What is the performance of used BEVs?

Tamás Halbrucker
Lead Solutions Engineer @ Geotab
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
High levels of sustained battery health observed

Any key takeaways?

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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