

Vision Zero School Bus Safe Fleet Transition Plan Kickoff Meeting

NYC Fleet

**DCAS, DOE, US DOT VOLPE, School Bus Companies
June 24, 2022**

Agenda

- Introduction of DCAS, DOE OPT, and Volpe Team
- NYC Fleet and the Concept of a Safe Fleet Transition Plan
- Examples of previous reports designed in collaboration with the US DOT Volpe Center
- Vehicle Design and System Changes for City Fleet Vehicles
- Current Efforts to make School Bus Operations Safer
- Next Steps
- Projected Timeline
- Open Discussion

Safe Fleet Transition Plan for School Bus Operations

- Since 2014 NYC Fleet at DCAS has participated in the Mayor's Office Inter-agency Vision Zero Task Force. Working with all City agencies, DCAS has implemented a comprehensive plan to improve fleet safety and match DOT's efforts in improving street design with a focus on fleet design. DOE OPT along with DCAS is also a participant in the Vision Zero Fleet Working Group.
- Since FY14, the NYC Fleet program has focused on four areas:
 - Improving Design of Fleet Vehicles
 - Changing Driving Behaviors
 - Driving Performance Through Data
 - Partnering Far and Wide
- As part of the overall goal to make NYC streets safer and to build on the Fleets of the Future initiative in Mayoral Executive Order 53, NYC Fleet will be expanding its partnership with DOE OPT and the school bus companies in these four areas.
- Our discussion today will be focused on launching a Safe Fleet Transition Plan for School Buses. This plan will be modeled after similar plans published for the City Fleet and the Commercial Waste Fleets.
- This plan would outline opportunities and steps to improve safe bus design and implement other safety initiatives for school bus operation.

Previous Safe Fleet Transition Plans

- Working with US DOT Volpe, DCAS has developed a Safe Fleet Transition Plan (SFTP). Issued through multiple public reports, this plans outlines a comprehensive set of steps that can be taken to improve safe fleet design across the full scope of our very complex fleet of 160 vehicle types. The Safe Fleet implementation is divided in three parts: proven and mandated changes; best practices; and areas for testing and exploration. DCAS has implemented over 63,000 safety improvements to date since FY17 through the SFTP.



