

Update on Safe Fleet Transition and Speed Control Strategies

NYC Fleet

Vision Zero Research on the Road

Keith T. Kerman

NYC Chief Fleet Officer

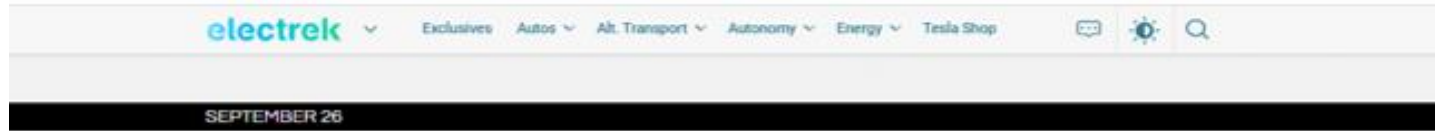
Deputy Commissioner, DCAS

November 16, 2022

NYC Fleet



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



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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 Segev



December 2014
DOT-VNTSC-DCAS-14-01

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



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

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

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Department of Citywide Administrative Services
City of New York



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

Safe Fleet Transition Plan Update 2018 - 2019

Best Practice Technologies and Processes

Alexander K Epstein, Ph.D. and Rebecca Kiriazes



NYC DCAS
Citywide Administrative Services
November 2018

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City of New York

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John A. Volpe National Transportation Systems Center



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 Rahi Patel



December 2021

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



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Safe Fleet Transition Plan: School Buses

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

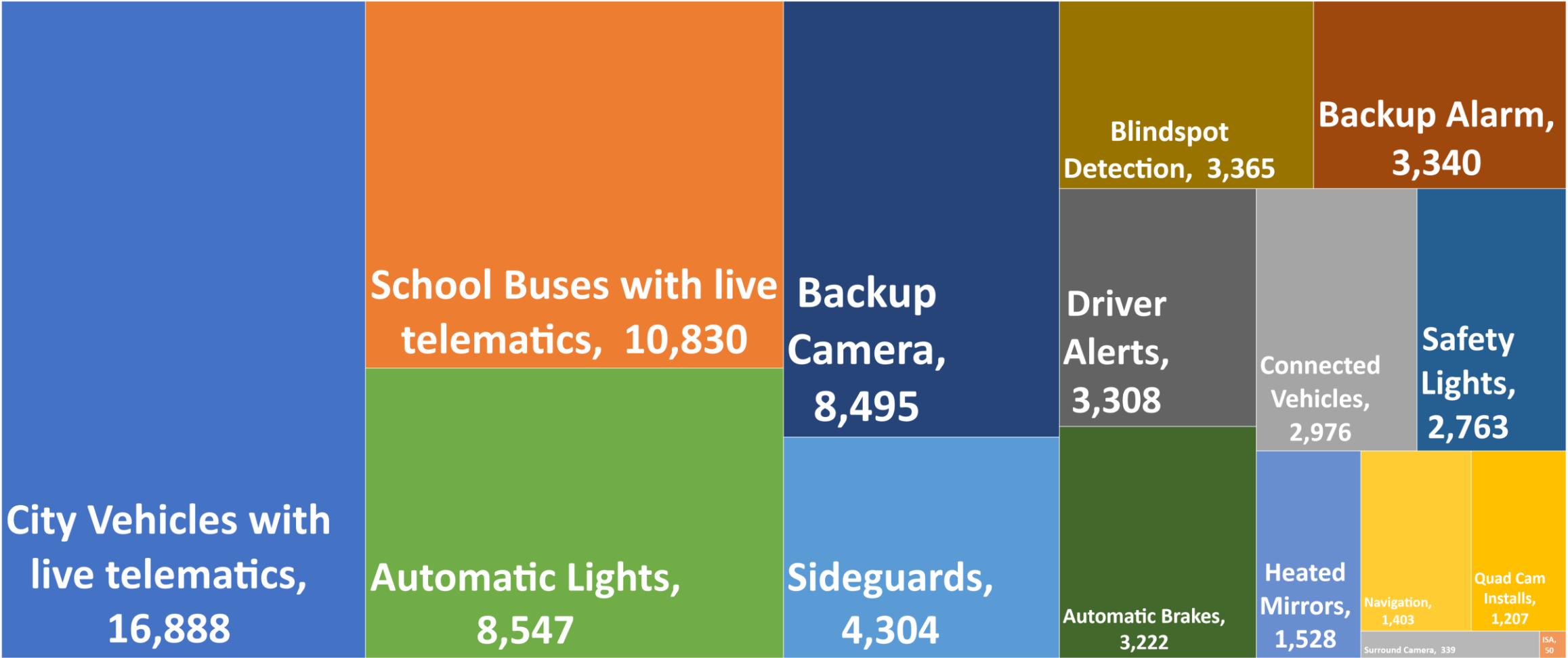
Tier 1	Tier 2	Tier 3
	Best Practice Technologies	Exploratory Technologies
High vision truck cabs where competitively available and operationally feasible * [§]	Pedestrian AEB for medium- and heavy-duty vehicles where available (Class 3-8) * [§]	Alcohol touch ignition interlock [§]
Additional mirrors/lenses where applicable including Fresnel lenses *	Blind spot monitors	Cell phone physical or app-based lock box/ docking station ignition interlock [§]
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 [§]
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 [§]	Power mirrors and heated mirrors *	Turning alarms *
Automatic headlights where available	Speed governors * [§]	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) [§]
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) [§]
Side underride guards * consistent with Local Law	Rear Automatic Emergency Braking (AEB) for heavy-duty vehicles with air brakes * [§]	Automatic Emergency Braking (AEB) for medium- and heavy-duty vehicles (Class 3-8) * [§]
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

