My Journey to Owning An EV

By Mark Love

We recently purchased an electric vehicle (EV) and are exceptionally pleased with it. We've learned a lot from our experience and here are some tips when considering an EV.

First, will your primary use be "around town" or longer trips that exceed the car's range? This will guide which makes/models to consider. EV batteries range from 114 miles (Mini Cooper) to over 500 miles (Lucid); most models' range is 250-350 miles.

EV demand currently exceeds supply, so contact multiple dealers to inquire about delivery schedules. We found our EV through a Bangor dealer. There's an evolving used market, but currently only Teslas are readily available. Expect high prices for used EVs, but prices should diminish over time.

"Fueling" an EV requires electricity delivered in one of three ways.

- Level 1 – 120V AC, 2-3 days charging, home or emergency use only
- Level 2 – 220V AC, 5-10 hours charging, ideal for home garage use
- Level 3 – DC circuit, less than 1 hour charging, ideal for longer trips.

When planning longer trips phone apps are a necessity to locate fast (DC) chargers; expect to leave the highway to reach them. On a recent trip to Florida we experienced no problems finding & using fast chargers, usually within 3 miles of exiting the highway.

All EV batteries will slowly degrade over time, but not so much as to cripple the car's usefulness. To prolong battery health:

- Keep charge level between 20-80%
- Occasional charging to 100% using level 1 or level 2 chargers is OK
- Occasional charging with DC fast chargers is OK

Charging from 80% - 100% takes almost as long as charging from 20% - 80%.

Several factors affect an EV's range. In order of importance:

- Driver technique (easy does it)
- Slower (better) vs faster speeds
- Warm (better) vs cold weather
- Fair (better) vs inclement weather
- Flat (better) vs hilly terrain
- Heater/air conditioner use (worse)

EVs cost less to operate because:

- No oil changes or tune-ups
- Fewer moving parts
- Brakes last longer with regenerative braking
- Electric motors are more reliable than gas engines
- Lower "fuel" costs:
    - Gas = $.10/mi assuming $3.50/gallon and 35 mpg
    - EV = $.06/mi assuming 4.5 mi/KwH and $.28/KwH (home charging)
- Lower society costs (no CO_2 emissions)

If your electricity supply is renewable (solar, wind) home charging is almost free thanks to net energy billing.

There are some disadvantages to owning an EV:

- No home charging if apartment building doesn't have a charger installed
- No home charging without off-street parking
- Public chargers have higher electricity costs and reduce the convenience factor
- Public charging infrastructure is growing but not yet as convenient as gas stations
- More frequent tire replacement because EVs are heavier

EVs are a great vehicle to reduce your carbon footprint. They're fun to drive, very quiet and the spectacular acceleration is great for highway merging. Definitely worth considering. And – all of the individual choices we make for a healthier environment will contribute in a cumulative way to the well-being of our neighborhoods, our community, and our world!