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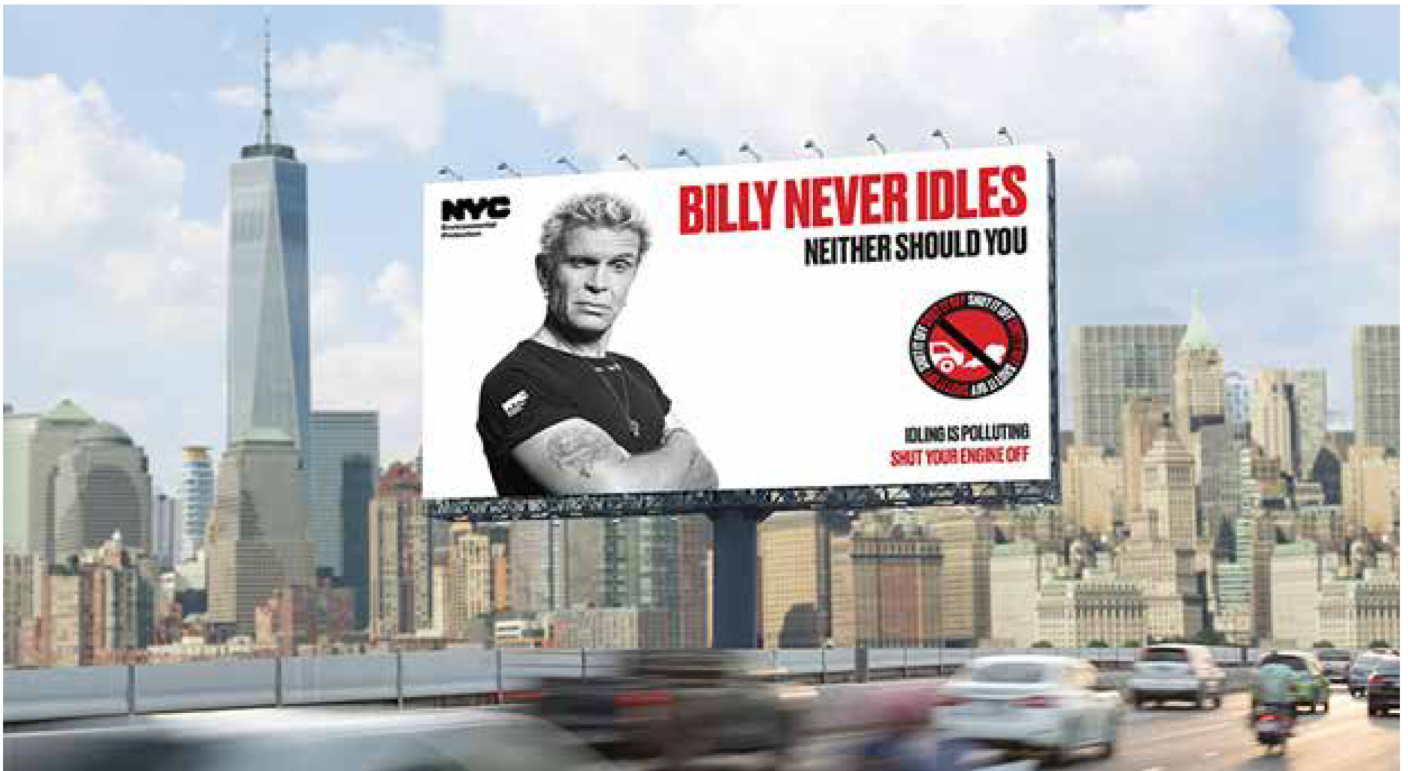


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# telematics



## NYC in real time

New York's new telematics command centre is not only transforming fleet management, it is also improving the delivery of direct services and enhancing core operations, writes NYC Chief Fleet Officer Keith Kerman.

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**T**he alert came in the morning of April 1, 2021. A van belonging to the NYC Department of Education was missing and may have been stolen.

Once missing for a full day or more, the prospects of recovering a stolen City vehicle have historically been slim. No longer.

Immediately, a team from the Department of Citywide Administrative Services (DCAS), which runs the City vehicle fleet, the Department of Education (DOE), and the New York City Police Department (NYPD) worked together to track the missing vehicle online, follow it in person, arrest the perpetrators, and recover the vehicle.