SAFE FLEET TRANSITION PLAN



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](#)

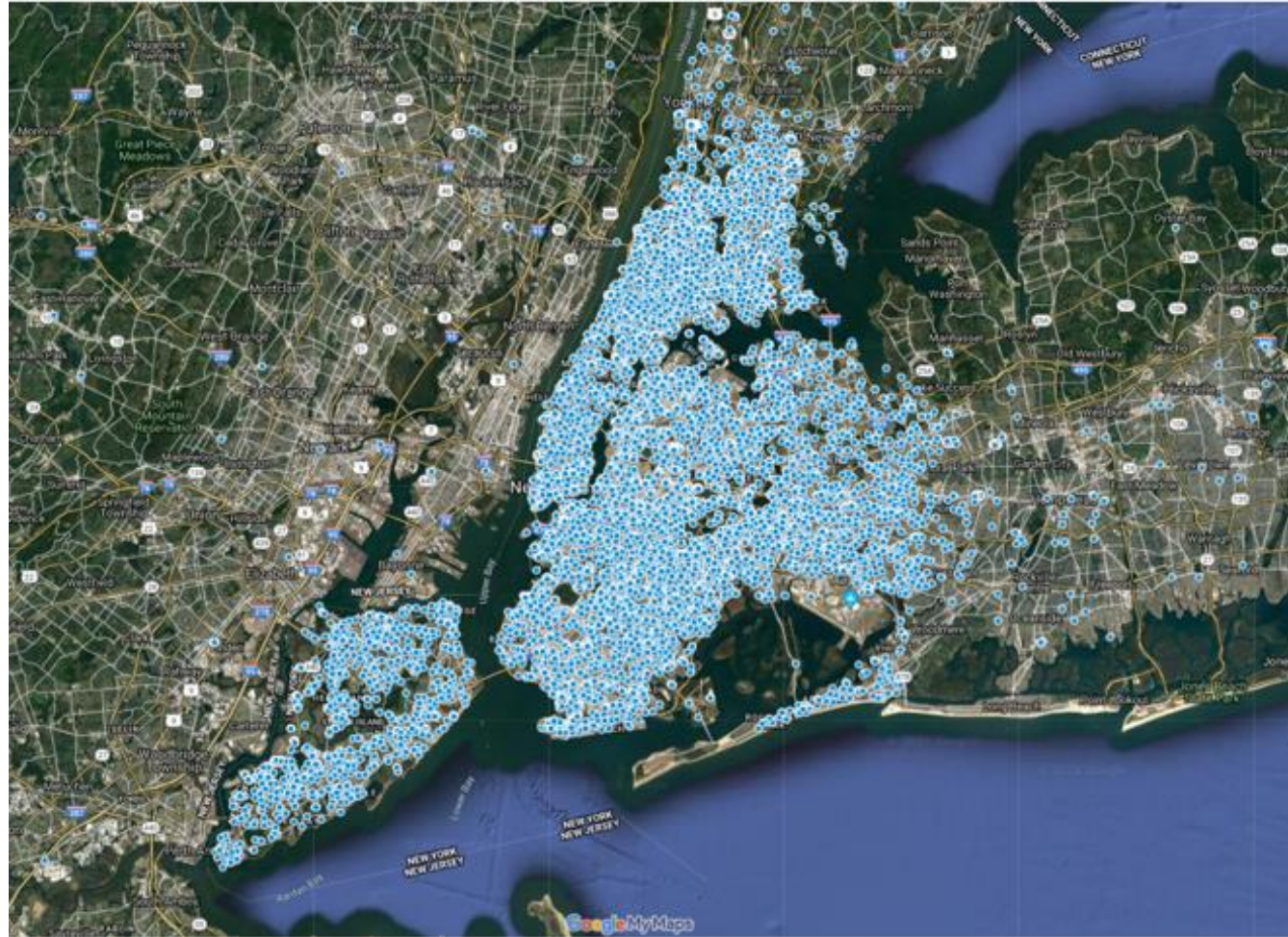
Initial Preliminary Results, ISA

- 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.
- DCAS will partner with US DOT Volpe to produce a pilot assessment report.
- DCAS plans to expand this initiative in 2023.

