



SMARTDRIVE[®]



Metro[®]

November 15, 2018

Operations, Safety, and Customer Experience Committee

Introduction

- Incident-based digital video solution
- External and internal facing cameras, audio recording capabilities
- Proactive monitoring of safety-based triggers
- Video and operator performance data utilized to monitor driving behavior
- Provides video analysis, predictive analytics and performance review to help improve driving skills



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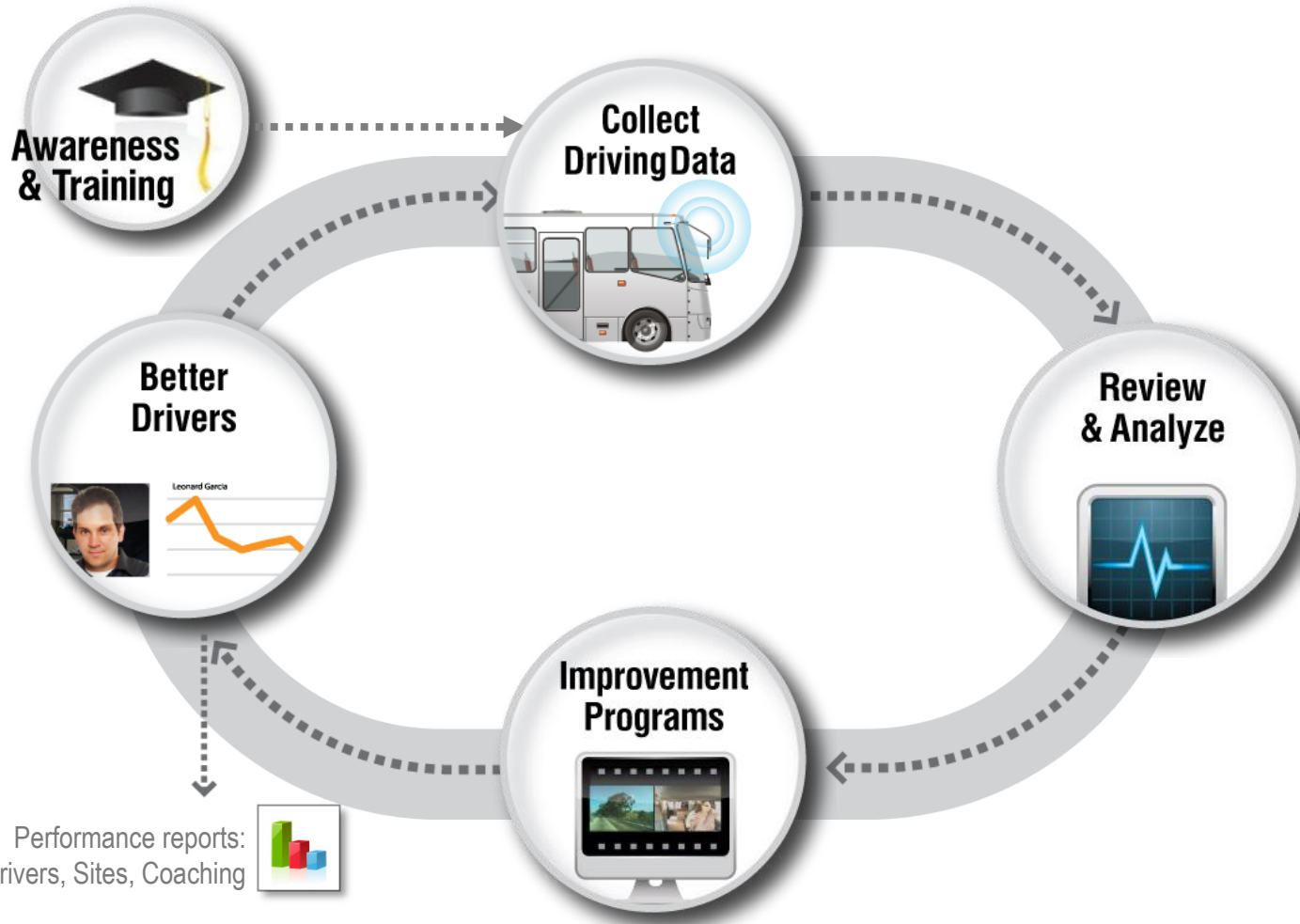
Introduction (Continued)

