MOTOR CARRIER ATTACHMENT

Greyhound Lytx Program Presentation

Highland, IL

HWY23MH015

(30 pages)

Greyhound Lytx Program Presentation

May 2022

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Key Benefits

- Identifies risky driving behaviors and high-risk drivers

- Provides a platform for management coaching

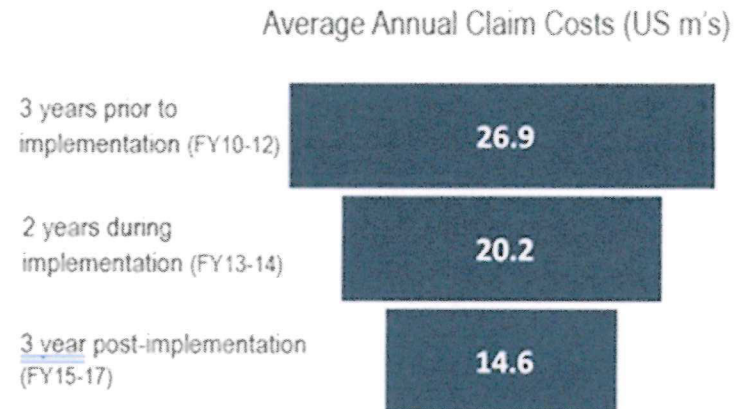- Allows positive recognition for the safest drivers

Program History

- Started our first pilot in 2011 to prove it worked

- Implemented company-wide in 2013-15

- Now installing new MV/AI technology to further improve performance

Our Lytx Safe Driver Award Winners

Year		Place
2015 –	██████ o	- 3rd Place
2016 –	██████	– 3rd Place
2017 –	██████	– 2nd Place
2018 –	██████	– 1st Place
2019 –	██████	– 2nd Place
2020 –	██████	– 1st Place
2021 –	██████	– 1st Place

Claims costs decreased after implementation

Average Annual Claim Costs (US m's)

	Average Annual Claim Costs (US m's)
3 years prior to implementation (FY10-12)	26.9
2 years during implementation (FY13-14)	20.2
3 year post-implementation (FY15-17)	14.6

Based on claim analysis by Risk Management in 2018 (GLI US only)

HISTORICAL FREQUENCY AND SEVERITY TREND

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Program Performance Since Inception of Program

Severity = Number of Risky Driving Points / # of Active ERs per Month
Frequency = Number of Scored Events / # of Active ERs per Month
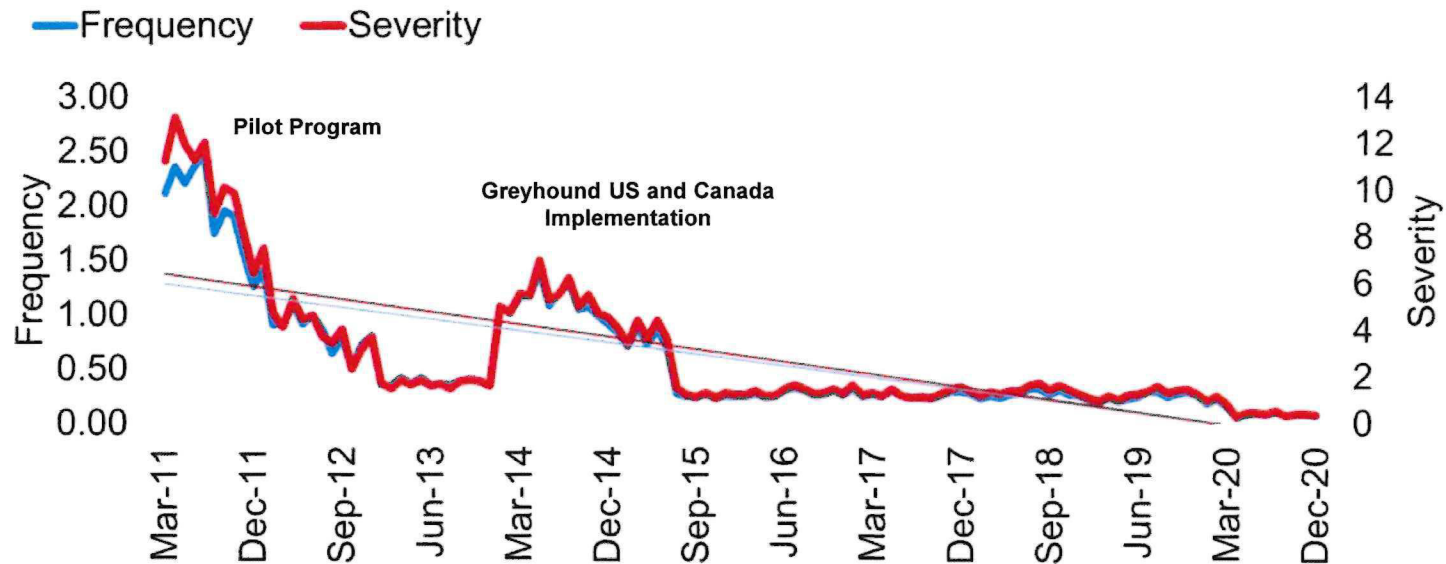
Frequency and Severity have improved by 75% and 74% from Mar'11-Jan'16 to Feb'16-Dec'20
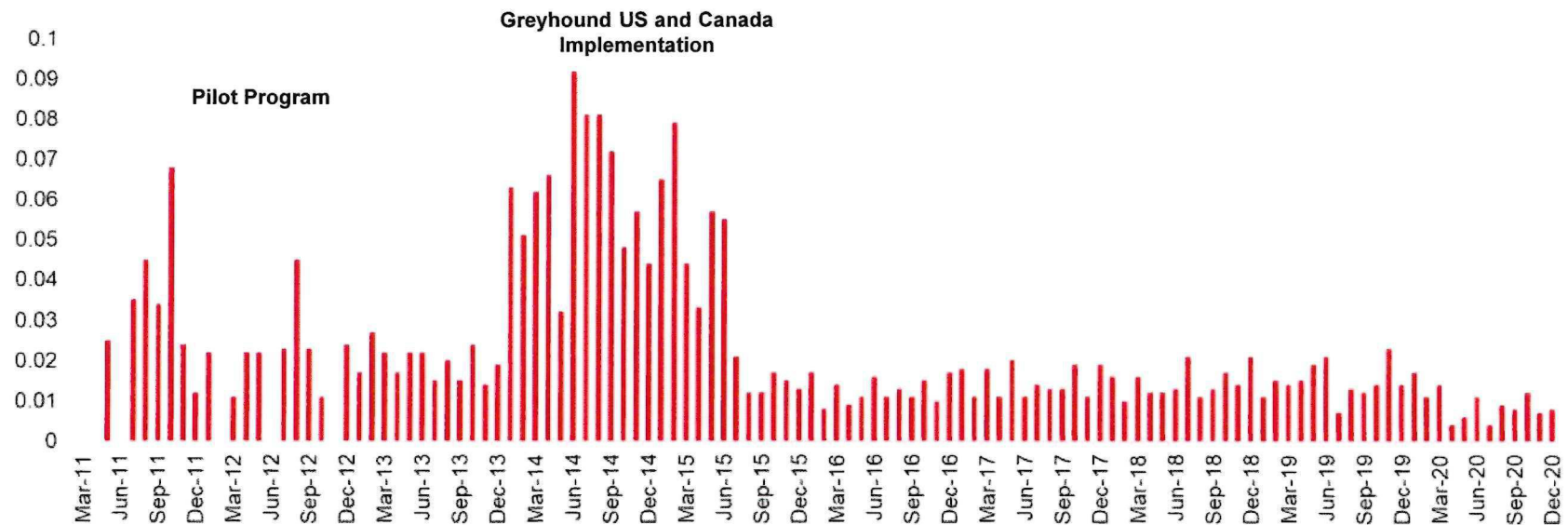
(First 59 Months vs. Last Completed 59 Months)

