

## **Update on Safe Fleet Transition and Pilot Technologies**

### **NYC Fleet**

**Seventh Vision Zero Fleet Safety Forum**

**Keith T. Kerman**

**NYC Chief Fleet Officer**

**Deputy Commissioner, DCAS**

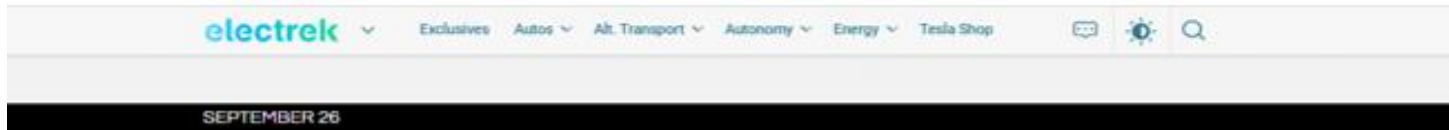
**October 24, 2022**

# NYC Fleet

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# Electrifying the Fleet



## NYC surpasses 4,050 city-owned electric vehicles, meeting its target 3 years ahead of schedule

Peter Johnson - Sep. 26th 2022 10:36 am PT



19 Comments [Facebook](#) [Twitter](#) [Pinterest](#) [LinkedIn](#) [Reddit](#)

New York City hit a massive milestone as the city announced it has already met its 2025 goal of 4,000 electric vehicles in its fleet. As of September 2022, NYC had replaced around 4,050 gas-powered models with zero-emission electric vehicles.

**NYC aims to be the nation's most sustainable fleet**

# Vision Zero Safe Fleet Transition Plan

## Truck Sideguards for Vision Zero

Review and technical recommendations for Safe Fleet Transition Plan pilot deployment

Alexander K Epstein, Ph.D., Sean Peirce, Andrew Breck, Coralie Cooper, and Eran Segiv



December 2014  
DOT-VNTSC-DCAS-14-01

Prepared for:  
Department of Citywide Administrative Services  
City of New York



[HERE](#)

## Launching the Safe Fleet Transition Plan

Technology and Process Recommendations

Margo Dawes and Alexander K Epstein, Ph.D.



May 2017  
DOT-VNTSC-DCAS-17-01

Prepared for:  
Department of Citywide Administrative Services  
City of New York



[HERE](#)

## Safe Fleet Transition Plan Update 2018 - 2019

Best Practice Technologies and Processes

Alexander K Epstein, Ph.D. and Rebecca Krizkes



NYC DCAS  
Citywide Administrative Services  
November 2018  
DOT-VNTSC-DCAS-18-01

Prepared for:  
Department of Citywide Administrative Services  
City of New York

U.S. Department of Transportation  
John A. Volpe National Transportation Systems Center



[HERE](#)

## Safe Fleet Transition Plan: Private Vehicle Crashes and Vehicle Safety Technology

Preliminary Report: Expanding the NYC Safe Fleet Transition Plan to Trade Waste Industry and Private Truck Fleets

Alexander K Epstein, Ph.D., Michael Chang, Lucy Liu, and Rabi Patel



December 2021

Prepared for:  
Business Integrity Commission and Department of Citywide Administrative Services  
City of New York



[HERE](#)

# Safe Fleet Transition Plan: School Buses

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K-12 EDUCATION

## NYC Officials Seek Tech Solution to Speeding Bus Drivers

The Department of Citywide Administrative Services is launching a study to re-think school bus safety and design features, including technology to reduce speeding and automatically apply brakes during reckless movement.