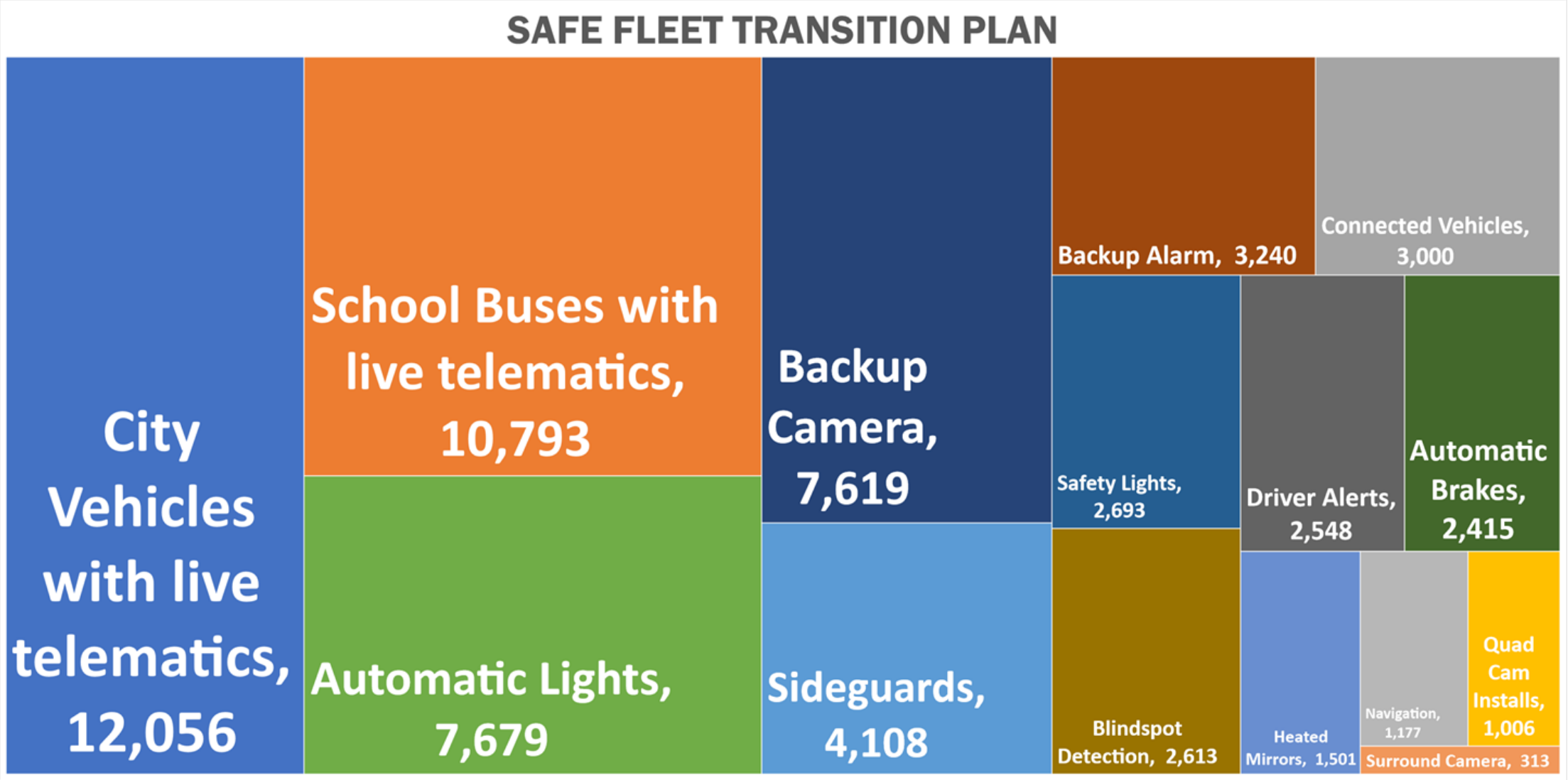
Safe Fleet Transition Plan

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.

Systems Installed



Changing Design: Truck Side-guards

It's a common-sense issue. Pedestrians, bicyclists, and children should not be at risk from gaps in big trucks driving through the City. Truck side-guards are common in Europe and rare in North America. DCAS worked with US DOT Volpe to change this, launching the nation's largest truck side-guard program. Side-guards are now the law for City fleet and private waste trucks.

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



Nation's Largest Truck Side-guard Program



Changing Design: Surround Cameras

One of our biggest safety risks is visual and line of sight restrictions for truck operators. Trucks have myriad blind spots that increase safety risk. DCAS is taking many steps to address. This includes an initiative to install surround cameras in our trucking fleet. These cameras can provide a truck driver with an easy to access full view around the vehicle. DCAS is starting with an install of 1,500 units.