UNDERSTANDING COLLISION METRICS SINCE INCEPTION   lytx

Collision Trend Since March 2011

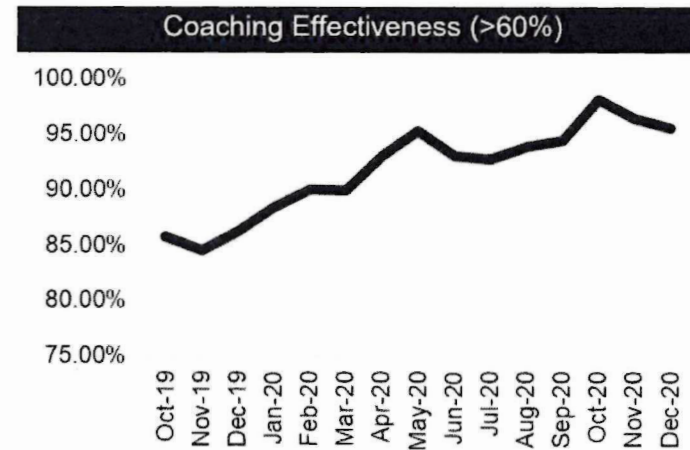**Collisions per Active Bus in Program**

Includes both Preventable and Non-preventable collisions

Our keys to success

- ## Executive management buy-in and focus
  - Program review meetings
  - Monitoring performance indicators
  - Dedicate resource for program management

- ## Making coaching a priority for operations team

- ## Providing training for coaches
  - How the system works
  - How to coach drivers

- ## Driver and Union communications
  - Videos, conference calls, and 1:1 meetings

Coaching Effectiveness (>60%)

91.83%
15 Month Coaching Effectiveness Average

Overdue For Coaching (<20%)

2.77%
15 Month Overdue For Coaching Average

During the review meetings, Lytx provides a great deal of insight into the data trends and makes recommendations on areas for improvement

LYTX EXECUTIVE SUMMARY

Highlights

- Ten years in to the DriveCam Program, Greyhound has successfully driven key reductions in risk and achieved high levels of operational efficiency.

- From a Risk perspective, the following trends have seen positive improvement in the last 15 months:
  - Frequency and Severity have improved by 70% and 71% from Oct-Dec '19 to Oct-Dec '20
  - Collisions have improved by 48% from Oct-Dec '19 to Oct-Dec '20
  - Near Collisions, which are great leading indicators for Collisions, have improved by 79% from Oct-Dec '19 to Oct-Dec '20

- From an Operational perspective, Greyhound has consistently achieved high averages for most Safety Dashboard KPI's. Across the last 15 months:
  - Coaching Effectiveness: 91.8% (compliance is >60%)
  - Overdue for Download: 1.64% (compliance is <10%)
  - Unidentified Drivers: 3.9% (compliance is <20%)
  - Overdue for Coaching: 2.77 (compliance is <20)

- Opportunities to mitigate increases in risky behaviors lie in the following:
  - Late Response: 49% increase in last 90 days, and a most prevalent behavior

Focusing on the people (behavior change) drives the results

Incident Capture

- Device upload incidents every night
- Customizable list of behaviors and risk score ratings
- Reviewed by Lytx specialist
  - Eliminates false incidents
  - Ranked by risk score
- Posted to Lytx portal for coaching

Coaching

- Automated workflow for each manager
- Face to face coaching (preferred) or remote sessions
- 4 to 1 positive feedback

Monitoring

- Management Performance Indicators
  - Coaching effectiveness
  - Overdue for coaching or download
- Driver Performance Indicators
  - High interest drivers (typically 10% of drivers represent 80+% of the risk)
  - Speed monitoring programs
- Progressive discipline for drivers who don't change behaviors

Lytx technology enables it to happen (they are an industry leader)