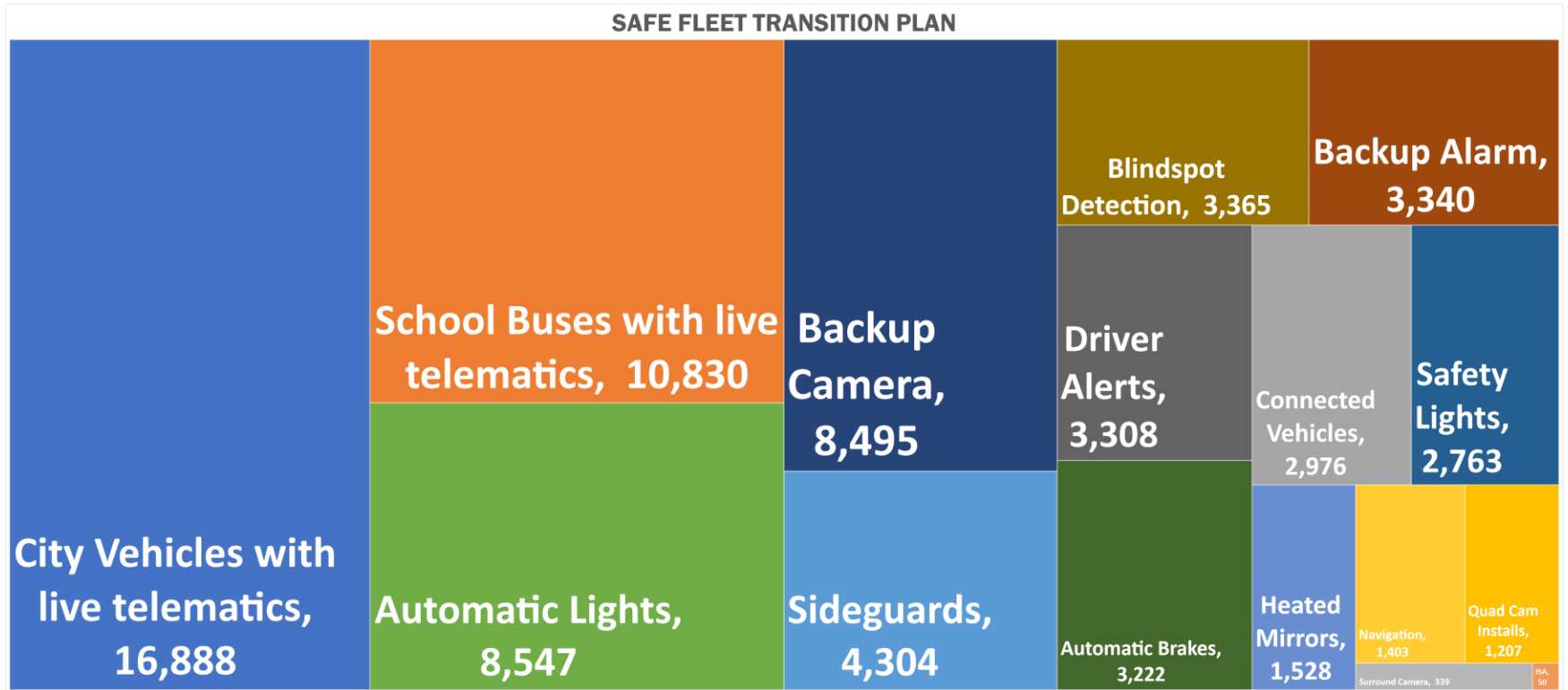
# Changing Vehicle Design: Safe Fleet Plan

Tier 1	Tier 2	Tier 3
	Best Practice Technologies	Exploratory Technologies
High vision truck cabs where competitively available and operationally feasible * <sup>5</sup>	Pedestrian AEB for medium- and heavy-duty vehicles where available (Class 3-8) * <sup>5</sup>	Alcohol touch ignition interlock <sup>5</sup>
Additional mirrors/lenses where applicable including Fresnel lenses *	Blind spot monitors	Cell phone physical or app-based lock box/ docking station ignition interlock <sup>5</sup>
Appropriate technologies and techniques to see behind vehicle, such as but not exclusive to backup cameras	Enhanced Seat Belt Reminder systems (ESBRs)	Seatbelt assurance ignition interlock systems <sup>5</sup>
Forward Collision Warning (FCW) and Pedestrian Collision Warning (PCW) for Class 1 and 2	Navigation systems	Surround cameras *
Automatic Emergency Braking (AEB) for light-duty vehicles (Class 1-2) with Advanced Pedestrian Monitoring as preferred option where available <sup>5</sup>	Power mirrors and heated mirrors *	Turning alarms *
Automatic headlights where available	Speed governors * <sup>5</sup>	Universal design
Enhanced truck rear underride guards *	Connected vehicle, or vehicle-to-vehicle (V2V), communication technology	Rear Automatic Emergency Braking (AEB) for light-duty vehicles (Class 1-2) <sup>5</sup>
Safety lights for work trucks, such as but not exclusive to side-visible turn signals and roadwork lights (amber)	Broadband backup alarms †	Intelligent Speed Assistance (ISA) <sup>5</sup>
Side underride guards * consistent with Local Law	Rear Automatic Emergency Braking (AEB) for heavy-duty vehicles with air brakes * <sup>5</sup>	Automatic Emergency Braking (AEB) for medium- and heavy-duty vehicles (Class 3-8) * <sup>5</sup>
Self-adjusting volume backup alarms †	Forward Collision Warning (FCW) and Pedestrian Collision Warning (PCW) for Class 3 and above	
Telematics to enable utilization, collision, speed, and safety reporting, among other uses	External Cameras and Recording	
Warning decals *	Training where feasible in appropriate use of technologies	

