

AGENDA ITEM 1 J  
Consent Item

**MEMORANDUM**

**DATE:** February 1, 2018

**TO:** El Dorado County Transit Authority

**FROM:** Christine Parker, Safety Coordinator

**SUBJECT:** Purchasing of Mobileye by Rosco® Collision Avoidance

**REQUESTED ACTION:**  
**BY MOTION,**

- 1. Approve Capital Improvement Plan Project 18-05(2) for a Collision Avoidance System (CAS)**
- 2. Approve Capital Improvement Plan Project 18-06(2) for a Radio System**
- 3. Approve Purchase Order 23263 for the purchase of Mobileye Shield+ by Rosco® Collision Avoidance**
- 4. Authorize the Executive Director to execute all contracts and documents related to purchase and implementation of Rosco® Collision Avoidance**

**BACKGROUND**

The El Dorado County Transit Authority (El Dorado Transit) provides transportation within El Dorado and Sacramento County in a variety of hazardous traffic conditions. Throughout their employment, Transit Operators engage in numerous hours of training on proper mirror usage and blind spot awareness to help reduce, if not eliminate, the likelihood of being involved in collision with vehicles, bicyclists and pedestrians. Operating in urban environments, the risks significantly increase for potential pedestrian and bicycle conflicts.

On December 7, 2017 the Board of Directors approved Capital Improvement Plan Project 18-05, Collision Avoidance System (CAS) and 18-06, Radio System. Funding was identified through Proposition 1B, California Transit Security Grant Program, California Transit Assistance Fund (CTS-GP-CTAF) (FY) 2016/17 and (FY) 2015/16, respectively. \$124,854 for transit system safety, security and disaster response through California Emergency Management Agency (Cal EMA) had been granted to assist in the procurement of a radio system, and \$99,883 had been granted for a CAS.

**DISCUSSION**

Due to the updated cost estimates for both projects, El Dorado Transit staff received approval for a modification from grant administrators to switch the projects.

The CAS will enhance the safety of the general public, transit passengers and minimize damage to transit vehicles. CAS is also known as a pre-crash system, forward collision warning system, or collision mitigating system. It uses radar (all-weather) and sometimes lasers and cameras (employing image recognition) to detect an imminent collision and provide a warning to the driver to take evasive action. A CAS will not replace the skill of an operator, but provide assistance to the operator to minimize collisions.

El Dorado Transit Staff researched available Collision Avoidance Systems and determined Mobileye Shield+ through Rosco® is the sole source of the Collision Avoidance System.

Mobileye Shield+ communicates and provides visual alerts to operators based on the directional location of the pedestrian and severity of the threat. The multi-vision-sensor system is tuned with sophisticated algorithms to filter out pedestrian proximity that is threatening, while locking in and following pedestrian proximity and course if deemed to be collision likely. Utilizing an intelligent vision sensor that works like a bionic eye, the system identifies a diverse and extensive variety of potential dangers on the road, such as vehicles, cyclists, and pedestrians. The distance and relative speeds of these objects are continuously measured to calculate the risk of the driver colliding with them. When danger is imminent, visual and audible alerts warn the driver to make necessary corrections in sufficient time to avoid potential collision or mitigate their severity.

**FISCAL IMPACT**

**Collision Avoidance System CIP 18-05 (2)**

<i>COST SUMMARY (ESTIMATE)</i>	<u>Approved Budget</u>	<u>Proposed Budget</u>
Collison Avoidance System	\$234,350	\$234,350
Contingency 10%	<u>\$ 23,435</u>	<u>\$ 23,435</u>
<i>Total Project Cost</i>	<i>\$257,785</i>	<i>\$257,785</i>

***FUNDING SOURCE***

Proposition 1B		
California Transit Security Grant Program- California Transit Assistance Fund (CTSGP-CTAF) FY 15/16	\$ 99,883	\$ 124,854
State Transit Assistance (STA)	<u>\$157,902</u>	<u>\$ 132,931</u>
<i>Total Revenue</i>	<i>\$257,785</i>	<i>\$ 257,785</i>

**Radio System CIP 18-06 (2)**

*COST SUMMARY (ESTIMATE)*

	<u>Approved Budget</u>	<u>Proposed Budget</u>
Radio System	\$124,854	\$100,210
Contingency 10%	<u>\$ 0</u>	<u>\$ 10,021</u>
<i>Total Project Cost</i>	<i>\$124,854</i>	<i>\$110,231</i>