Ways we engage in coaching the drivers

In-cab Alerts with Coaching to Make a Greater Impact

FASTER SAFETY IMPROVEMENT WITH LESS MANAGER EFFORT

Behavior Example: Handheld Device

Remind the Driver
In-cab behavior modification

Train the Driver
Post-trip review and self-coaching

Motivate the Driver
Manager coaching for riskiest drivers
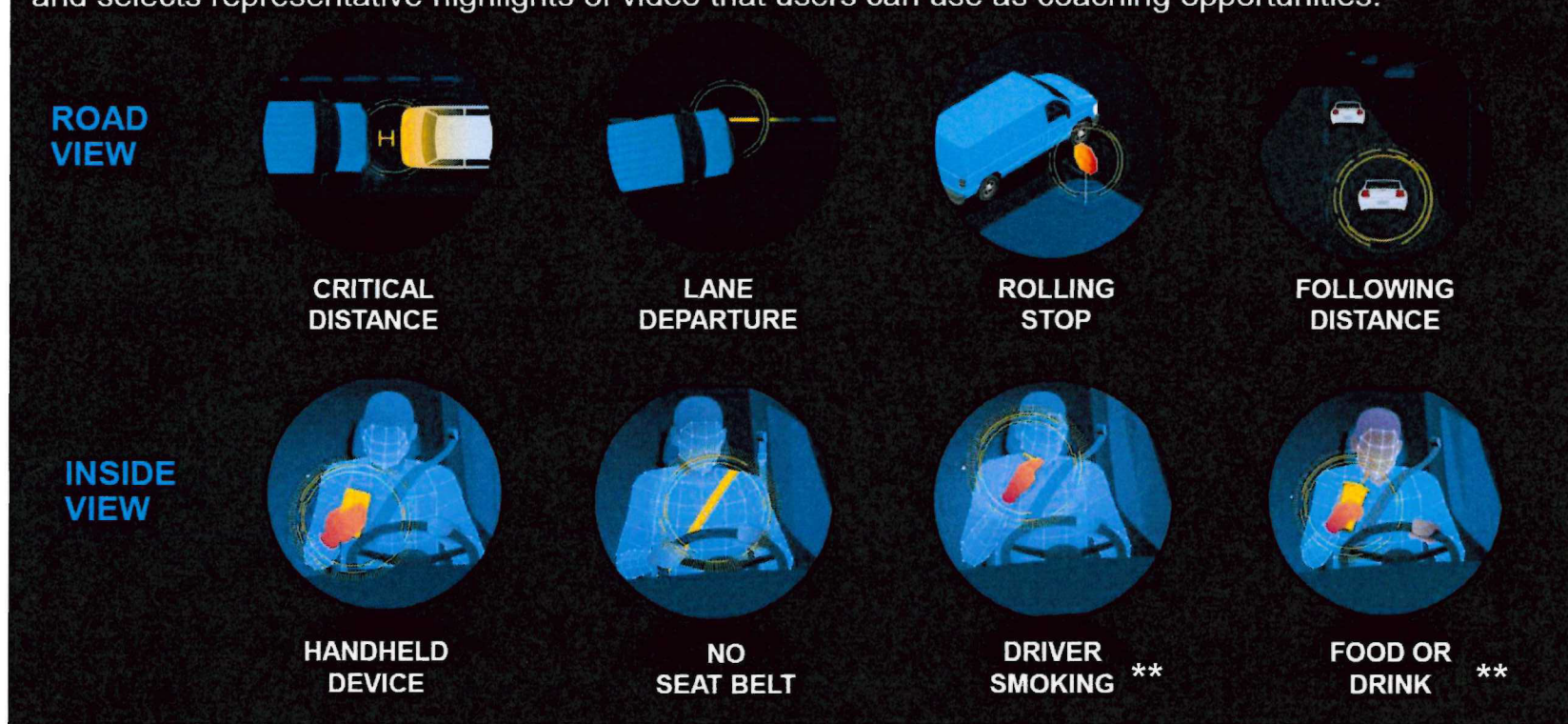
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A FlixMobility company

DRIVER FOCUS

Top 20 Drivers With The Highest Event Scores During The Last 3 Months

Driver Name	Group Name	Apr-Jun	Jul-Sep	Oct-Dec	6MΔ	9MΔ	Coachable	Cell	DU	TV	FD	LR	NC	Coll
	Boston Garage	15	0	19	-	↑ -27%	6	0	0	6	0	1	0	0
	Memphis	5	4	17	↑ -325%	↑ -240%	6	0	2	1	2	1	1	0
	New York	0	0	17	-	-	4	0	0	1	0	1	1	0
	Albany	21	4	16	↑ -300%	↓ 24%	10	0	3	2	2	4	1	0
	Mobile	0	0	15	-	-	3	0	0	3	0	0	0	0
	Harlingen	9	8	14	↑ -75%	↑ -56%	10	0	5	1	0	2	3	0
	Portland	0	3	14	↑ -367%	-	5	1	0	2	0	1	0	1
	Jacksonville	0	0	14	-	-	2	0	0	1	1	1	0	0
	Dallas	3	0	13	-	↑ -333%	5	0	2	1	0	0	1	0
	Atlanta Garage	0	0	13	-	-	2	1	0	2	0	0	1	0
	Mobile	0	0	13	-	-	2	0	0	1	0	0	1	0
	Orlando	0	0	12	-	-	5	0	0	0	1	0	1	0
	Harlingen	0	0	12	-	-	3	0	1	0	0	1	1	0
	Vendors	0	0	12	-	-	2	0	0	0	1	0	1	0
	Colonial Trailways	0	23	11	↓ 52%	-	13	0	6	1	4	2	0	0
	Port Angeles, WA	13	3	10	↑ -233%	↓ 23%	6	0	0	5	0	0	0	0
	Chicago	4	0	10	-	↑ -150%	3	0	0	2	1	0	0	0
	Chicago	0	0	10	-	-	3	1	0	1	0	0	1	0
	Atlanta	0	0	10	-	-	1	0	0	1	0	0	1	0
	Atlanta	0	3	9	↑ -200%	-	2	2	0	0	0	1	1	0

The new SF300 technology provides greater insights

Lytx MV+AI Technology

Lytx technology monitors for **patterns of persistent driving behavior & persistent vehicle movement** and selects representative highlights of video that users can use as coaching opportunities.

ROAD VIEW

| CRITICAL DISTANCE | LANE DEPARTURE | ROLLING STOP | FOLLOWING DISTANCE |

INSIDE VIEW

| HANDHELD DEVICE | NO SEAT BELT | DRIVER SMOKING ** | FOOD OR DRINK ** |

** We disabled these 2 behaviors in our coaches

- The combination of _machine vision and artificial intelligence_ is powerful technology
- Provides **_dramatically increased_** opportunities to identify poor driving behaviour and change via coaching

MV/ AI produced the majority of events, behaviors, and prioritized coachable instances