The recovery was made possible through NYC's new [Fleet Office of Real Time Tracking \(FORT\)](#), a command centre for

more than 23,000 City vehicles and school buses that have been fitted with telematics tracking devices. It is the largest public vehicle telematics programme in the US and a model for efforts in public and private fleets for safety, efficiency, and fleet operations.

FORT is transforming fleet management in the City through the provision of new ways to track vehicle utilisation, safety, fuel economy, driving behaviours, crashes, and maintenance. While implemented by DCAS, FORT is also an exciting new tool for improving delivery of direct services and enhancing core operations.

### **Advancing the safety agenda**

New York City's Vision Zero Safety plan was the initial impetus for the FORT. The City of New York has made enormous strides in reducing crashes involving fleet units. Despite

**Above:** In February 2020, Mayor de Blasio and rocker Billy Idol announced a campaign to reduce idling: Billy Never Idles.

**Top right:** NYC fleet units are everywhere in the city.

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this, fleet units are involved in more than 4,700 crashes a year. The City paid out more than US \$140 million (£99 million) last year in personal injury claims tied to fleet crashes. Some involved major injury or loss of life, which is Vision Zero's goal to prevent.

DCAS proposed the installation of live tracking on all fleet units to monitor and improve safe driving behaviours with the aim of preventing crashes. The FORT monitors speeding, seatbelt use, hard acceleration and braking, and harsh cornering. When an employee is speeding, a real-time alert goes out to their agency. A Vehicle Safety Index was developed to scorecard the safety behaviour of each specific vehicle and each agency and compare them to each other.

Through the Safety Index, DCAS is monitoring daily and historic data on a per mile basis to assess the success of its training, technology, and other safety measures.

'Ensuring that agency fleet managers and senior executives have a set of regular reporting that can easily explain serious and specific issues, the frequency of these events, and how agencies compare internally is an important part of spreading a fleet safety culture to all city drivers,' explains Eric Richardson, Deputy Chief Fleet Manager at DCAS. 'We want our drivers to be the model of safe driving, and these safety scorecards allow us to confirm we are making progress.'

While the goal is crash avoidance, the telematics system has also improved crash management. When a vehicle is in a crash

based on a G-force event, an automated potential collision alert goes out. This provides initial crash data – location, speed, and which part of the vehicle was impacted – instantly alerts the agency, and serves as the initial record for the crash. These records are independent of driver assessments and can help the City defend claims and pursue affirmative litigation where private vehicles hit City units.

In some cases, potential collision alerts are due to road conditions. These can be reported to the NYC Department of Transportation for investigation. Depending on the type of collision and the G-force, there may even be alerts when vehicles are hit while parked. The instantaneous nature of alerts allows the City to quickly follow up with emergency services if required and check with the driver.

In major crashes, the telematics system can reproduce the core of black box information. Retrieving event data recorder data has proved difficult, costly, and time-consuming. Telematics can more easily provide granular speed, turning, braking force, and airbag data.

Analysis of telematics data is also informing the City's ongoing in-person and online training efforts. DCAS is refocusing training on trends in the data and showing the data to drivers during the training sessions.

## Telematics for sustainability

In the City budget, the FORT was expected to pay for itself through crash savings. But safety isn't the only way FORT can reduce

costs. Mayoral Executive Order 41 of 2019 implemented the mandate for telematics in City on-road vehicles. This order also calls for the City to implement an 80% daily-use fleet target and reduce fleet size by at least 1,000 vehicles. The City achieved the fleet reduction ahead of the June 30 2021 deadline.

The FORT is also helping the City with its sustainability goals. In the NYC Green Fleet Plan, NYC committed to reducing vehicle fuel use and emissions by 50% by 2025. The FORT provided new information about the fuel economy of City vehicles, the efficiency of electric vehicles, and provided new ways to report and understand wasteful vehicle idling.