STREETS BLOG 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



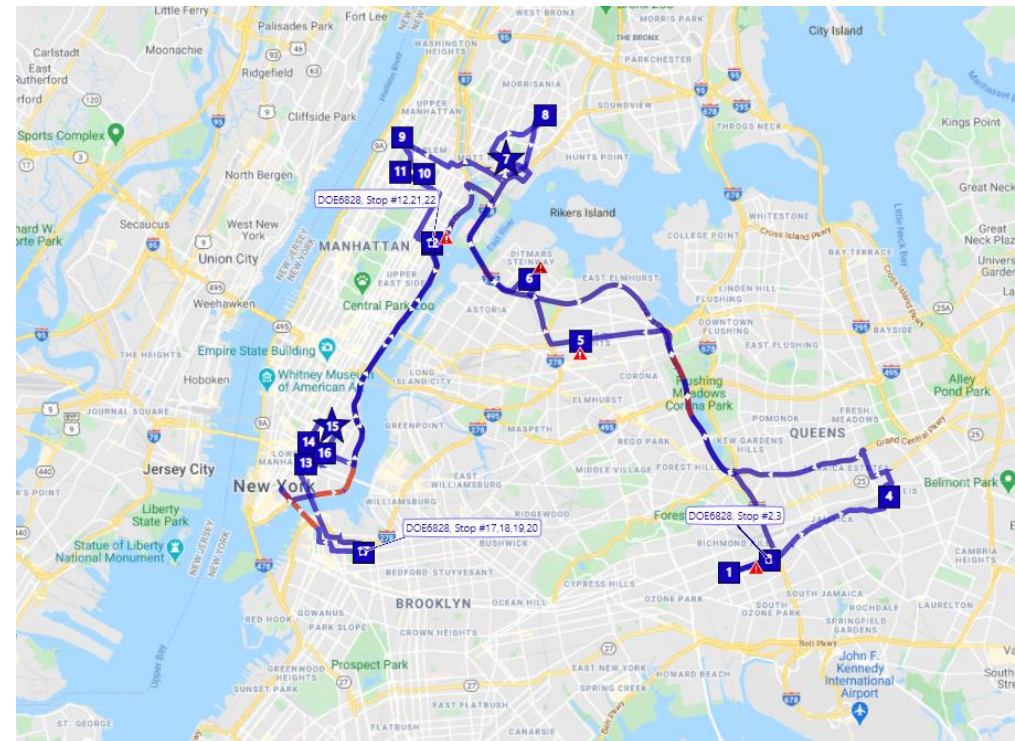
Changing Design: High Vision

In addition to the truck cameras, DCAS is looking to procure new trucks, where available, that are designed as high vision units. In conventional trucks, the engine is in front of the driver, creating over 20 feet of line-of-sight impairment. It doesn't have to be this way. Electric trucks are especially suitable for high vision design. We need the bus and truck market to move in this direction, so we have high vision options to choose from.