5 Technologies + 10 Trigger Types captured Risk

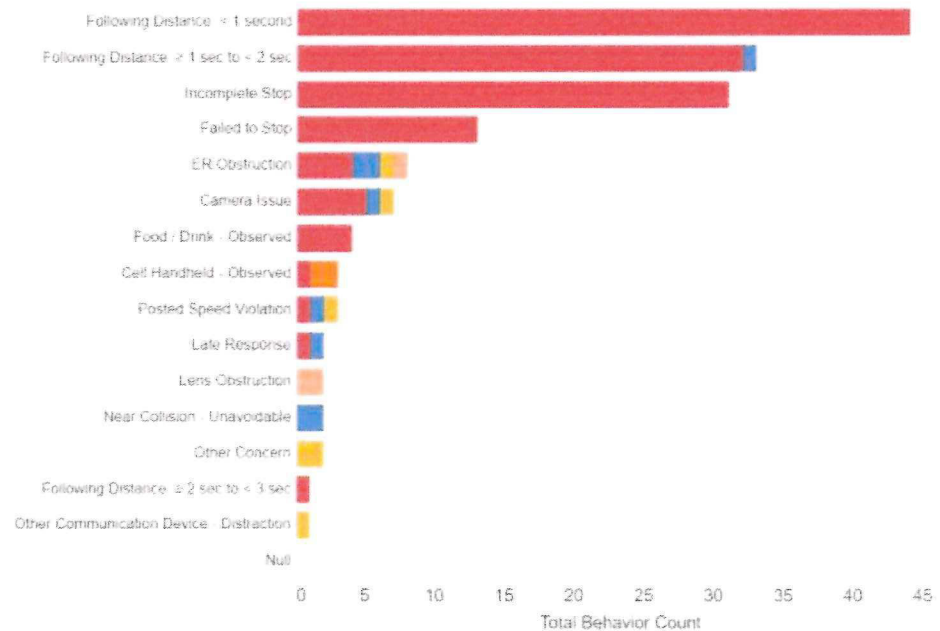% of Coachable Events by Technology

MV+AI - Road facing	90.7%
Accelerometer	3.6%
Lens Obstruction	2.1%
Roll Stability	2.1%
MV+AI - Inside facing	1.6%
Null	0.0%
Driver Tagged	0.0%

% of Coachable Events by Trigger

Critical Distance	35.0%
Rolling Stop	31.4%
Following Distance	23.6%
Braking	2.9%
Lens Obstruction	2.1%
Roll Stability	2.1%
Handheld Device	1.4%
Lane Departure	0.7%
Other	0.7%
Null	0.0%
Driver Tagged	0.0%
No Seat Belt	0.0%

Legend:
- MV+AI - Road facing
- Accelerometer
- Roll Stability
- Lens Obstruction
- MV+AI - Inside facing
- Driver Tagged

Horizontal bar chart — Total Behavior Count (x-axis 0 to 45):
- Following Distance < 1 second
- Following Distance ≥ 1 sec to < 2 sec
- Incomplete Stop
- Failed to Stop
- ER Obstruction
- Camera Issue
- Food / Drink - Observed
- Cell Handheld - Observed
- Posted Speed Violation
- Late Response
- Lens Obstruction
- Near Collision - Unavoidable
- Other Concern
- Following Distance ≥ 2 sec to < 3 sec
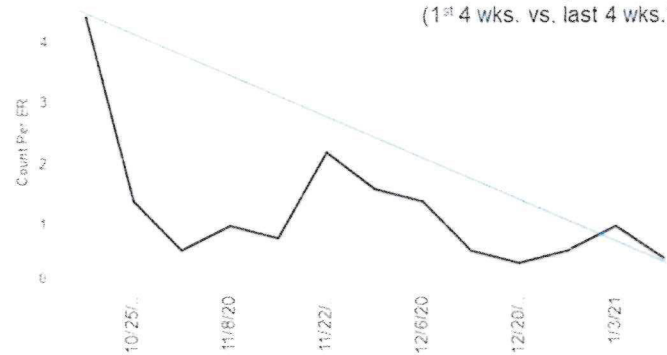- Other Communication Device - Distraction
- Null

Strong improvement in Top behavioral risks

Total behaviors/ Active vehicles / week - October 18th 2020 – January 15th 2021

Following Distance 0-2
77 Total Events

67%↓ Improvement
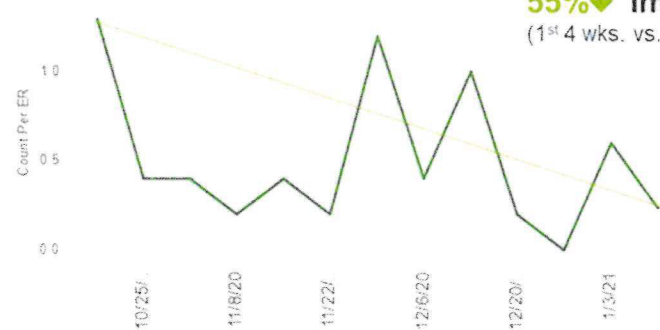(1st 4 wks. vs. last 4 wks.)

Failed to Stop
13 Total Events

70%↓ Improvement
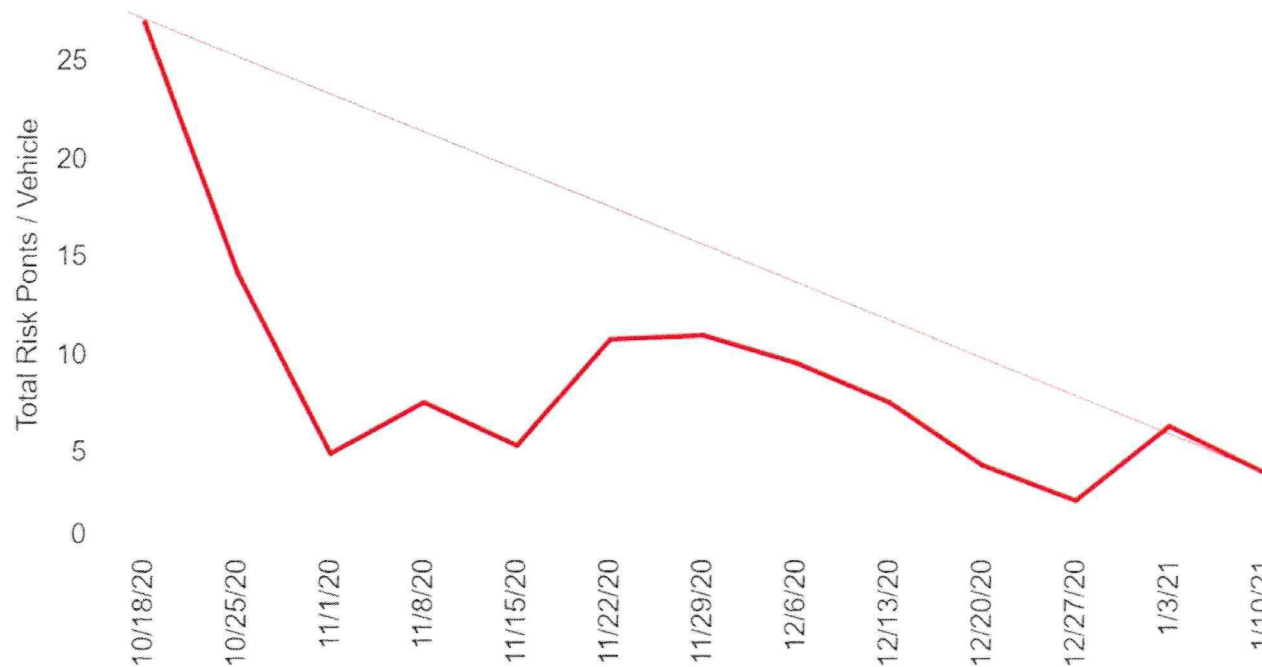(1st 4 wks. vs. last 4 wks.)

