

**Board Report**

File #: 2016-0041, **File Type:** Contract**Agenda Number:** 57.

**SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE
FEBRUARY 18, 2016****SUBJECT: INCIDENT BASED SURVEILLANCE SYSTEM****ACTION: AWARD CONTRACT****RECOMMENDATION**

AUTHORIZE:

- A. the Chief Executive Officer to award Contract No. PS4497500 to **SmartDrive Systems Inc. in the amount not-to-exceed \$16,556,545 to provide Incident Based Surveillance System (IBSS) services on Metro's bus and rail fleet from April 1, 2016 to March 31, 2021**; and
- B. the amendment of the FY16 operating budget by \$660,000 upon authorization of the SmartDrive contract; and
- C. the amendment of the FY16 Adopted Budget to add 2 represented full time equivalents (FTE's).

ISSUE

The overall mission of Metro's bus and rail system is to ensure Los Angeles transit riders a safe and efficient mode of transportation throughout the greater Los Angeles region. Over the years, significant effort and progress has been made to reduce accidents and vehicle code violations through the initiation of an aggressive bus and rail operator training policy and program. Metro has also implemented technological strategies to improve bus and rail operator training techniques and processes for its employees, as well as refining and improving its operations through careful and diligent accident investigation. The implementation of this IBSS is one of these strategies.

The recommended contract award will allow Metro to continue to maintain its focus on safety and security. Currently, SmartDrive's IBSS is installed on the entire bus fleet as well as twenty-five rail cars on the Blue Line. This new five-year contract will maintain video surveillance services across Metro's bus fleet (approximately 2400 buses) and expand services to up to 518 rail cars by the completion of the five year contract term. The contracted service will provide the recording, timely access, and review of key operational activities in order to maintain and improve the safety and quality of Metro's transit services. Video events are saved and made available to Metro staff. The contract also includes the ability to provide auto-generated alerts via web browser to key personnel during critical events that can be quickly and remotely reviewed at any time.

The IBSS recording device consists of two cameras: one front facing camera (street/track view) and one operator facing camera. The device records video and sound onto digital flash memory, capturing whatever the operator sees and hears. The system is triggered by forward and/or lateral g-forces that are generated during accidents, hard acceleration, sudden stops or sharp curves. The video storage trigger can also be manually activated by an operator using a self-activation button. The unit is constantly recording and overwriting data, but when the device is triggered, the video event is stored to the system's memory which tags 15 seconds prior and 15 seconds post the triggered event for external review and event classification. This before and after triggered event period provides a visual of both the operator and the vehicle's operating conditions prior to the g-force triggered event for determining event cause and effect.

When a bus returns to its home division, the recorded video event files are automatically downloaded from the bus to a server via a secure Wi-Fi connection. The files are then sent to an externally hosted server where they are reviewed and categorized by event types which have been pre-established/developed by Metro. All events that meet Metro's criteria for further review are then made available to Metro staff via a secure web portal for Metro Operations review and validation. Operations staff will review the event as appropriate per an established standard operating procedure. The information is used to identify operator habits that may require operator re-training or counseling. Operator performance may be positively impacted by learning to anticipate and avoid triggering events. The video event is also used to assist Risk Management in determining liability for accidents and is used as key evidence in legal proceedings to defend Metro against lawsuits or to recover costs of collision repairs. A similar process will be followed for rail operations except that video events will be transferred via cellular data connection on a more frequent basis. Video events are generally accessible by Metro for review within 1-4 hours of the event.

New video cameras and related equipment shall be installed and/or replaced by Metro personnel per the current labor agreement. The contractor shall be responsible for the implementation/verification of the managed hosted services, training, scheduling coordination, equipment logistics and data management review. Rail Fleet Services (RFS) will install the system in the rail fleet. RFS will require two additional contract personnel to do this task and to maintain this equipment in the future. Should the maintenance tasks lessen the additional personnel will be appropriately reduced through attrition.

DISCUSSION

In 2008, Metro installed its first IBSS on the bus fleet. The system allows Operations and Corporate Safety staff to review incidents such as accidents to determine culpability and to identify potential training opportunities for staff. The system has proven itself to be a very important element in managing operational claims from a risk management perspective as well as understanding and refining operator training solutions that will enhance operations while reducing legal risk exposure.

Since the installation of the IBSS across the bus fleet, Metro has seen a noticeable reduction in critical vehicle code violations. Clearly, the cause of this decline is multifaceted and includes improvements in training and accountability, but the IBSS has played a key role in these and other safety and operational improvements.

The proof of concept of the IBSS solution for rail has shown clear safety benefits for Metro’s rail operations. There was also a notable reduction of critical observations on the 25 rail cars during the proof of concept period. The tables below describe the year over year benefit over a nine month period for both bus and rail modes. The decrease has been notable and consistent for both bus and rail. The most significant reduction is related to the use of mobile devices and reinforces Metro’s mobile use policy.