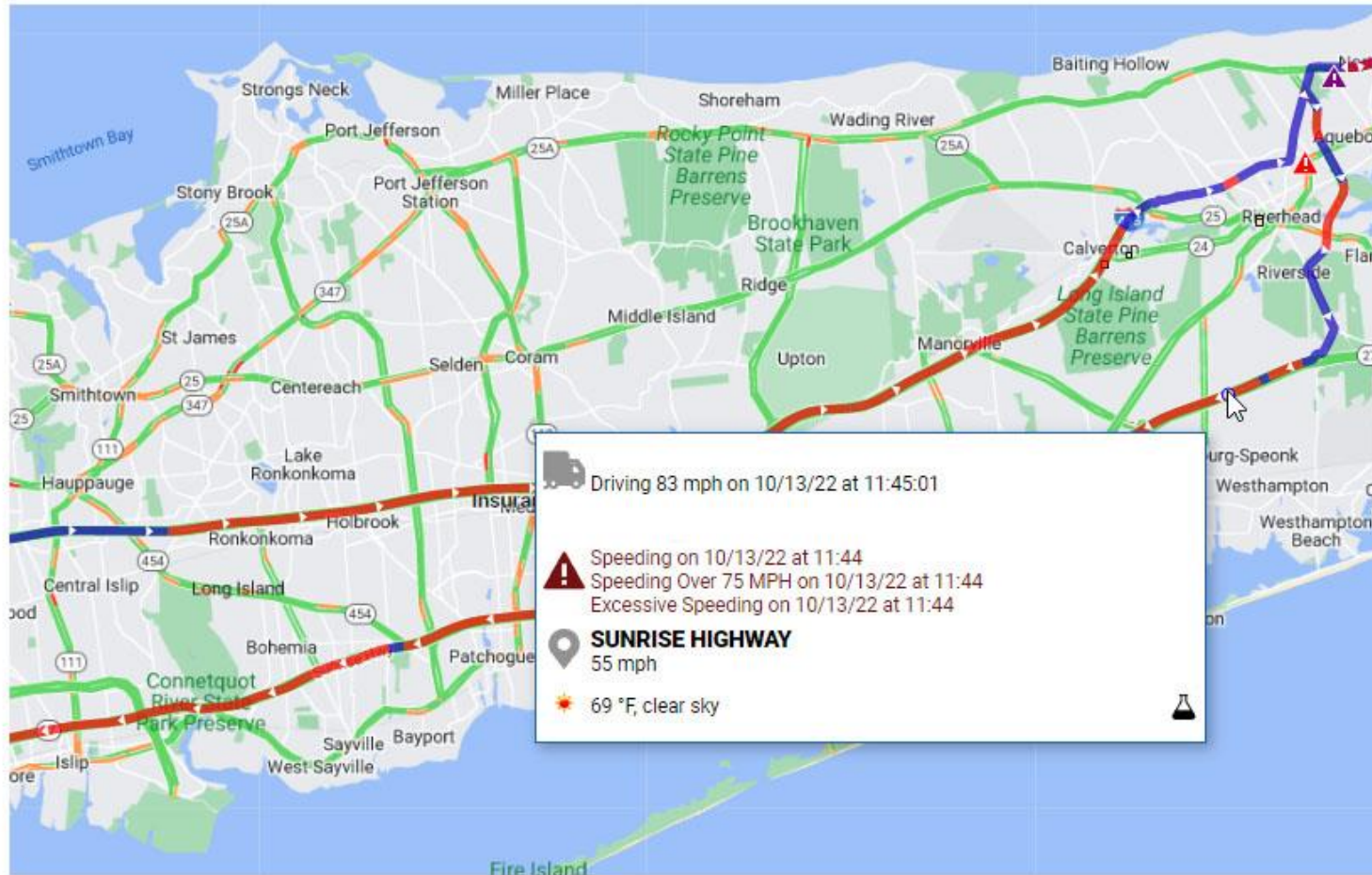
ISA - CNN



