



# What is the performance of used BEVs?

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**GEOTAB®**

Leader in telematics with  
over 20 years of experience

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Offices in Canada, USA,  
Mexico, UK, Spain, France,  
Italy, Germany, China,  
Singapore, Australia

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Over 44k customers,  
3.5M+ connected vehicles  
across 130+ countries

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Over 55B data points  
processed daily

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300+ EV Make/Models  
supported

# What is EV Battery Degradation?

Battery degradation is a natural process that permanently reduces the amount of **energy** a battery can store, or the amount of **power** it can accept or deliver.

## Common factors impacting Lithium-ion battery health

- Age
- High temperatures
- Operating at high and low state of charge
- High electric current
- Usage (number of cycles)

## EV Battery Degradation Analysis

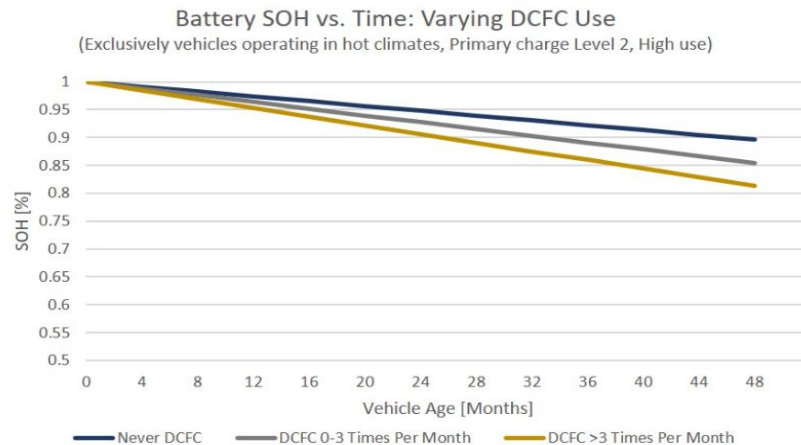
Geotab created the EV Battery Degradation Analysis to assess how batteries have been holding up and to consider the relative importance of the above factors on EV battery life under real-world conditions.

- **6,300** fleet and consumer EVs
- **1.8 million days** of data
- **21** distinct vehicle **models**, representing **64** makes, models and years



# What are the results?

- **Average degradation** is arguably minor at **2.3%** per year (sneak peak: recent study shows 1.8%)
- There is a **measurable difference** between makes, models and years
- **High vehicle use** does not equal higher battery degradation
- Vehicles driven in **hot temperatures** show faster decline in battery SOH
- It does matter **how you charge** the battery, especially in hot climates



A close-up photograph of a person's hand plugging a black and white charging cable into the open charging port of a dark-colored electric vehicle. The cable has a yellow section. The background is slightly blurred, showing what appears to be a parking structure.

## Any key takeaways?

High levels of sustained battery health observed

Battery degradation is unlikely to impact your day-to-day needs

### Tips to prolong your EV battery's life

- Avoid keeping your EV sitting with a **full** or **empty** charge
- Minimize **DC fast charging**
- Avoid **extreme hot** temperatures
- **High-use** is not a concern, so you shouldn't hesitate to put your EVs to work

# How can telematics help?



- **Identify** fleet vehicles that can be replaced by a used or new electric vehicle
- **Optimize** electric fleet operations
- Understand the **performance** and **range capability** of your electric vehicles
- Help drivers utilize **efficient** driving techniques to maximize range and minimize consumption
- Monitor **charging processes** and identify potential charging issues
- Measure **EV battery health**



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