3RD YEAR
Contractor:			
Small Business Enterprise:			
Contract Value:			
Comments:			

Continued on another page (s): _____Yes _____No

RECOMMENDATIONS

SBE	Set-Aside	Sub-Contractor Goal	Bid Preference	Selection Factor
		%		
		%		
		%		
		%		

Basis of Recommendation:

Signed: Tiendra Wright Date to SBD: 5/17/2016

Date Returned to PM: _____

This document is a draft of a future solicitation and is subject to change without notice.

This is not an advertisement.

CHECKPOINT QUEUE WAIT TIME ANALYZER

2.1 INTRODUCTION

Miami-Dade Aviation Department (MDAD) wishes to deploy a System to provide accurate real-time and historical data analytics for determining the average checkpoint wait times at all MDAD checkpoints, as well as tracking passenger, staff and key asset movements. The measurement system will determine the start of queue lines at security checkpoints, and provide the in-depth analysis to provide the checkpoint transit times by lines. The system will aggregate all activities from security checkpoints into one common view, providing end-to-end situational awareness for all checkpoints airport-wide. Going further than data collection from checkpoints, MDAD also wishes to implement this system to include the following highlights:

- Provide a single point of access (portal) to multiple applications, featuring single sign-on for ease of use. Business Intelligence (BI) analytics are to be delivered via an interactive portal with easy to use dashboards, heatmaps, etc., to support management objectives to accurately understand passenger flow, as well as staff and asset optimization.
- Provide end-to-end visibility of the airport's daily checkpoint operations status. Key Performance Indicators (KPIs) across the entire airport campus are visualized on a Performance Dashboard and optimized for any mobile device (e.g. phone, tablet, etc.).
- The system must be able to provide analytics by customer/employee profile and by checkpoints used.
- The system must be both application and data set agnostic. The system also needs to be technology/sensor agnostic, for best-of-breed solutions, and to leverage existing infrastructure where possible. Data sets will also include the growing number of information-sensing mobile devices and wireless sensor networks (e.g., cameras, sensors, BLE and Wi-Fi) and data from the existing AODB and common use system.
- Estimates wait time as passengers approach a security checkpoint queue.
- Predicts passenger flow through security chokepoints, up to 24 hours prior to flight departure, to aid in effective manpower planning.

The proposed implementation needs to be a highly integrated, turn-key solution that provides service delivery management and reporting tools to MDAD and its stakeholders, with visibility of passenger, staff, and high value asset movements, to improve customer service, reduce queue wait times, increase non-aeronautical revenue, and make informed decisions to improve overall airport operations.

2.2 SYSTEM DESCRIPTION

The requirements for the system are defined as follows:

- Central Intelligence Portal
- Passenger Flow Prediction System
- Queue Management System
- Common Use Platform Data Collection System

Central Intelligence Portal

The primary purpose of the Central Intelligence Portal is to provide end-users with access to consolidated data from multiple sources related to the Airport. Much of the relevant data is contained in multiple, disparate systems. This often requires extensive manual effort to consolidate and correlate the information required for monitoring, measuring and decision making. The Central Intelligence Portal shall:

- Provide a single point of access to various applications
- Provide different categories of business intelligence
- Consolidate data from multiple sources within the database(s)

It will provide business users with easy, extensible access to dashboards and analytical tools covering a wide spectrum of airport and commercial operations.

The front-end of the Central Intelligence Portal shall provide a configurable Key Performance Indicator (KPI) dashboard to provide overall situational awareness to MDAD airport management. Via the portal, airport operators can drill down to greater levels of detail with maximum support for operational planning and decision making. Productivity will increase with timely, self-service access to information and analytics, and pressure on IT resources to address ever changing reporting requirements will be relieved.

Passenger Flow Prediction (PFP) System

The PFP system needs to be a robust, highly available, and scalable system for passenger flow analysis, resource allocation analysis, and end-to-end management. The goal of the system is to provide high accuracy passenger flow forecasting, through Security chokepoints, up to 24 hours in advance.

The system needs to support proactive versus reactive problem management in addressing the appearance of passenger flow problems before they happen. It is anticipated that the PFP system will use input information from existing airport operational IT systems, e.g., the AODB, to generate a very detailed and highly accurate forecast of the passenger flow, with automatic warnings identifying where the problems will occur in the following hours, allowing airport operations to take preventive measures.

The forecast for the future hours needs to be executed continuously, always using the current situation in the airport, with any change being reflected within minutes of the updated forecast. This applies to both changes in the flight schedule and preventive or corrective measures taken to avoid problems (e.g., changes to gate or resource allocations). Since the optimal solution is not always clear, the decision makers need to be able to perform "what if?" scenarios, executing validation forecasts before deciding to take a specific measure.

Queue Management System (QMS)

The QMS is focused on queue monitoring at airport security checkpoints, and potentially at customs and border protection and any outgoing border control points; anywhere there is a queue. In deploying a checkpoint queue monitoring system, the objective is to measure and improve queue wait times, to enhance the passenger experience, as well as increase non-aeronautical revenues. The QMS needs to determine the start of queue lines, and to provide an external interface so that estimated wait times can be displayed on monitors to passengers as they enter the queue, displayed on mobile applications or web pages, etc., in order to set passenger expectation.

In addition to real-time display, the collection of historical data provides benchmark opportunities for improvement. Metrics provide insight that enable management to identify chokepoints and staffing deficiencies. Management needs to have access to trending reports to see where and when issues arise by day, week, and time of day.

Common Use Platform Data Collection System

MDAD has a common use passenger processing system, which generates considerable usage data. Each time an event occurs, e.g. a user logs in, logs out, or a peripheral is used, the Real Time Statistics (RTS) client generates a message that is sent to an aggregation server via a web service.

Each RTS client generates messages for a variety of events, including:

- Login/Logoff
- Active (heartbeat event)
- Screen saver active/inactive
- Auxiliary (entry of optional agent, carrier and flight IDs)
- CUSS (kiosk) state changes
- When a boarding pass is successfully scanned (and/or printed)

The selected vendor will need to implement an aggregation server (or equivalent) to receive RTS events and to generate the reports outlined within the requirements document.