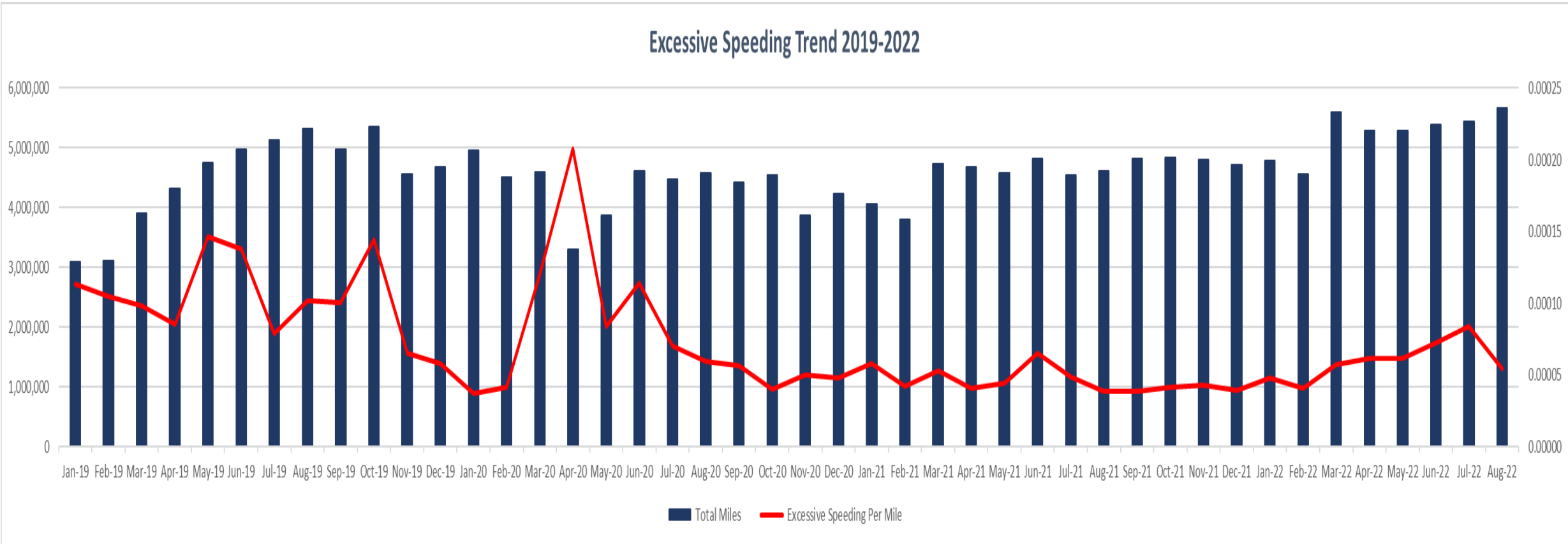
Fleet Office of Real Time Tracking (FORT)