When a new vehicle is purchased, it has an EPA fuel economy rating. Using telematics, NYC studied the actual fuel economy of each model of vehicle and compared it to the sticker rating. In the [DCAS report](#), it found that hybrids in actual use – of which there are 5,500 – were even more efficient than expected when compared to conventional vehicles. Less happily, the system revealed that NYC has work to do to reduce vehicle idling. For the first time, agencies now get reports on idling over three minutes, which is against the law in New York City. In February 2020, Mayor de Blasio and rocker Billy Idol announced a campaign to reduce idling: Billy Never Idles. Telematics is now the City's main tool to follow Billy's lead.

The City is also transitioning its fleet to EVs and is studying actual battery range and functioning and plans a report on EV operations similar to the fuel economy study.

## Preventing misuse of City vehicles

The City of New York has 80,000 full or part-time fleet operators, so misuse of City vehicles does happen. However, telematics has supplied a powerful tool to reduce these events and identify staff using vehicles improperly.

Each day, fleet managers get a daily report about vehicle usage, which identifies speeding and crashes and also lists every vehicle used overnight or that left city limits. The City always has the pulse of its vehicles now with live telematics, regular reporting, and FORT.

## Improving safety and vehicle maintenance

Vehicle tracking can also help keep people, especially children, safe. NYC Local Law 32 of 2019 requires the City to place tracking units on school buses to ensure the location of the over 10,000 contracted school buses. DCAS worked closely with the NYC DOE to install units on 10,751 school buses operated by 37 companies. In addition, DCAS provides the DOE with a full set of fleet management reports and alerts.

'Working through the Fleet Office of Real Time Tracking (FORT) and DOE Office

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**Above:** DCAS Commissioner Lisette Camilo, NYPD Police Inspector Dennis Fulton, and NYC Chief Fleet Officer Keith Kerman cut the ribbon on the FORT in 2019.

*“There is enormous analytical potential in studying the movements of 23,000 vehicles in America’s biggest city.”*

of Pupil Transportation (OPT), school bus companies are using telematics, real-time alerts, and scheduled reporting to make our streets safer and our world more sustainable for our children,’ says Matt Aronberg, Director of the Fleet Office of Real time Tracking.

Telematics can also assist with the City’s maintenance programme. The telematics system is tied to the engine computer and can report maintenance and engine alerts. Traditionally, the City relied on an operator to take action and alert the repair garage when an alert was triggered for tyres, engine maintenance, or oil. Now, fleet managers get live alerts, quickly solving problems and preventing major repairs due to neglect.

### **Informing service delivery**

The benefits of telematics extend to improving direct delivery of services. The NYC Department of Correction can track and ensure that buses bring inmates to court appearances on time. The NYC Parks Department can study the efficiency of forestry operations. The Sanitation and Transportation departments can monitor the real-time status of snow-clearing operations. In an emergency, NYC Emergency Management can have real-time visibility of critical response assets, and the Department of Environmental Protection uses telematics to track responses to 311 citizen customer calls. Long term, the City expects the most important contribution of the FORT to be the way it enhances service provision and emergency response.

Finally, the FORT represents big data. There is enormous analytical potential in

studying the movements of 23,000 vehicles in America’s biggest city. DCAS has partnered with the City’s Department of Transportation (DOT) to supply vehicle data to assist with street and traffic planning. Along with graduate students from New York University, the City prepared a report on commuting behaviours of City employees. A new project has been launched with NYC-based universities to better understand and manage idling.

The FORT team has prepared a comprehensive fleet analysis for each of DCAS’s nearly 50 client fleets, letting each agency look at its fleet operations in new ways. DCAS has also partnered with the City’s Chief Technology Officer to include the FORT in its Internet of Things initiative.

‘Our fleet analysis covers a large range of fleet management, safety, compliance, usage, and cost data using all of our data sources including our telematics system. City agencies have appreciated this review and are using the information to further enhance their fleet productivity, reduce emissions, and improve driving behaviours,’ says Dilshad Basheer, Fleet Analyst for the FORT.

The Fleet Management team at DCAS also supports the provision of daily cleaning, repair, and emergency services in NYC. The team has a major impact on the City budget, emissions, and safety. For decades, City agencies like NYPD, DOT, and NYC Emergency Management have managed 24/7 command centres for their critical services. With the FORT, DCAS now supports and complements these vital missions through the FORT and the use of telematics.