

Electric Vehicle and E-Bike Fires Ignite Concerns

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Each year, vehicle fires cause over a billion dollars in damage in the United States (autoinsuranceez.com). Statista.com reports there are 174,000 highway vehicle fires each year. Hurricane Ian brought electric vehicle (EV) fires to the headlines. Despite the publicity, EV fires are not as common as it may seem. However, these fires present special challenges. Helping clients understand the possible fire hazards of vehicles and appropriate preventative measures is another value-added service of the professional insurance agent.

In the aftermath of Hurricane Ian that hit Florida in 2022, 11 car batteries corroded and caught fire. A challenge with such fires is the amount of time it takes to put them out. Lithium-ion batteries will burn until all the energy is gone – which could be as much as 24 hours. In addition, the battery is encased and difficult to access. Chemicals in the battery can create their own oxygen which adds to the fire's fuel. In essence, "thermal runaway" occurs when the battery is creating more energy than it can dissipate. Another challenge is that putting out the fire requires thousands of gallons of water – sometimes up to 40,000. This creates a pollution hazard. An added twist is that the fire can reignite. In many instances, firefighters do not have the experience or training to deal with EV fires.

Although EV fires have made headlines, overall, they are much less common than fires in gasoline-powered vehicles or hybrids. A report by autoinsuranceez.com shows that hybrid vehicles, including plug-in hybrids and hybrid-electric vehicles, catch fire more than other types of vehicles. In terms of

fires per 100,000 vehicles sold, hybrids had 3,475, followed by gas at 1,530. EV's were last at 25. Regardless of the type of vehicle, electrical issues such as faulty wiring are second only to fuel system leaks as the leading cause of car fires (howstuffworks.com).

E-bike fires have been in the news recently as well. E-bike fires are a special concern in New York City. As of early October 2022, there were 174 e-bike fires reported in the city for the year, resulting in six deaths and 93 injuries. NPR.org reports that e-bike fires occur four times a week. The use of e-bikes is very popular with independent couriers and delivery people. Canarymedia.com reports that 65,000 delivery people operate in NYC. Most of them use two wheeled vehicles, and an increasing number of these are battery powered. For many, the only available storage area is their apartment. A fire could easily take down an entire building or more. One man died when his e-bike that was parked near the apartment door caught fire and blocked his way out. The New York City Housing Authority proposed a ban on e-bikes in the city in the summer of 2022, because of the number of e-bike fires.

As lithium-ion batteries age, it takes longer to charge them. This makes it more difficult to monitor the entire charging process – especially if they are charging overnight. According to bicycling.com, it is recommended to never leave the battery plugged in overnight. In April 2022, a Florida bike shop burned to the ground. The cause was a rebuilt battery left in a charger overnight. In a single day in April 2022, New York City experienced four fires



caused by batteries in motorbikes and scooters. Four people lost their lives in such fires in New York City in 2021.

Batteries for EVs and e-bikes are expensive – up to \$20,000 for an EV and \$500 to \$900 for an e-bike. While the reduced cost of buying a rebuilt or off brand battery may be tempting, there is an increased hazard. Over time, the batteries degrade, increasing the risk of fire. It is wise to avoid aftermarket or bargain brands, and always use the charger and power cord that is from the manufacturer of the battery.

Vehicle fires have been a concern since the invention of the internal combustion engine. Statistics show, however, that EV's are much less likely to catch fire than hybrid or gas vehicles. Battling EV and e-bike fires represents a special challenge. Helping clients understand the fire risk and proper safety precautions of EVs and e-bikes is another sign of the true insurance professional.

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