- Captures collisions and other unexpected events on video
- Allows investigators to identify safety issues that may lead to future accidents if not addressed
- Provides information for determining Root-Cause Analysis and liability
- Data analysis tool allows review of operator performance by type

Program Overview

- Program inception date 2009 in Metro bus fleet, with installation for rail fleet currently in progress.
- Currently installed on:
 - All Metro Buses, including Contract Service Buses
 - Blue Line retrofit underway with new rail vehicles
 - Red & Purple Rail Vehicles
 - Gold Line installation currently in review process

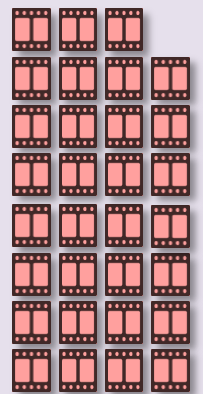
Program Workflow



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The SmartDrive Program

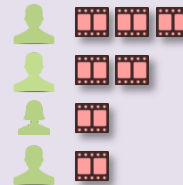
Focuses on the right operator, right skills, right priority



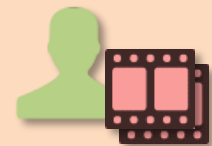
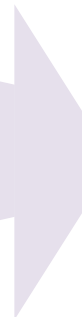
Videos
Captured