Real Time Safety Alerts



Speed Management



Risk Assessments

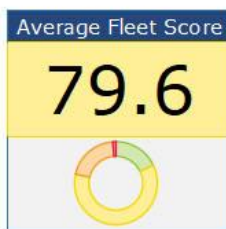
Vehicle Safety Scorecard

Oct 13, 2022

NYC Fleet

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

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



Rule	Weight
Hard Acceleration	10%
Harsh Braking	10%
Harsh Cornering	10%
Seat belt	20%
Speeding	20%
Excessive Speeding	30%
100%	

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



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

Using Telematics to Reduce the Fleet

Press Release

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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


Rear AI camera


Multi-channel DVR



RHS AI Camera & Speaker




Front AI camera


Monitor


LHS AI camera

Changing Vehicle Design: Truck Side-guards

Truck Sideguards for Vision Zero

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December 2014
DOT-VNTSC-DCAS-14-01

Prepared for:
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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



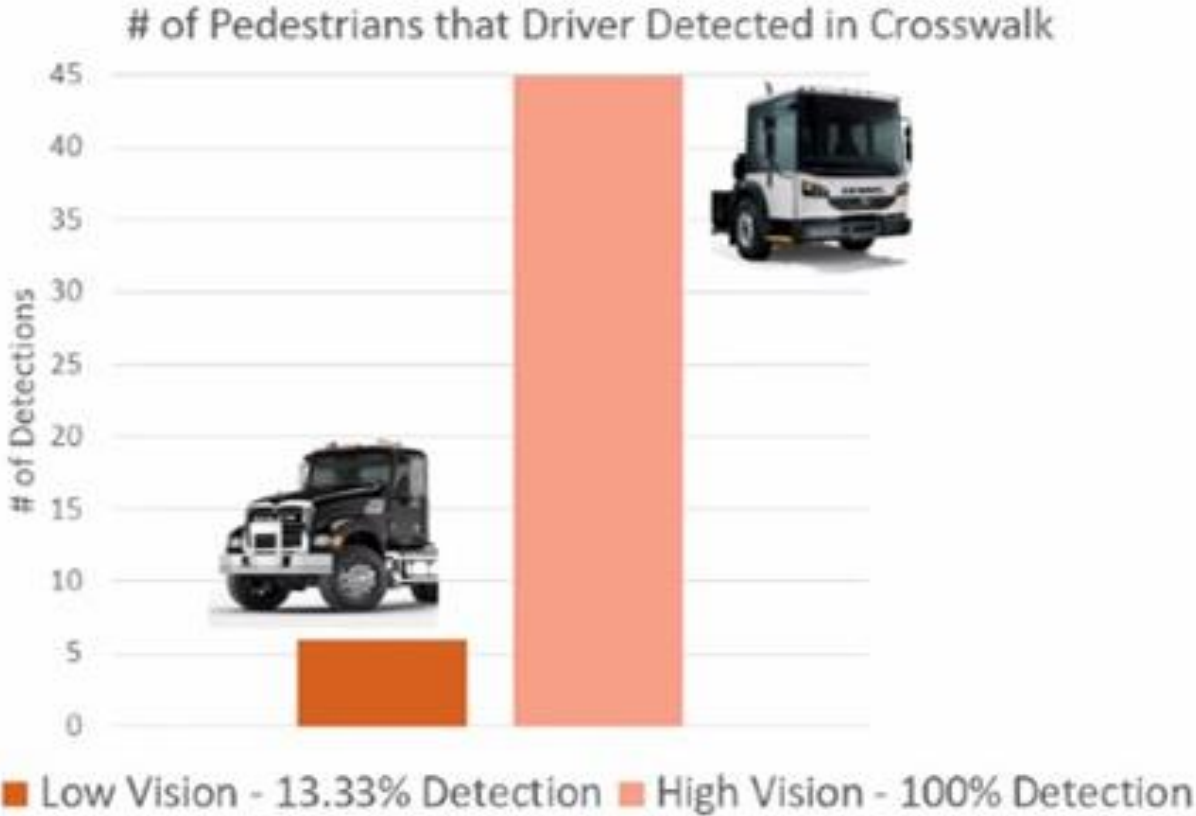
Changing Vehicle Design: High Vision Trucks

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

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.

DCAS

THANK YOU