*FUNDING SOURCE*

Proposition 1B		
California Transit Security Grant Program- California Transit Assistance Fund (CTSGP-CTAF) FY 15/16	\$124,854	\$ 99,883
State Transit Assistance (STA)	<u>\$ 0</u>	<u>\$ 10,348</u>
<i>Total Revenue</i>	<i>\$124,854</i>	<i>\$ 110,231</i>

## Collision Avoidance System

Project No. 18-05 (2)

The El Dorado County Transit Authority (El Dorado Transit) provides transportation within El Dorado and Sacramento counties in a variety of hazardous traffic conditions. Drivers engage in numerous hours of training throughout their employment on proper mirror usage and blind spot awareness to help reduce if not eliminate, the likelihood of being involved in collision with vehicles, bicyclists and pedestrians. Operating in urban environments, the risks significantly increase for potential pedestrian and bicycle conflicts.

The installation of a Collision Avoidance System (CAS) will enhance the safety of the general public, transit passengers and minimize damage to transit vehicles. It is also known as a pre-crash system, forward collision warning system, or collision mitigating system. It uses radar (all-weather) and sometimes laser and camera(s) (employing image recognition) to detect an imminent collision and provide a warning to the driver to take evasive action. A CAS will not replace the skill of a driver, but provide assistance to the driver to minimize collisions.

### *COST SUMMARY (ESTIMATE)*

	<u>Proposed Budget</u>
Collision Avoidance System	\$234,350
Contingency 10%	<u>\$ 23,435</u>
<i>Total Project Cost</i>	\$257,785

### *FUNDING SOURCE*

Proposition 1B	
California Transit Security Grant Program-	
California Transit Assistance Fund	
(CTSGP-CTAF)(Proposition 1B) (California)	
FY 15/16	\$ 124,854
State Transit Assistance (STA)	<u>\$ 132,931</u>
<i>Total Revenue</i>	\$ 257,785

## **Radio System**

Project No. 18-06 (2)

The El Dorado County Transit Authority (El Dorado Transit) utilizes a radio system to communicate between dispatch personnel and bus drivers. This project will upgrade the radio system to improve range and performance to cover all areas of bus service.

### *COST SUMMARY (ESTIMATE)*

	<b>Proposed <u>Budget</u></b>
Radio System	\$100,210
Contingency 10%	<u>\$ 10,021</u>
<i>Total Project Cost</i>	<i>\$110,231</i>

### *FUNDING SOURCES*

Proposition 1B	
California Transit Security Grant Program - California Transit Assistance Fund (CTSGP-CTAF) (Proposition 1B) FY 16/17	\$ 99,883
State Transit Assistance (STA)	<u>\$ 10,348</u>
<i>Total Revenue</i>	<i>\$110,231</i>

**EL DORADO COUNTY TRANSIT AUTHORITY**  
**6565 COMMERCE WAY**  
**DIAMOND SPRINGS, CA 95619-9454**  
**(530) 642-5383**

**PURCHASE ORDER NO. 23263**

THIS NUMBER MUST APPEAR ON ALL INVOICES,  
 PACKING LISTS, PACKAGES, AND BILLS OF LADING.

**DATE: 02/01/18**

ACCOUNT: 9910.13      CLASS: 125

TO: ROSCO COLLISION AVOIDANCE  
 90-21 144th PLACE  
 JAMAICA, NY 11435

SHIP & INVOICE TO:  
**EL DORADO COUNTY TRANSIT AUTHORITY**  
**6565 COMMERCE WAY**  
**DIAMOND SPRINGS, CA 95619-9454**

Contact: Christopher Quinlan  
 Vendor Phone No: (360) 305-0986

Fax No:

PROMISED DELIVERY DATE	TERMS: NET 30
	F.O.B. DESTINATION

QTY	UNIT	DESCRIPTION	UNIT PRICE	EXTENDED TOTAL
		COLLISION AVOIDANCE SYSTEM 17 MOBILEYE SHIELD AND 17 MOBILEYE SINGLE CAMERA		\$192,720.50

I hereby certify that this purchase order is in accordance with procedures in the purchase manual governing of such items for El Dorado County Transit Authority.	<b>SUBTOTAL</b>	\$192,720.50
	<b>SHIPPING</b>	
	<b>SALES TAX</b>	
	<b>TOTAL</b>	\$192,720.50

**PURCHASING AGENT**

**PLEASE NOTE CONDITIONS ON REVERSE SIDE**

"This Purchase Order expressly limits acceptance to the terms and conditions stated herein, set forth on the reverse side and any supplementary or additional terms and conditions annexed hereto or incorporated herein by reference. Any additional or different terms and conditions proposed by seller are objected to and hereby rejected."