Consistent
Review
& Scoring
verifies risk



Operators
& Risk
Prioritized



Coaching
Sessions

Video Event Recording

SAFETY PRIORITIES

FLEET 1



Speeding



Unsafe Braking



Mobile Phone



Stopping



Following to Close



SAFETY PRIORITIES

FLEET 2



Speeding



Passing Signal Bar



Mobile Phone



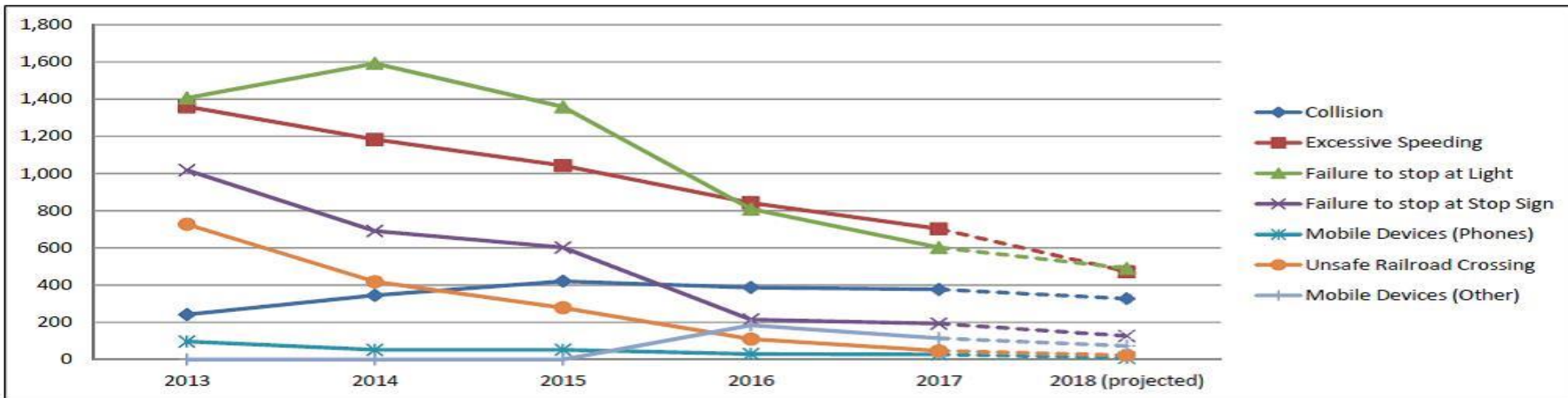
Paperwork



Red over Red

Safety Trends

Calendar Year 2013 - 2018(projected) Events by Type



Events	2013	2014	2015	2016	2017	2018 (projected)
Collision	242	345	421	387	377	327
Excessive Speeding	1,359	1,183	1,042	842	703	473
Failure to stop at Light	1,406	1,592	1,358	809	602	490
Failure to stop at Stop Sign	1,018	691	602	215	193	126
Mobile Devices (Phones)	97	52	52	30	28	10
Unsafe Railroad Crossing	727	418	278	110	47	23
Mobile Devices (Other)	-	-	-	184	115	73
Total	4,849	4,281	3,753	2,577	2,065	1,521

2018 Q1-Q3 (actuals)
253
347
390
104
13
21
53
1,181

*In 2016, the Mobile Device category was redefined. The Mobile Device (Other) category was created to consider any on board device (ATMS, Radio, Farebox, etc.) used by an operator while the vehicle is not at a complete stop. This change is reflected in Monthly and Annual Reports.

**CalYear 17 Q1, and CalYear 18 Q1-Q3 : WI-FI issues and Proof-of-Concept tests affected offloading on many devices

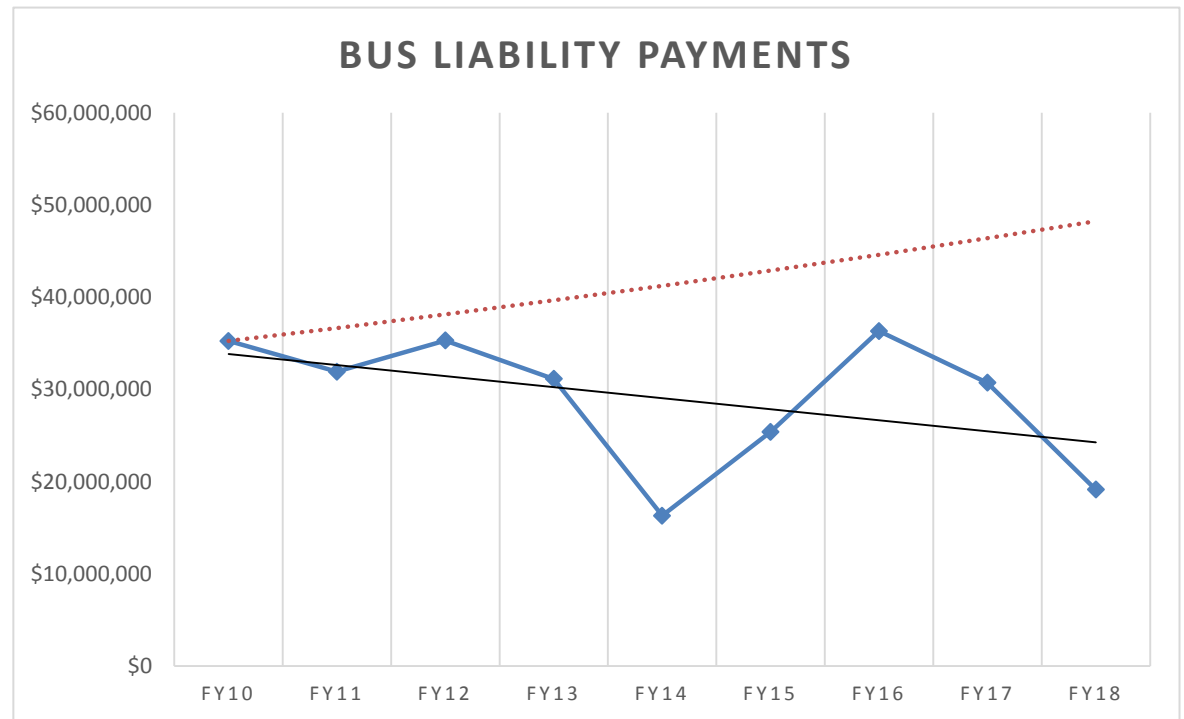
Merits

- Helps with the Safety Assurance aspect of System Safety Management (SMS), by providing the right data at the right time
- Increased visibility into validity of claims
- Supports regulatory reporting requirements
- Speed of access to data = faster collision review
- Substantially lower real payouts for bus liability claims since FY10