Incomplete Stop
31 Total Events

55%↓ Improvement
(1st 4 wks. vs. last 4 wks.)

Improve Key Metrics Related to Collision Mitigation: 75%⬇ improvement in Risk Score (1st 4 wks. vs. last 4 wks.)

October 18th 2020 – January 15th 2021

Safe, long-time drivers are improving their habits after seeing the videos. In general, they are receptive to the system.

These 4 behaviors account for 75% of the incidents

Behavior	% of Total	Cum %
Following Distance: ≥ 1 sec to < 2 sec	32%	
Following Distance: < 1 second	16%	48%
Lens Obstruction	15%	63%
Incomplete Stop	12%	75%

Management Actions

- Conducting 1:1 meetings and coaching session with drivers
  - Reviewing videos
  - Talks about how to improve
- Updating High Interest Driver lists
  - Scheduling refresher training
  - Monitoring list for improvement
- Sending out driver recognition awards for drivers with few (if any incidents)
  - Publishing names in our driver newsletter
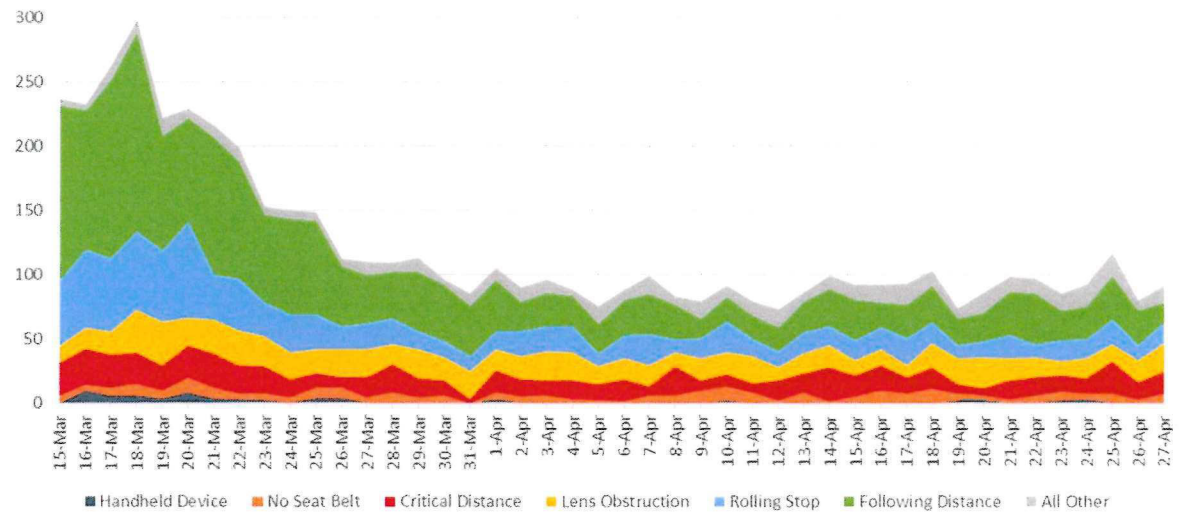 - Local on-site recognition events and touchpoints

Incident trend by trigger
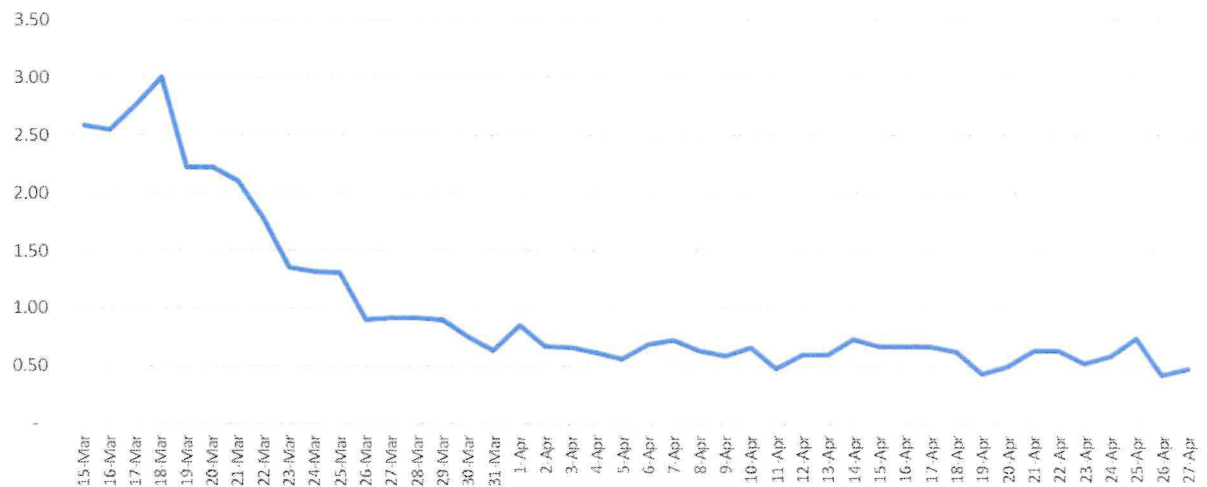
Incident trends are down 65% over the first 3 weeks…

While the _number of buses has increased by ~55%_

Overall company risk score is down over 75%

Risk Score per Bus

Note:
New units are currently installed on ~85% of our fleet (~600 buses)

The Greyhound DriveCam Story PowerPoint presentation

# Greyhound And The DriveCam Story – Changing Behaviors

DriveCam has been a very valuable tool to our organization with this tool we are able to do the following:

- Capture negative behaviors that can result in an accident.

- Reviewing with the driver gives them the ability to tell their story and for them to have a better understand by seeing the behaviors.

- We use the video to coach and assign refresher training to make that driver a better driver or, if necessary, remove that driver from service.

- The system allows us to truly evaluate their performance and recognize those that avoid a non-preventable collision.

- In the past we evaluated drivers' performance on road checks, mystery riders, communication from passengers, 800-safe-bus, MVR's, and collisions.