Note: Entries in bold are potential updates for 2018 (see explanations below)

\* = Only apply to vehicles with gross vehicle weight rating of 10,000 lbs. or greater.

# Safe Fleet Investments, over 72,000 since 2017



# Intelligent Speed Assist (ISA) Initiative



**New Technology on City Fleet Cars to Reduce Speeds and Save Lives ▶**

## IN THIS STORY

DCAS is conducting a pilot program on 50 city vehicles with new Intelligent Speed Assist technology. ISA restricts the vehicle's speed based on the local speed limit on the road where the vehicle is travelling.

[CNN on NYC Fleet ISA Initiative, October 2022](#)



# Initial Preliminary Results, ISA

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- Total Miles driven to date by 50 vehicles in pilot since ISA went live in August is 66,397 miles
- Light duty makes up 51,159 miles (77%), medium duty 2,947 miles (5%), and heavy duty 12,291 miles (18%)
- The vehicle travelled within the speed limit parameters set by DCAS 99% of the time. The 1% represents initial acceleration about the limit that is then brought down.
- ISA seems to reduce hard braking which can be an indicator of unsafe driving. The 50 vehicles to date have gone from 26.5 hard braking events per 1,000 miles to 20.6 per 1,000 miles, a reduction of 22%.
- The 15 second “override” button has been used 498 times in total (0.13 times for every 1,000 miles driven). Many of these were in the first two weeks, so may represent initial testing by drivers. DCAS will assess with drivers what type of circumstances elicited “override” and will also investigate any instance where the ISA does not work as expected.
- DCAS will test units set to 11 MPH above the speed limit and vehicles set to the speed limit.
- Our pilot assessment continues through at least the end of 2022.

