

Electric Vehicle Insurable Risks Explained

By Bob Dietzel

When it comes to electric vehicles (EVs) and internal combustion engine (ICE) vehicles, all things are not created equal.



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The average small non-luxury EV model costs \$4,041 to fix. This is about 27% more than the average for roughly comparable ICE models.

EVs have lower maintenance costs than do ICEs. However, they cost more when damaged in a car crash or by bad weather. This difference is even more pronounced among mid-size luxury SUVs, \$8,037 versus \$5,242 (53%) for ICEs, according to CCC Intelligent Solutions.

A Kelley Blue Book assessment of total cost to own an EV versus an ICE vehicle estimated EV maintenance costs of \$4,246 on average over five years of ownership. This is lower than the \$4,583 estimate for ICEs.

How do EV risks affect the cost of insurance?

On average, car insurance for an electric car is about \$337 per month, or \$4,043 per year. It costs about 20% more to insure an EV than an ICE, mostly because EVs cost more to buy and repair.

The cheapest EV to insure is the Volkswagen ID.4. The most expensive is the Tesla Model X.

It's cheaper to insure EVs made by companies that also sell gas cars, like Ford and Volkswagen. Rates for EV-only companies like Tesla and Rivian are much higher.

Are insurable risks passed to the driver for charger installation?

Fire Hazards: Lithium-ion batteries, commonly used in EVs and charging stations, can pose fire risks if damaged, overheated, or improperly maintained. Property owners must ensure charging stations are installed and maintained according to safety standards to mitigate these risks.

Electrical Overloads: Installing multiple charging stations in one location may strain the electrical system of a commercial property. Property owners should conduct load assessments and potentially upgrade electrical infrastructure to accommodate the increased demand.

Liability: In the event of an accident or fire involving an EV or charging station on the property, liability concerns may arise. Property owners should have appropriate insurance coverage and consider safety measures such as fire suppression systems and emergency protocols.

Battery Storage Risks: Apart from charging infrastructure, the growing popularity of EVs also leads to an increase in the number of EV batteries. These batteries have the potential to serve as energy storage solutions for commercial properties, but they also carry their own set of risks.

Battery Degradation: Over time, lithium-ion batteries degrade, reducing their capacity and efficiency. Property owners need to plan for the eventual replacement and recycling of these batteries to prevent environmental hazards.

Environmental Impact: Improper disposal or recycling of EV batteries can lead to environmental contamination. Property owners should consider sustainable disposal and recycling methods to

minimize these risks.

Do risks differ for fast vs. standard charging stations?

Fast Charging: Fast charging typically involves higher voltages and currents compared to standard charging. While fast charging can significantly reduce charging times, it can also generate more heat within the battery pack. This potentially increases the risk of overheating or battery degradation over time. As a result, there may be a slight risk of battery-related issues or malfunctions with fast charging, which could impact insurance considerations.

Standard Charging: Standard charging typically involves lower voltages and currents, resulting in slower charging times but potentially less stress on the battery pack. While standard charging may pose a lower risk of immediate battery-related issues, it's important to consider factors such as charging infrastructure quality and compatibility. These can still impact the safety and reliability of the charging process.

Do risks differ for indoor vs. outdoor charging?

Indoor Charging: Charging indoors can provide greater protection from environmental factors such as extreme temperatures, precipitation, and potential vandalism. Indoor charging may also reduce the risk of accidents or damage from other vehicles. However, there may be a slightly higher risk of fire-related hazards indoors due to factors like ventilation and proximity to flammable materials. Insurers may consider the safety measures in place for indoor charging, such as fire suppression systems or secure charging stations, when

assessing insurance premiums.

Outdoor Charging: Outdoor charging exposes the vehicle and charging equipment to a range of environmental conditions, including temperature fluctuations, moisture, and potential exposure to vandalism or theft. While outdoor charging may in some cases be more convenient, it may also increase the risk of damage to the vehicle or charging infrastructure. Insurers may consider factors such as the frequency of extreme weather events or local crime rates when determining insurance costs for outdoor charging.

Ultimately, both fast and standard charging methods can be safe and reliable when implemented properly. The choice between indoor and outdoor charging depends on factors such as convenience, accessibility and personal preference.

Your trusted risk manager and insurance broker can evaluate the specific charging setup and location to assess risks and adjust insurance premiums accordingly. He or she will also advise EV owners to take steps to mitigate risks associated with charging, such as installing reputable charging stations, following manufacturer recommendations for charging procedures, and implementing security measures to protect against theft or vandalism.

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