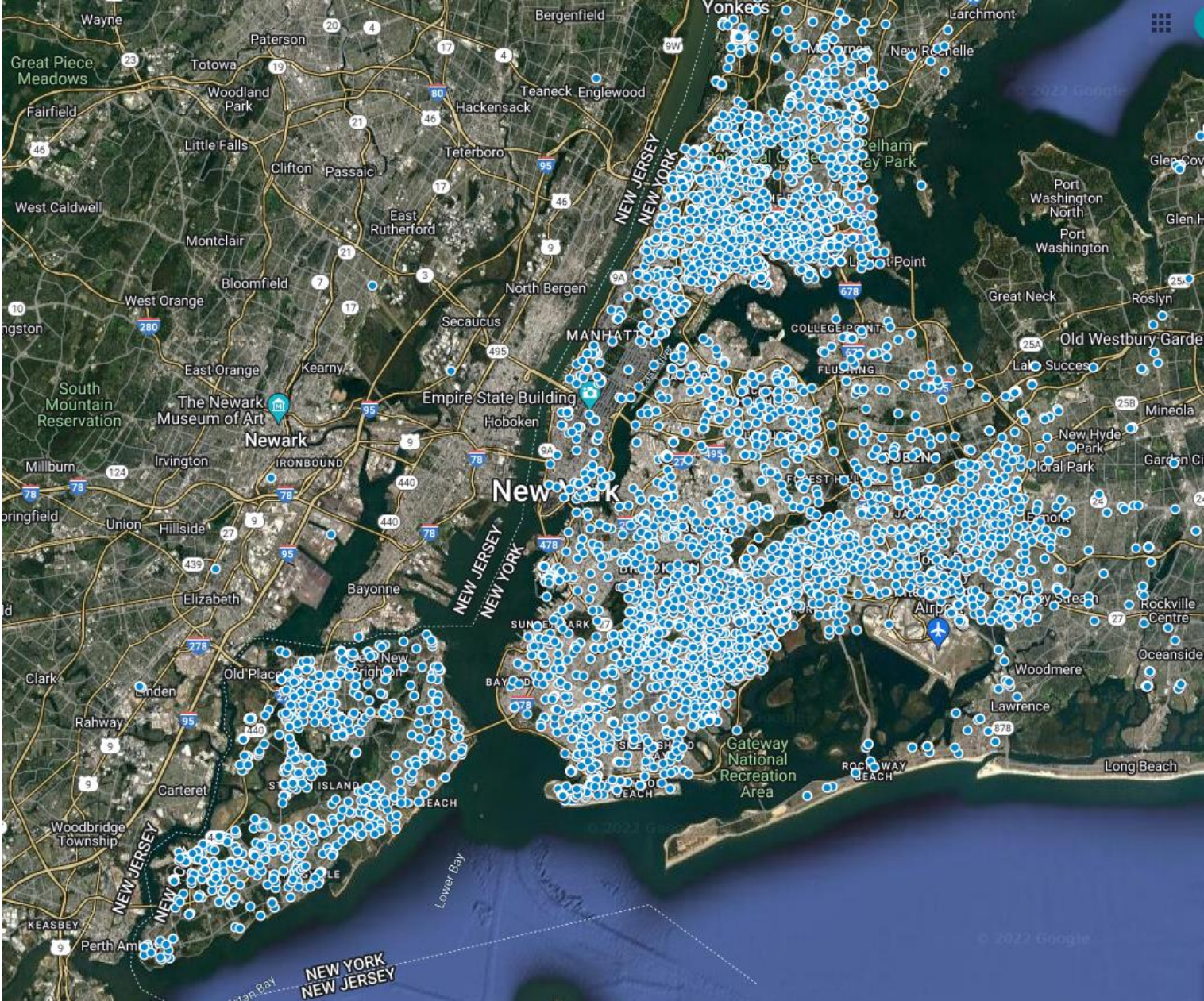


Telematics

- Under Local Law 32 of 2019 all school buses are required to have telematic devices that can monitor location of buses
- DCAS in partnership with DOE OPT has installed devices in over 10,700 school buses.
- DOE and school bus companies have access to the data and maps and also receive regular reporting and real-time alerts on safety, vehicle idling, and other issues.



School Buses are Everywhere



Telematics: Improving Driving Behaviors

- Telematics allow for reports on a wide variety of safe driving behaviors including speed, seat-belt use, hard-braking, and hard-accelerating.
- Excessive speed, 25 MPH over speed limit, is the greatest single safety risk. Through FORT alerts and DCAS follow-up, we have cut excessive speeding down more than 50%.