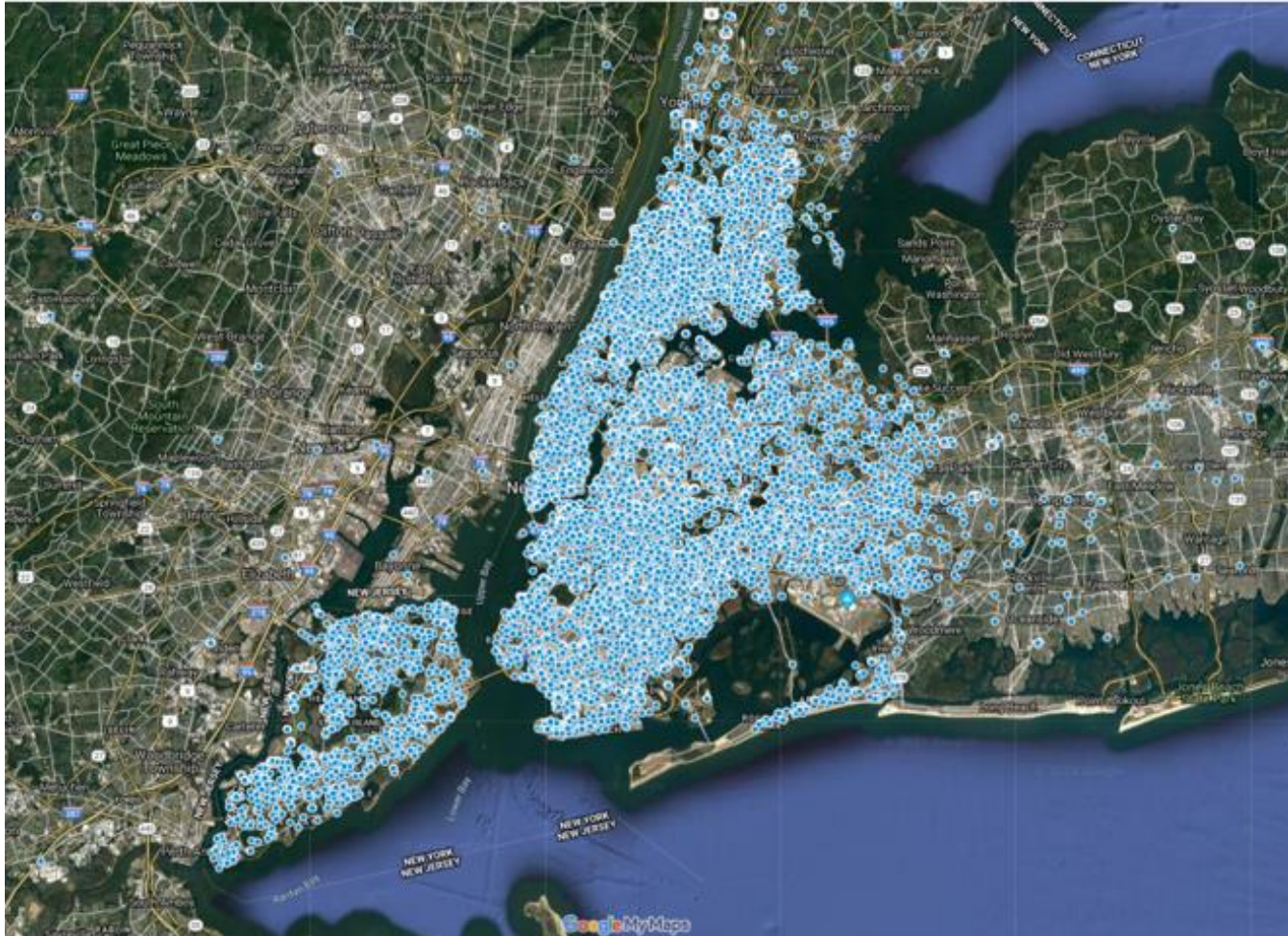
# ISA - CNN

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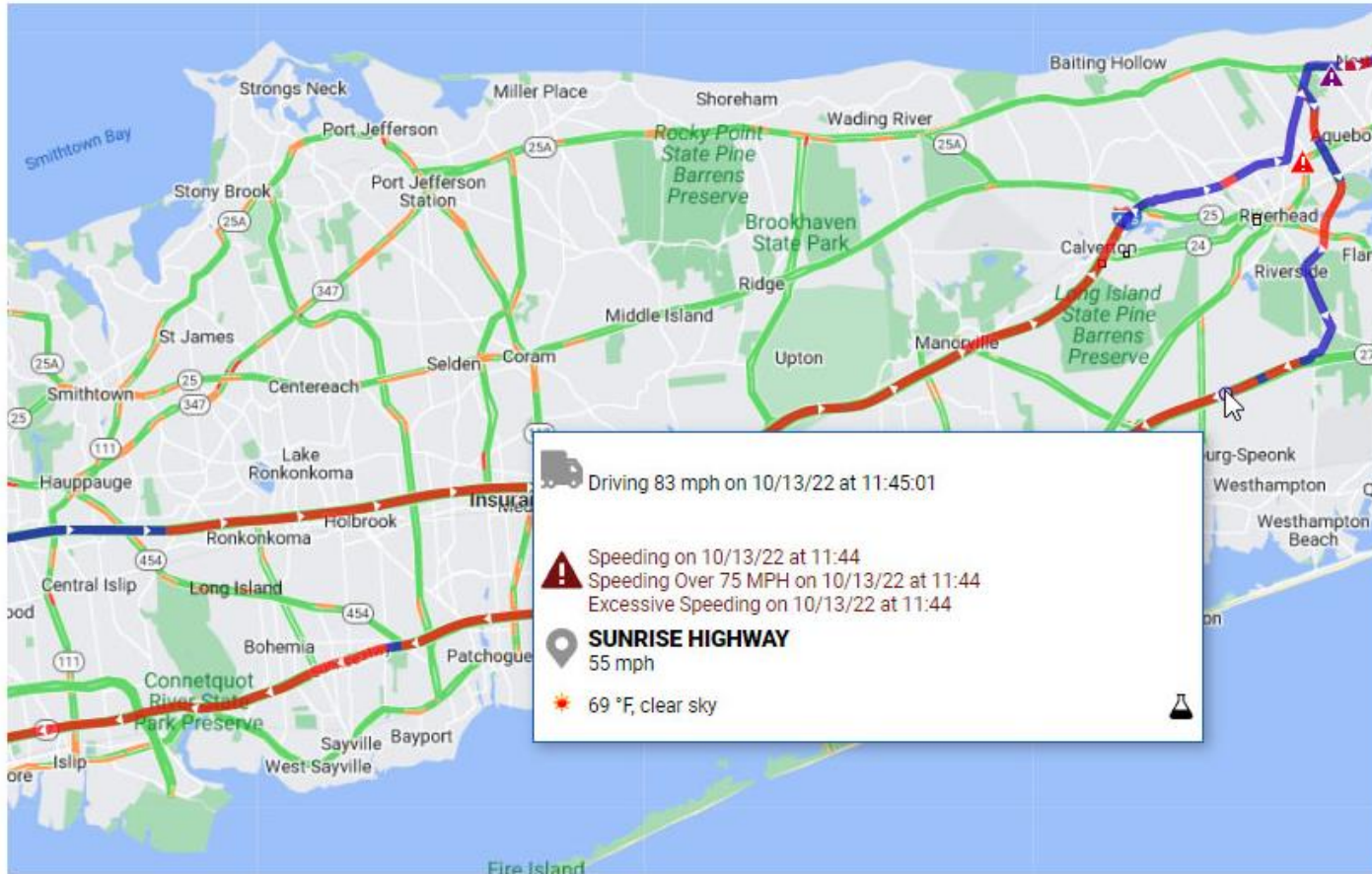