Bus Liability

BUS LIABILITY PAYMENTS

FY10	\$35,258,793
FY11	\$31,926,123
FY12	\$35,305,743
FY13	\$31,150,778
FY14	\$16,301,056
FY15	\$25,394,643
FY16	\$36,333,441
FY17	\$30,717,957
FY18	\$19,137,103



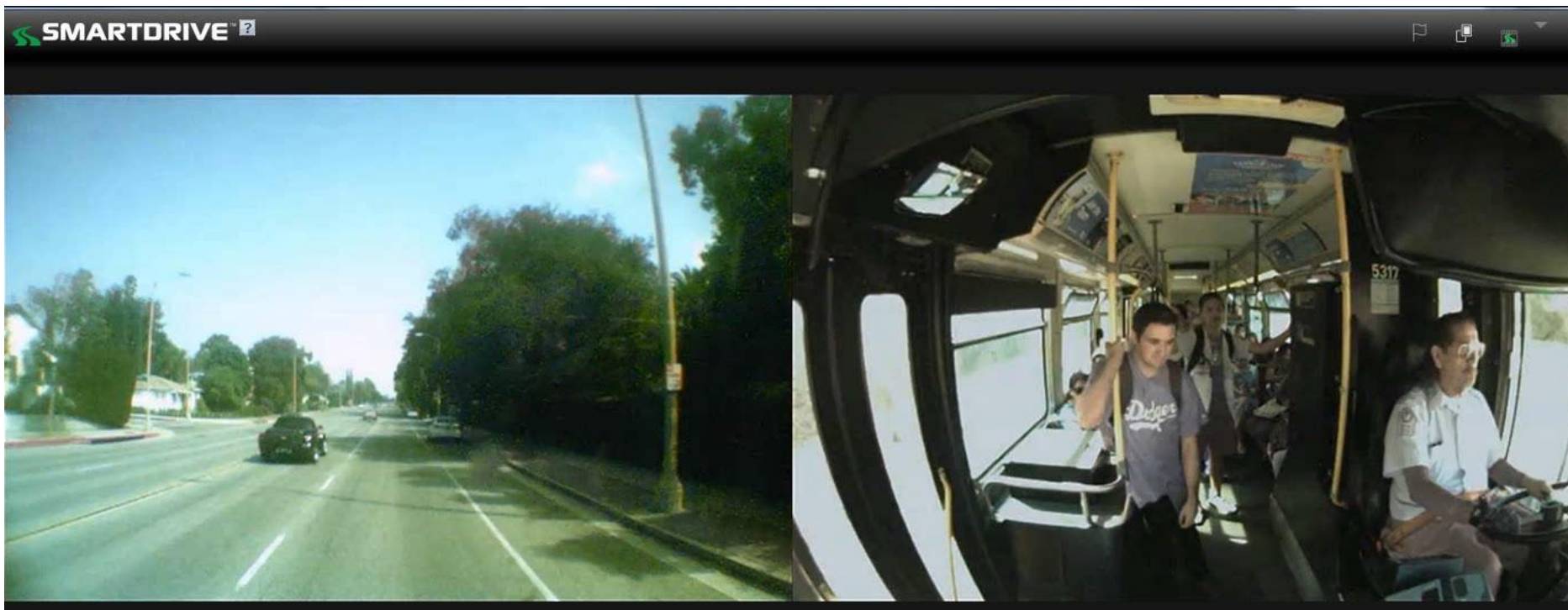
Near Miss - Vehicle



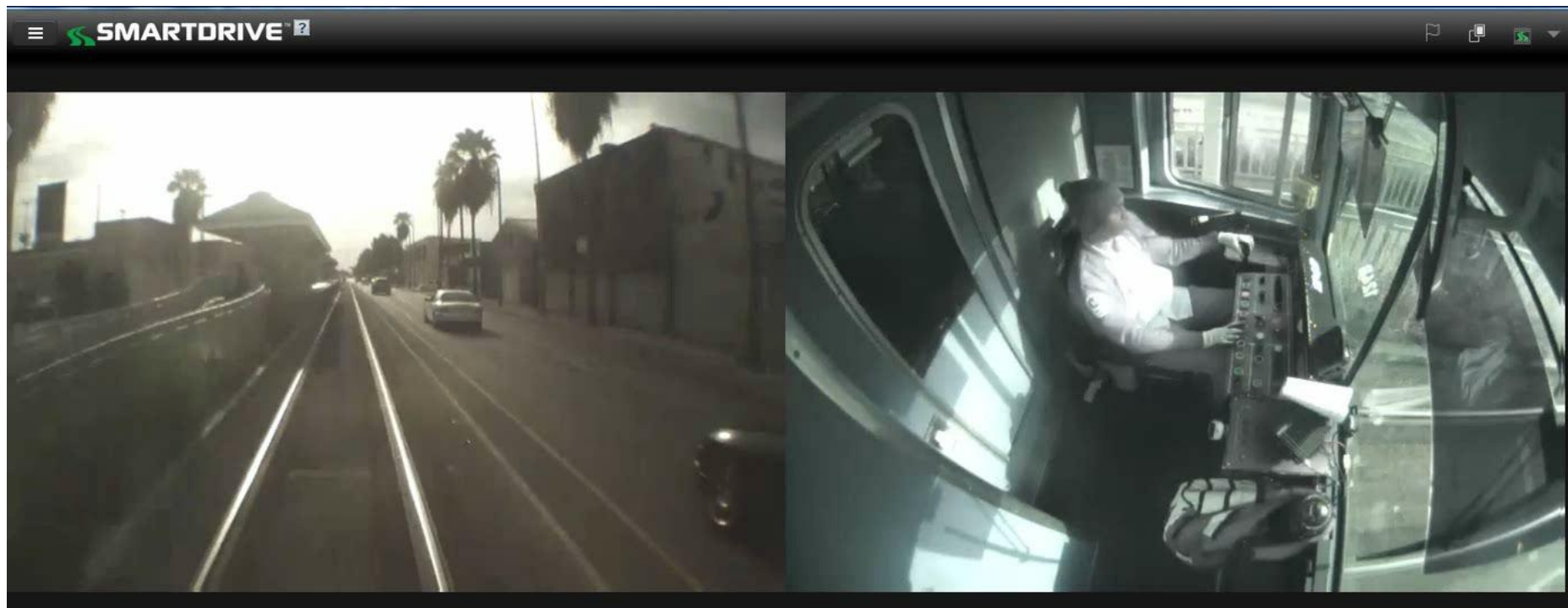
Near Miss – Grade Crossing



Near Miss – Bus/Pedestrian



Near Miss – Rail/Pedestrian





Thank you



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Bus: Quick Stats

▪ SmartDrive Equipped Vehicles

- Bus 2,346
- Contract Services 180

▪ Event Volume

- Events Reviewed Last 12 Months
 - Bus 185,370
 - Contract Services 70,200
- Collisions Captured Last 12 Months
 - Bus 410
 - Contract Services 77



Rail: Quick Stats

- **SmartDrive Equipped Vehicles**

- Red Line 104
- Blue Line 7

- **Event Volume**

- Events Reviewed Last 12 Months: 22,569
- Collisions Captured Last 12 Months: 3

