Fleet Electrification Case Study

Backroads Travel

FLEET PROFILE

- Type of fleet: Adventure vehicles & passenger vans
- Number of vehicles analyzed: 17
- Location: Salt Lake City, Utah
- Parking: Varied, no depot parking

Medium- and heavy-duty (MHD) vehicles are a major contributor to air pollutants and greenhouse gas emissions. Electrifying fleets is one of many important solutions to improve our air quality and address climate change. Fleet electrification is also a growing priority for many local governments and businesses. However, there are many barriers to fleet electrification, especially MHD vehicles.

Utah Clean Energy, supported by funding from the Utah Governor's Office of Economic Opportunity, partnered with Merge Electric Fleet Solutions to provide Backroads Travel with a fleet electrification analysis. The core of this analysis is based on output from an industry-leading telematics data analytics platform by Sawatch Labs, a WEX company, that uses historical vehicle-by-vehicle driving patterns to forecast how EVs would perform in the same role.

Backroads Travel is an active travel company focusing on biking, hiking, and multi-adventure trips. They offer tours in over 60 countries throughout Africa, Antarctica, Asia, Canada, Europe, Latin America, the Middle East, and the United States. Backroads values sustainability throughout their operations—from stewardship of the lands they tour, to reducing food waste on their trips, to recycling and donating aging gear. Backroads' fleet is spread across several continents; this fleet electrification analysis focused on their Utah fleet with the hope that results could be applicable to other parts of the fleet.

This initiative was made possible with support from the Governor's Office of Economic Opportunity. Technical assistance was provided by Merge Electric Fleet Solutions. The analysis was performed by Merge Electric Fleet Solutions (www.mergefleet.com) using software and output by Sawatch Labs, a Wex Company (www.sawatchlabs.com)

Opportunities

- Since many of Backroads' routes are consistent, their vehicles often park overnight at the same sites (such as hotels and campgrounds) regularly. With careful planning and coordination with these sites, overnight charging along trip routes could be possible. .
- At the time of this analysis, all vehicles have projected cost parity, and many have projected a total cost of ownership savings of $3,000-$6,000. Fleet electrification will lead to significant savings for Backroads fleet operations.
- A phased approach to electrification is likely the best fit for Backroads. One vehicle is well suited for near-term electrification, with six additional vans as a second tier requiring only occasional midday charging. The remaining ten vans are better suited for a later phase, once EV best practices are established and rural charging infrastructure improves.

Unique Aspects of the Backroads fleet

- Inconsistent nightly parking locations, but consistent routes. With careful planning, overnight and opportunity charging along trip routes is feasible.
- As a multinational company, Backroads has the opportunity to take lessons learned from this report and scale to other locations in the U.S. and abroad, taking advantage of other favorable local opportunities to deploy EVs.

Challenges

- As a travel company, Backroads' fleet transports customers along regular routes for adventure trips, meaning that fleet vehicles spend many nights at different locations. This is a challenging problem for charging infrastructure, since vehicles will require consistently available charging along their route to be able to complete trips.
- Most vehicles also travel long distances daily, which may require midday charging between once and several times a week.

"This study showed us that even with our unconventional use and need for an uncommon EV type (pax mid-duty vehicle) there is still a place for an EV to provide a quality experience for our company's logistics and the experience of our guests."
-Eric Malkowski, Operations Manager

What's Next?

This analysis showed Backroads that an EV could be a possible as a solution with just a few minor tweaks to their standard workflow, and would benefit their company both in terms of cost savings and sustainability. Backroads is moving forward with acquiring two retrofitted E-Transit cargo vans to test out in 2026. The goal of these test vehicles will be to test how closely the fleet analysis results will align with real-world operations. If these test vehicles perform well, Backroads would likely look to expand EVs in their fleet.

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