# Fleet Office of Real Time Tracking (FORT)

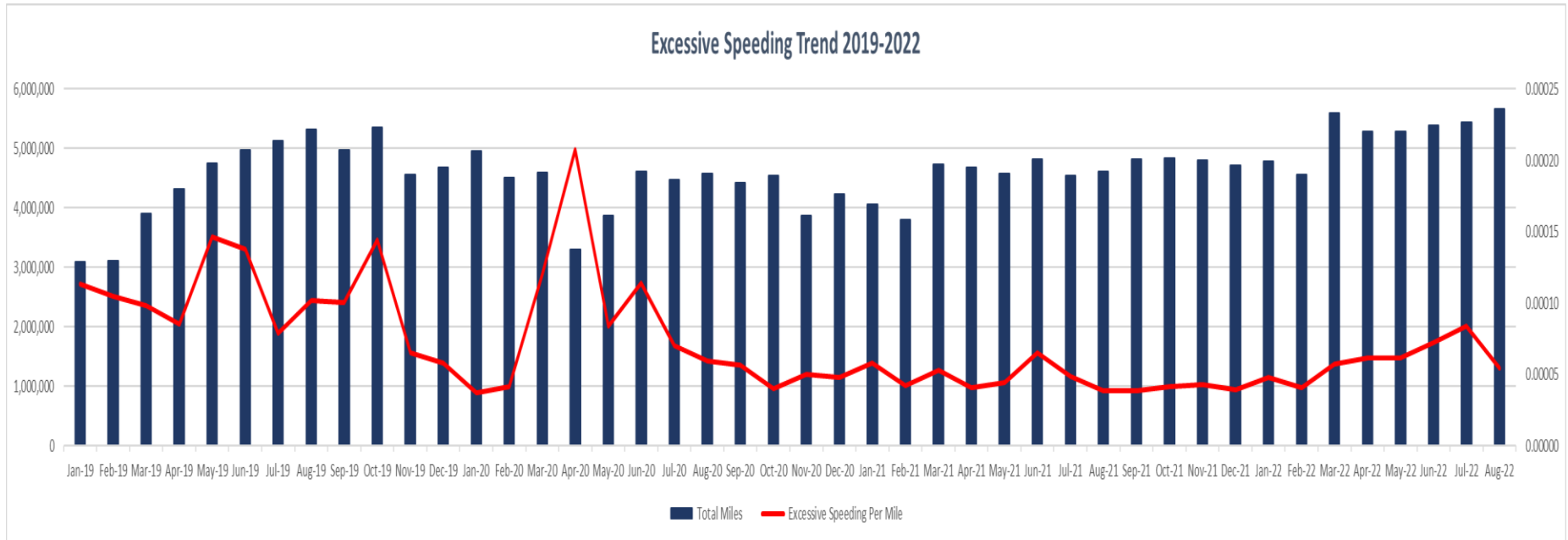
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# Real Time Safety Alerts



