

Tackling Tire Emissions

By: Keith Kerman

The City of New York has committed to reducing emissions from vehicles. Of course, that means reducing or eliminating what comes out of tailpipes. With our growing all-electric fleet, we eliminate the tailpipe altogether, but tailpipes aren't the only part of cars spewing harmful emissions. Tires and brakes also have emissions.

If asked, most of us would say tires are made of rubber. This might even appear to be a natural product since a source of rubber is the sap of rubber trees. And, yes, natural rubber is a component of tires. However, tires are mostly made up of a myriad of petroleum products such as synthetic rubber, carbon black, and other chemicals with imposing names like propene, methy-limonene, cyclohexene, ethylbenzene, behenic alcohol, tetradecanol, and hexyne. Not exactly common terms.

Our fleet vehicles vary from four tires on a sedan to 10 on a garbage truck. We have approximately 140,000 tires on the road supporting our on and off-road fleet. In the fleet world, we teach the penny test to check tire tread. Place a penny into a tire tread on a car, with the Lincoln head first. If you can see Lincoln's entire head, the tread is too thin and the tire needs to be replaced. It's a reasonable way to check the wear on car tires.



The question more rarely asked is what happens to all the particles and tire components as tires wear down mile after mile. These particles end up in our streets, ground, water, and air. Research has been done suggesting there is more particle emissions from tires than from tailpipes.

City of New York Fleet Biotire Purchases since 2018	
NYC Police Department	1542
NYC Department of Transportation	258
NYC Parks	53
NYC Department of Correction	52
New York City Fire Department	26
Total	1931

DCAS has partnered with the Clean Fuels Alliance to introduce soy based biotires to reduce the percent of petroleum product used in our tires. Since 2018, fleet agencies, led by NYPD, have procured 1,931 light duty tires manufactured with soy products. DCAS first

reported on this initiative in August 2020. According to our supplier, soy oil can displace up to 60% of the petroleum used in these light duty tires. In 2023, the Department of Sanitation, the Department of Parks and Recreation, the Department of Environmental Protection and Department of Correction will introduce the first heavy duty tires using soy as an alternative to petroleum.

In addition to offsetting petroleum use in tires, DCAS is interested in whether these soy tires can help with the tire particle emissions. The City of New York and the City of London launched a fleet partnership in 2017 aimed at best practices in sustainability, safety and efficiency. The annual highlight of this effort is [Fleet Vision International: The Show](#), taking place at Guildhall in London on April 27, 2023.

DCAS has partnered with one of the participants in the London program, Emissions Analytics, to study the particle emissions from sample city fleet tires and soy based tires. Learn more about Emissions Analytics work from this [CNN piece](#). DCAS has recently provided 83 used tires from 13 separate manufacturers to Emissions Analytics, including soy and non soy tires. Emissions Analytics will be looking at the organic chemical profiles for each to assess their tire emissions.

In addition to soy based tires, there are other early efforts to improve the makeup of tires in the marketplace and also early tests of systems to help capture particle emissions from tires while vehicles drive. Driving style can also impact tire emissions, with aggressive driving leading to more tire wear and decay. DCAS will continue to investigate this area of vehicle emissions and work to address both the emissions that go into making tires and those that emit from the tires themselves.

Thanks to Nick Molden of Emissions Analytics; Clean Fuels Alliance; Harris Kaplan of DCAS; NYPD; and all the agencies supporting this early and important work on tire emissions.

NYC Fleet Manual

The NYC Fleet Manual and Drivers Handbook has been updated. Please see the updated version at [NYC Fleet Manual and Drivers Handbook](#).

Save the Date: 34th Annual Equipment and Vehicle Show

The 34th Annual Equipment and Vehicle Show will take place on May 11, 2023 at Flushing Meadows Corona Park in Queens. The show is hosted every year by DCAS in collaboration with the NYC Department of Parks and Recreation, and highlights vendors who support the City of New York's Clean Fleet and Vision Zero initiatives.

To register and learn more, visit [DCAS's website](#).

34th Annual Equipment & Vehicle Show

Thursday, May 11, 2023
9:00 a.m. to 2:00 p.m.
Rain Date: Friday, May 12, 2023

Flushing Meadows Corona Park,
Queens, by the Unisphere

Fleet Vision International: The Show

The 2023 [Fleet Vision International: The Show](#) will take place on April 26 and April 27 in London. Registration information, speakers, and the full agenda [are now available](#).



COVID-19 Safety Reminder

For all fleet drivers, when interacting with others in close quarters such as within a vehicle, it is strongly recommended to wear a mask.



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[NYC Fleet Newsletter 421, March 17, 2023](#): DCAS Fleet Field Services Unit: Watching Over the City's Electric Vehicle Charging Network

[NYC Fleet Newsletter 420, March 10, 2023](#): NYC Fleet Spotlight - Kirklival Henry, DCAS Fleet Purchase Director

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