Prior to New Technology

- Risk Reduction (comprised of Frequency and Severity of Events per Vehicle), has seen 24% improvement Frequency and a 27% improvement in Severity over the past 15 months. Meaning coaching effectiveness is really fostering behavior change

- 48% Reduction in Collisions over the past year.

- Regions have decreased their overall Risk Score in the last 15 months by 11% on avg

- Following Distance have seen a 24% decrease from last year, during the same period Traffic Violations have decreased by 28%.

Five Year Summary of DOT Collisions

DOT REPORTABLE COLLISIONS

Year	Collisions
2017	78
2018	67
2019	57
2020	39
2021	34
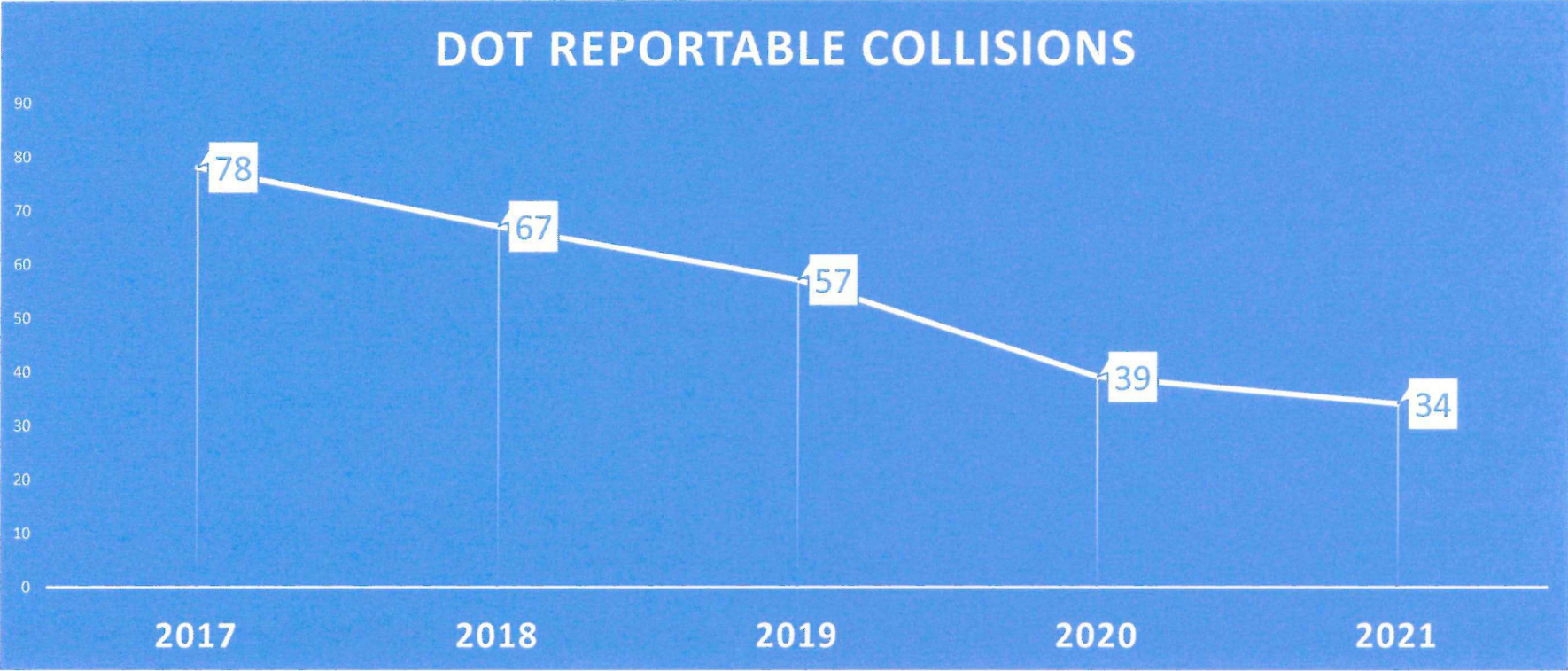
Improving on Safety – Through The Use Of Technology - 2022

Lytx MV+AI Technology

Lytx technology monitors for **patterns of persistent driving behavior & persistent vehicle movement** and selects representative highlights of video that users can use as coaching opportunities.

ROAD VIEW

- CRITICAL DISTANCE
- LANE DEPARTURE
- ROLLING STOP
- FOLLOWING DISTANCE

INSIDE VIEW

- HANDHELD DEVICE
- NO SEAT BELT
- DRIVER SMOKING
- FOOD OR DRINK

- o The combination of _machine vision and artificial intelligence_ is powerful technology
- o Provides **_dramatically increased_** opportunities to identify poor driving behaviors and change behaviors through coaching

5

External Camera Triggers

This coach is equipped with new DriveCam unit (SF300)

New state of the art system uses Artificial Intelligence and Machine Vision to assist drivers to avoid having a collision while improving your driving skills.

The system is constantly scanning for:
- Unsafe following distance
- Drowsy or fatigued driving
- Distractions
- Rolling Stops

Other features
- Real time in cab alerts
- Up to 200 hours of video (inside or outside)
- Live stream video

CRITICAL DISTANCE
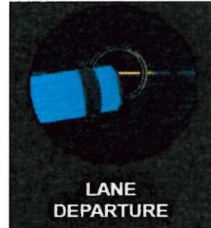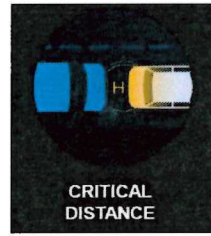
Alert = one long beep
- Distance to vehicle in front is less than 0.6 seconds
- Minimum speed is 25 mph
- Brake has not been applied in the last 4 seconds
- Vehicle is not switching lanes

LANE DEPARTURE

Alert = rumble strip sound
- Tires touch the lane marker
- No turn signal activated
- Minimum speed is 40 mph

ROLLING STOP

No Audible Alert (video only)
- Vehicle moving at 3 mph or greater through a stop sign

FOLLOWING DISTANCE

No Audible Alert (video only for pilot)
- Distance to vehicle in front is ~ 1.5 seconds
- Minimum speed is 25 mph
- Brake has not been applied in the last 4 seconds
- Vehicle is not switching lanes