# Speed Management



# Risk Assessments

## Vehicle Safety Scorecard

Oct 13, 2022

### NYC Fleet

Date Range	
From	Oct 01, 2022
To	Oct 31, 2022
Days	31



Rule	Weight
Hard Acceleration	10%
Harsh Braking	10%
Harsh Cornering	10%
Seat belt	20%
Speeding	20%
Excessive Speeding	30%
<b>Total</b>	<b>100%</b>

Classifications	
Low Risk	90
Mild Risk	70
Medium Risk	50
High Risk	0



Fleet Distance (mi)	13,718
Fleet Occurances	11,525

Vehicle Information			Incidents								Incidents						
Name	Group	Distance (mi)	Total Score	Scoring Classification	Hard Acceleration	Harsh Braking	Harsh Cornering	Seat belt	Speeding	Excessive Speeding	Total Occurances	Hard Acceleration	Harsh Braking	Harsh Cornering	Seat belt	Speeding	Excessive Speeding
Car123	NYC	34.93	92.5	Low Risk	71.4	100.0	71.4	91.2	100.0	100.0	3	1	0	1	1	0	0
Car124	NYC	10.66	100.0	Low Risk	100.0	100.0	100.0	100.0	100.0	100.0	0	0	0	0	0	0	0
Car125	NYC	214.13	38.6	High Risk	0.0	86.0	0.0	0.0	0.0	100.0	1252	302	3	36	886	25	0
Car126	NYC	26.99	76.3	Mild Risk	25.9	100.0	0.0	68.5	100.0	100.0	8	2	0	3	3	0	0
Car127	NYC	243.68	83.4	Mild Risk	0.0	100.0	50.8	98.8	93.0	100.0	77	59	0	12	1	5	0
Car128	NYC	322.14	83.1	Mild Risk	0.0	96.9	69.0	94.1	88.6	100.0	63	37	1	10	6	9	0
Car129	NYC	151.62	82.7	Mild Risk	0.0	100.0	27.5	100.0	100.0	100.0	210	199	0	11	0	0	0
Car130	NYC	137.85	81.0	Mild Risk	0.0	92.7	20.2	100.0	98.6	100.0	52	39	1	11	0	1	0
Car131	NYC	214.32	81.8	Mild Risk	0.0	100.0	81.3	88.7	79.7	100.0	47	28	0	4	8	7	0
Car132	NYC	63.40	82.8	Mild Risk	0.0	100.0	84.2	81.1	90.9	100.0	14	7	0	1	4	2	0
Car133	NYC	227.09	62.1	Medium Risk	0.0	86.8	47.2	0.0	93.6	100.0	1140	277	3	12	844	4	0
Car134	NYC	65.63	95.4	Low Risk	69.5	84.8	100.0	100.0	100.0	100.0	3	2	1	0	0	0	0

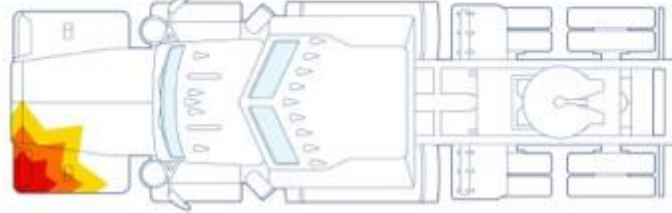
# Instant Crash Reports

## Collision Reconstruction (BETA)

### Device Information

Vehicle Name: P8357  
Driver: Unknown Driver  
VIN: 2FZACFDK08AZ36598  
Vehicle: 2008 Sterling Acterra  
Time of Collision: Wednesday, January 16, 2019 08:19:30 am

### Point of Impact



### Map View

[Trip History](#)



# Theft Protection and Recovery

NEW YORK

## NYC officials use GPS to bust thieves who heisted Parks Dept. truck and sped to Virginia

By Clayton Guse  
Transit Reporter • Feb 24, 2021 at 6:03 pm

City officials last month watched in real time as a stolen Parks Department truck clocked speeds of 95 mph in a mad dash along I-95 that ended with the arrest of three bandits in Virginia.

The Ford F-250 pickup was parked in Harlem's Marcus Garvey Park the morning of Jan. 23 when it was hot-wired.

Less than 20 minutes later, an automated GPS system that tracks the whereabouts of all 23,000 New York City government vehicles sent alerts to officials, who could see exactly where the carjackers were heading.