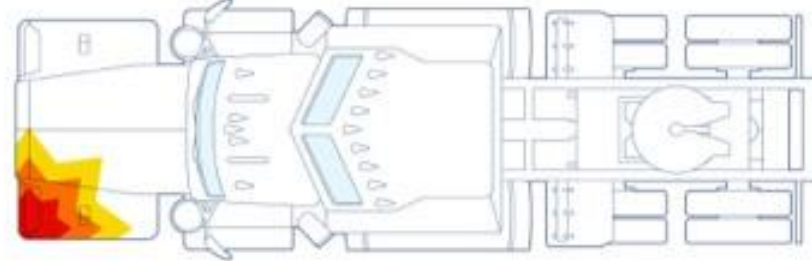
Telematics: Instant Collision Reporting

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

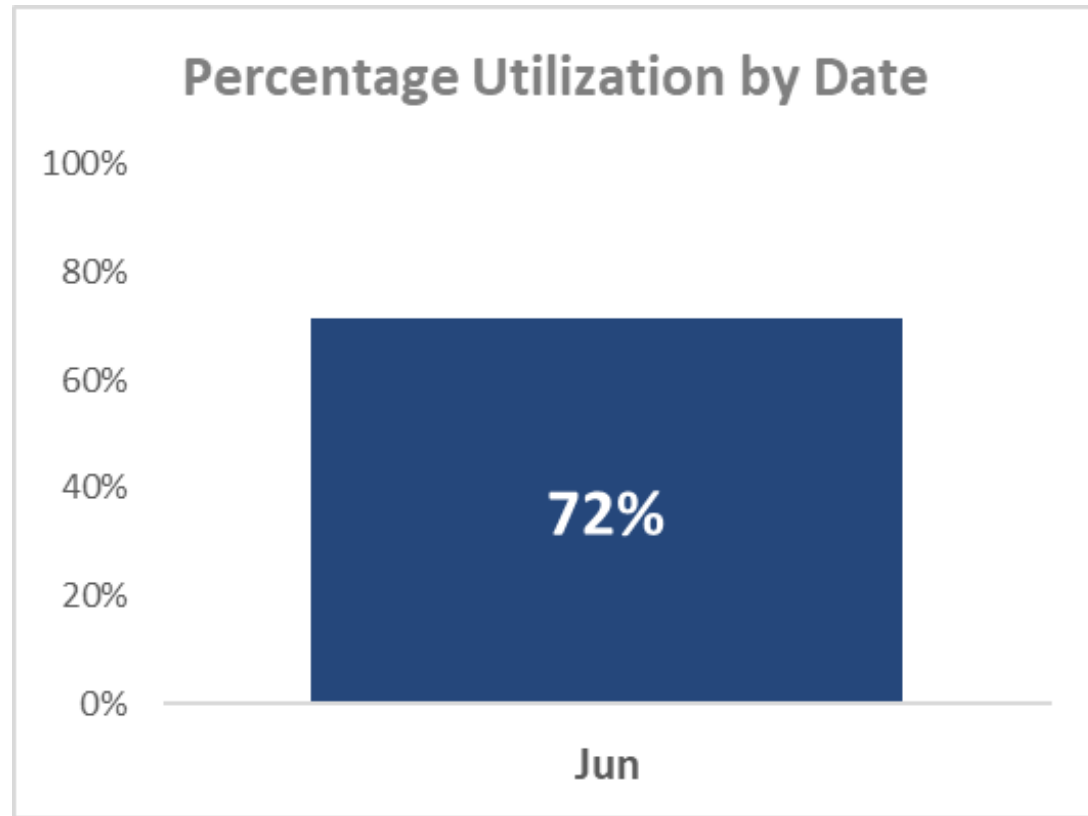


Map View

[Trip History](#)



Telematics: Monitoring Utilization



Company	Utilization %	Total Trips	Miles Driven
xxx	83.08%	529	4,180
yyy	78.91%	2,207	12,980
aaa	90.48%	822	7,793
bbb	58.80%	1,425	6,929
ccc	14.29%	8	88
ddd	63.49%	347	2,430
eee	66.98%	8,493	34,860
fff	69.77%	813	3,081
ggg	46.67%	79	381
hhh	79.41%	1,094	5,445

Telematics: Improving School Bus Maintenance

- The telematics system is plugged into the engine computer of each school bus through the OBDII port
- On most school buses, information on engine faults and codes as well as various measurement levels can be monitored. Reporting includes battery voltage levels, low tire pressure alerts, fuel level, coolant levels, air temperature, and use of turn signals. These are always year, make, model determined.
- Telematics can also allow for the study of fuel efficiency of buses.

Next Steps for School Bus SFTP

- Gathering of data associated with collisions involving school buses for analysis.
- Meetings with major school bus vendors and DOE OPT to discuss current bus design, safety concerns and opportunities, and current initiatives.
- Research by US DOT Volpe Center into various safety design changes and safety systems currently being deployed in other school bus fleets across country.
- Draft report created by US DOT Volpe Center. DCAS will set up a meeting to review the draft report and initial findings.
- Final report submitted by US DOT Volpe Center to DCAS, DOE OPT, other stakeholders for review and issuance.

Future Discussion Questions

- Which safety technologies are already typically installed and used?
- What anticipated fleet changes such as electrification are expected that may impact the feasibility of safety technologies?
- How often do school buses back up?
- Are all buses kept in a yard or lot?
- What are the logistical challenges to be aware of?
- What is the mix of length and wheelbase of buses in the fleet?
- Do the bus drivers get different buses or do they always get the same bus type?
- Are there varying seat belt requirements based on bus size and routes?
- What is the mix of highway travel to local roads?
- How often is routing information given to the drivers and via what method(s)?

Timeline

- Kick Off Meeting (June 2022)
- Collision Information Gathering (June-July 2022)
- Bus Company Interviews (July-August 2022)
- Safe Fleet Transition Plan Report Draft (Early Fall 2022)
- Safe Fleet Transition Plan Report Release (Target Date October 25th at the NYC Vision Zero Fleets Forum)

VISION ZERO

Building a Safer City

Fleet Safety Forum

*Hosted by the
Department of Citywide Administrative Services*

**Tuesday, October 25th
Queens Theatre**

Flushing Meadows Corona Park

Additional Informational Links

Safe Fleet Transition Plan (2018 Update)

<https://www1.nyc.gov/assets/dcas/downloads/pdf/fleet/Safe-Fleet-Transition-Plan-Update-2018.pdf>

Fleet Safety Brochure

<https://www1.nyc.gov/assets/dcas/downloads/pdf/fleet/Fleet-Safety-Brochure-2020.pdf>

DCAS/Volpe Sideguard Report

<https://www1.nyc.gov/assets/dcas/downloads/pdf/fleet/Volpe-Final-Report-on-Truck-Sideguards-for-Vision-Zero.pdf>

Fleet Vision International Articles

<https://www1.nyc.gov/assets/dcas/downloads/pdf/fleet/Fleet-Vision-International-Q1-2021-NYC-Fleet-Vision-Zero-Program.pdf>

<https://www1.nyc.gov/assets/dcas/downloads/pdf/fleet/Fleet-Vision-International-Q3-NYC-in-Real-Time.pdf>

Contact

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

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Thank You