Installation of IBSS throughout the rail fleet will be completed within the first year after Board approval. The rail cars require mounting of the cameras as well as running cables to power the equipment. Two full sets of equipment need to be installed on each rail car as they have an operator cab on both ends. Once on the vehicles, the IBSS equipment is maintained by RFS personnel. Metro is recommending that the Board approve two additional Rail Electronic Communications Inspectors in the FY16 budget. These additional employees would provide the necessary support to adequately install and maintain the SmartDrive equipment, thus preventing disruption in service due to insufficient staffing.

Bus

Observations	Jan. - Sep. 2013	Jan. - Sep. 2014	% Difference
Speeding	1666	723	-56.6%
Collision	263	239	-9.1%
Mobile	207	33	-84.1%
Railroad Crossings	859	305	-64.5%
Stop Light	1243	1101	-11.4%
Stop Sign	1003	307	-69.4%

Rail

Observations	Jan. - Sep. 2014	Jan. - Sep. 2015	% Difference
Collision	11	3	-72.7%
Red Light	8	3	-62.5%
Stop Sign	18	5	-72.2%
Driver Safety Device	11	3	-72.7%
Mobile	2	0	-100.0%
Food	123	54	-56.1%
Drinking	167	65	-61.1%

Some IBSS level benefits achieved in the past 5 years are:

1. The IBSS solution provided timely access to incident video to better understand Metro’s culpability and legal exposure to assess a recommended path forward in resolving potential future claims.

2. The IBSS provided a means to identify operator training deficiencies to help focus on areas of high risk (i.e. operator mobile phone usage has significantly decreased from the period prior to the IBSS installation).
3. The web-based system provides 24/7/365 access to all events (incidents) which can be accessed by Division and Management staff from any web portal (access controlled) at any time so that Operations staff always has access to time-sensitive information.
4. Video events are filtered by category, so that only relevant incident information (Metro-defined) is captured and managed. This has reduced the unnecessary downloading and review of video (manpower) that have limited value.

DETERMINATION OF SAFETY IMPACT

The IBSS provides a significant safety benefit to Metro operations. The system provides automatic identification of problem areas in operator performance which helps improve operator training. The IBSS solution has had a significant impact in reducing key safety concerns including mobile phone use since its original installation. The IBSS implementation on the Blue Line has also demonstrated a proactive approach in addressing the Board's Rail Red Light Violations and Agency Safety Culture concerns raised by Directors Antonovich, Solis, Ridley-Thomas and Knabe in the form of a Board motion presented at the February 26, 2015 Board Meeting.

FINANCIAL IMPACT

Funding for this service will increase the FY16 budget by approximately \$660,000 through the remainder of the fiscal year. Since this is a multi-year project, the project manager and the Chief Information Officer will be responsible for budgeting the cost in future years.

Impact to Budget

The funding for this action will be a combination of local operating funds such as Prop A, Prop C, and TDA.

ALTERNATIVES CONSIDERED

The Board may choose to not proceed with the contract award. This option is not recommended based on the positive operational and risk management benefits that have been realized in the form of safer operations, accident reduction, improved safety/training and fault liability verification on accidents as well as cost recovery.

NEXT STEPS

Upon approval of the Board, staff will execute Contract No. PS4497500 with SmartDrive Inc. to provide IBSS services for Metro's bus and rail fleet from April 1, 2016 to March 31, 2021.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - DEOD Summary

Prepared by: Al Martinez, Director, IT Transit Applications (213) 922-2956

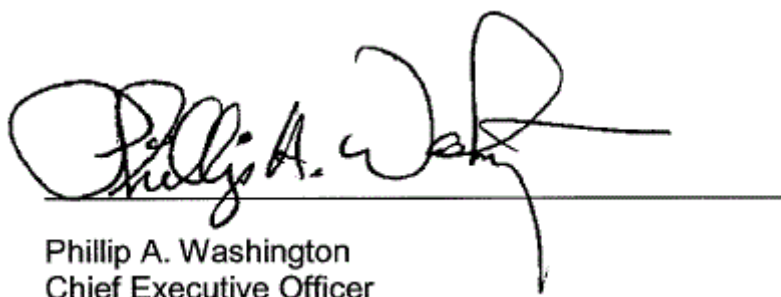
Reviewed by:

Gregory Kildare, Executive Director, Enterprise Risk, Safety & Asset Mgmt - (213) 922-4971

Ivan Page, Interim Executive Director, Vendor/Contract Management - (213) 922-6383

James Gallagher, Chief Operations Officer - (213) 922-4424

David C. Edwards, Chief Information Officer - (213) 922-5510



Phillip A. Washington
Chief Executive Officer