Map of the route for the stolen NYC Parks truck. (DCAS)

"We all watched this vehicle as it escaped the City of New York," said Keith Kerman, chief fleet officer at the Department of Citywide Administrative Services. "This is a \$30,000 pickup truck used for park operations. It's supposed to be used to keep our park clean and safe... We see it's speeding down the highway going 95 mph."



# Using Telematics to Reduce the Fleet

## Press Release

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Email



Print

### Mayor Adams Reduces NYC's Vehicle Fleet, Saving Taxpayer Dollars and Reducing Carbon Emissions

April 25, 2022

*City Will Save \$13.7 Million Through New Measure as Part of Upcoming Executive Budget*

*City Car Fleet Will Shrink to Bloomberg-Era Levels, With Focus on Reduction of Vehicles Used for Employee Commuting*

**NEW YORK** – New York City Mayor Eric Adams today announced a reduction of the city's vehicle fleet by at least 855 vehicles in an effort to save taxpayer dollars and reduce carbon emissions. The four percent reduction of the on-road fleet will focus on non-emergency vehicles, and will reduce the city's fleet to its size in the Bloomberg administration. In all, the plan announced today is expected to result in 5.13 million fewer miles driven per year — representing a 2,072 metric ton reduction in carbon dioxide emissions.

# Truck of the Future Pilot with Together for Safer Roads



# Truck of the Future Pilot with Together for Safer Roads

### FNOL Events

VRN or Device ID

US 650 Demo Vehicle - 009902e658

Showing results for: Past Week

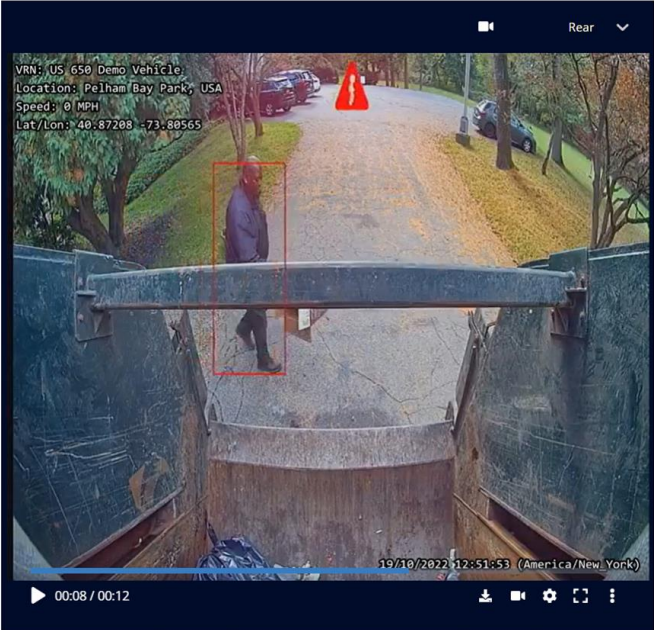
Red Requires Intervention Reset Filters

- Pedestrian Detection Right**  
19 October 2022 at 17:54:28  
0 mph  
US 650 Demo Vehicle US650
- Pedestrian Detection Rear**  
19 October 2022 at 17:51:51  
0 mph  
US 650 Demo Vehicle US650
- Pedestrian Detection Rear**  
19 October 2022 at 17:50:28  
0 mph  
US 650 Demo Vehicle US650
- Pedestrian Detection Left**  
19 October 2022 at 16:14:36  
0 | 25 mph  
US 650 Demo Vehicle US650


Previous Next

## **SD Pedestrian Detection Rear US** 650 Demo Vehicle - Unknown

Declassify Event



View Journey



### Event Details

IDR HDP

**Start Location:** Bronx, NY 10464, United States  
**End Location:** Bronx, NY 10464, United States  
**Date:** 19/10/2022  
**Event Time:** 17:51:51  
**Device ID:** 009902e658  
**VRN:** US 650 Demo Vehicle  
**Fleet:** US650  
**Speed:** 0 mph  
**Speed Limit:** 0 mph

### Event Note

Event Status

Requires Intervention

# Truck of the Future Pilot with Together for Safer Roads

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# Changing Vehicle Design: Truck Side-guards

## Truck Sideguards for Vision Zero

Review and technical recommendations for Safe Fleet Transition Plan pilot deployment

Alexander K Epstein, Ph.D., Sean Peirce, Andrew Breck, Coralie Cooper, and Eran Segev



December 2014  
DOT-VNTSC-DCAS-14-01

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**NYC**  
Citywide Administrative  
Services

U.S. Department of Transportation  
John A. Volpe National Transportation Systems Center

**Volpe**



# Sideguards on Contractor Trucks

## SAFETY & COMPLIANCE

### New York City Expands Truck Side Guard Law to Contractors

October 29, 2021 • By Government Fleet Staff •



The city has side guards installed in nearly all applicable vehicles.