LYTX ACTIVEVISION

Helps detect and address DISTRACTED AND DROWSY DRIVING in real-time

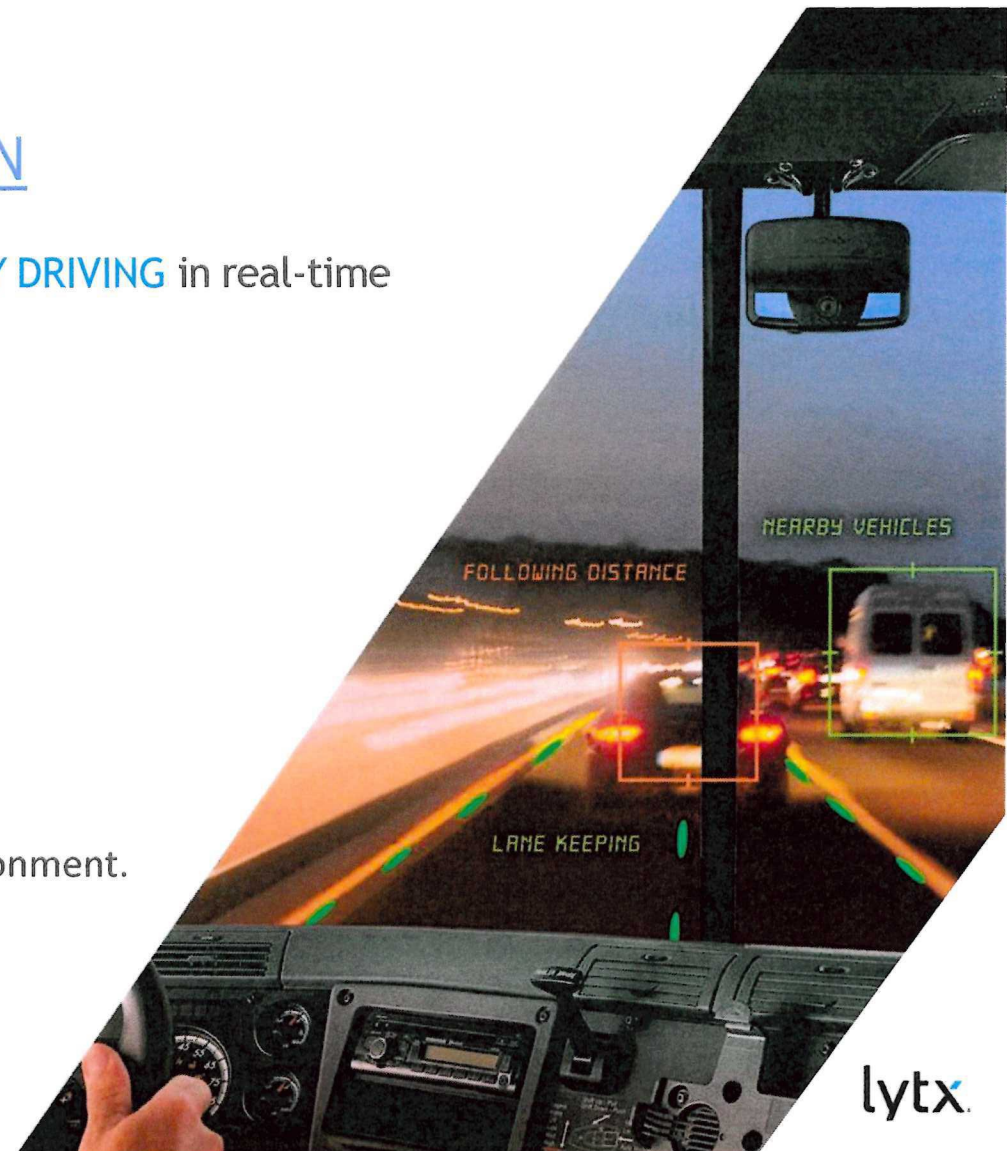## COMPREHENSIVE COACHING
Real-time, in-vehicle visual and audio alerts

+ post-drive video coaching

PATTERN DETECTION
Helps clients detect behaviors that might go unnoticed.

CONTEXTUAL SAFETY
See how the driver is performing relative to their environment.

lytx

CONTEXTUAL SAFETY

- ActiveVision analyzes both driver behavior AND the road ahead to help you determine how safely the driver is performing relative to their surroundings.

- <u>Audio alerts</u> designed to provide "real-time" coaching:

  - alert the driver to re-enforce their in person

  - coaching

  - precede a driving pattern from developing

- <u>Once a Driving Pattern</u> has been detected by

- ActiveVision, it is designed to alert the driver

- alert the driver visually that a driving pattern has now been detected
- ActiveVision captures a video for additional in person coaching

NEARBY VEHICLES

FOLLOWING DISTANCE

LANE KEEPING

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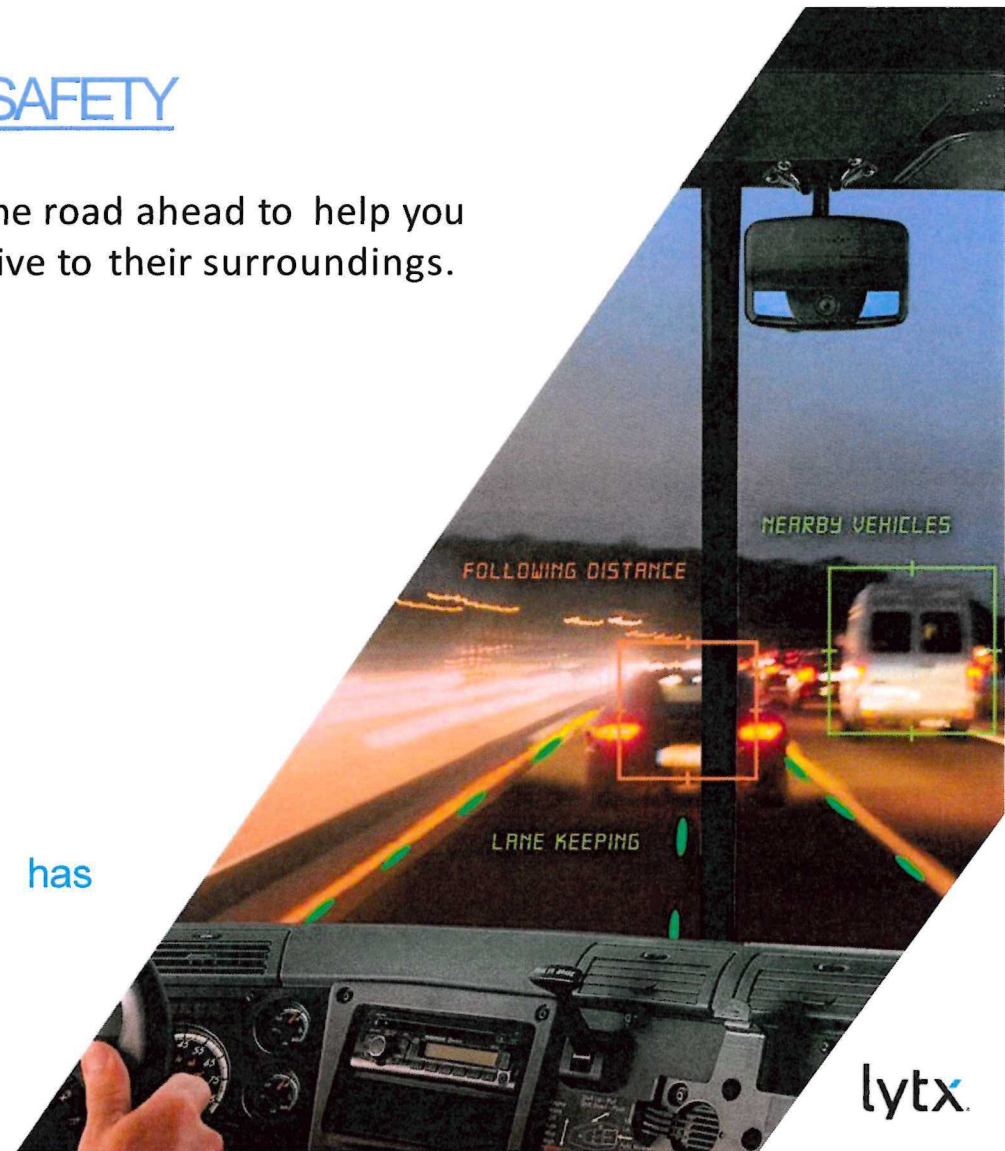
PATTERN DETECTION