Photo: NYC DCAS

New York City will soon make select city contractors install truck side guards to improve motor vehicle safety in the city. This is part of a new law passed in October that also expedites the completion rate of truck side guard installations on city vehicles and commercial waste trucks.

## NYC Rules

[Proposed Rules](#) [Hearings Calendar](#) [Recently Adopted Rules](#)

### Side Guards on Large Vehicles

[Print](#) [PDF](#) [Email](#)

**Rule status:** Adopted

**Agency:** DCAS

**Effective date:** January 1, 2023

[Proposed Rule Full Text](#)

[DCAS Proposed Rule Side-Guards-on-Large-Vehicles.pdf](#)

[Adopted Rule Full Text](#)

[NYC Side-Guard-Rules.pdf](#)

**Adopted rule summary:**

The Department of Citywide Administrative Services is adopting a rule that requires large vehicles in the City Fleet and in City contracted vehicles be equipped with safety enhancing side guards by January 1, 2023, and provides for progressive requirements regarding the installation of such side guards.

# Changing Vehicle Design: Surround Cameras

## STREETSBLOG NYC

Parking Madness 2021 / Coronavirus Crisis / Transit / Congestion Pricing / Open Streets / Calendar

### City Shows Off Trucks and Buses With Surround-View Cameras

By Fiifi Frimpong | Jun 12, 2021 | 4 COMMENTS



# Changing Vehicle Design: High Vision Trucks

**SAFETY**

## New York City Transitions to Safer 'High Vision' Trucks

November 29, 2018 • by Government Fleet Staff • 





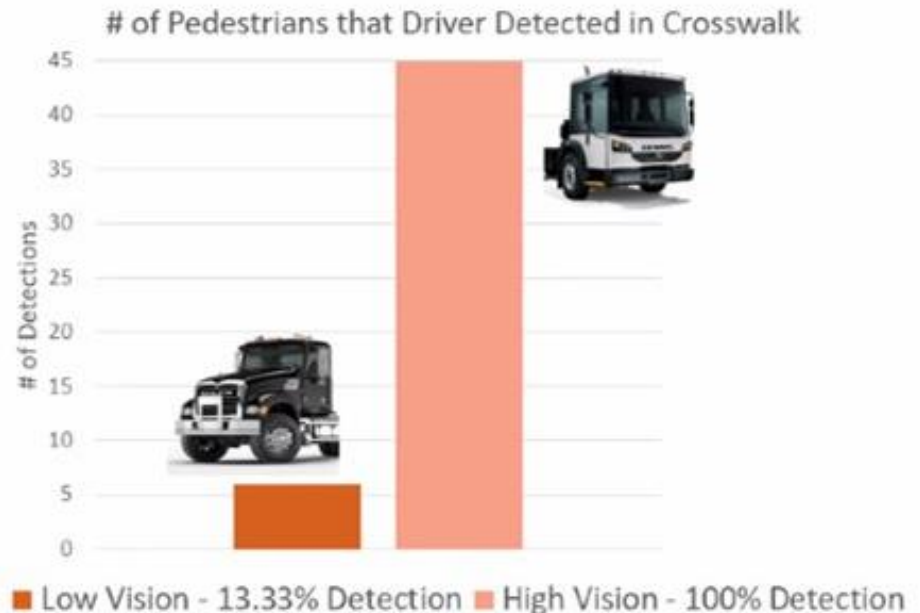
# Changing Vehicle Design: High Vision Trucks

## Pedestrian crosswalk safety study results

**39 out of 45 killed** when truck was **low vision**

vs.

**None killed** when truck was **high vision**



# Barring Hands-Free Phone Use by Drivers

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SAFETY

## NYC Bans Hands-Free Phone Use in Fleet

May 16, 2016 • Staff • 



*Photo via Flickr/Bruce Stokes.*

New York City has banned the use of hands-free phone devices by city fleet drivers, except for emergency responders.

For more information, go to the NYC Fleet website:  
<http://www.nyc.gov/html/dcas/html/employees/fleet.shtml>

Keith Kerman  
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