The ADDITIONAL DATA that ActiveVision identifies can help detect telltale signs of risky behaviors.

When these risky behaviors happen frequently, it can be a sign of distracted and drowsy driving:
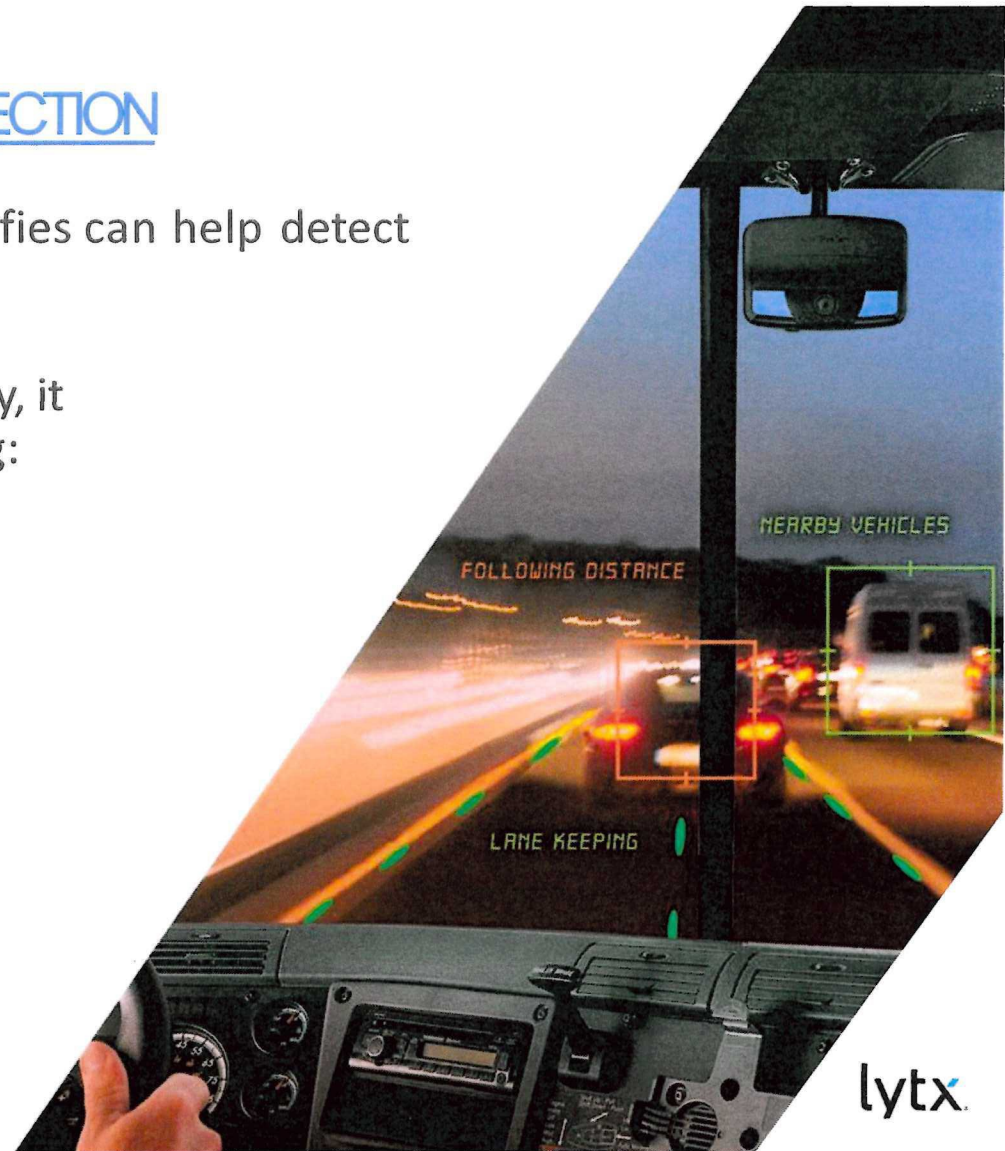
LANE DEPARTURE

FOLLOWING DISTANCE

CRITICAL DISTANCE

FITNESS TO LANE

Identifying Driver Behaviors - Program Results

These 4 behaviors account for 75% of the incidents

Behavior	% of Total
Following Distance: ≥ 1 sec to < 2 sec	32%
Following Distance: < 1 second	16%
Lens Obstruction	15%
Incomplete Stop	12%

Early Program Results – New Hire Drivers

Risk Reduction in
New Drivers

Coachable Events

Home Location	Name	Hired	Oct 22	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23
Sacramento	■	2022	5	5	3	1	0	0
Los Angeles	■	2022	20	10	1	1	0	0
Las Vegas	■	2022	13	3	2	2	2	1

Greyhound and DriveCam
The Story Continues
Machine Vision and
Artificial Intelligence
The Next Steps in Safety