Juneau is ideal for Electric Vehicles!

Good deals are available now on used Nissan LEAF's—recent model years, with relatively low mileage, are available for $7-12,000 in the Seattle area.

A used LEAF might be for you if:

- You like the idea of NOT buying gasoline
- You like hanging onto a car for a while, and want to REDUCE your driving expenses
- You can plug in the car at home
  (A standard household outlet can work if used only for EV (Electric Vehicle) charging, although a Level 2 charging station on a dedicated 220v circuit (like that used for a clothes dryer) is quicker.)
- You have a short to medium commute (say 40 miles round trip) or most of your driving is around town
- You have a second gasoline car or can rent or borrow a car for long road trips

Leading
Environmentally-friendly
Affordable
Family vehicle

**MODELS MAY VARY

100% Electric. Zero Emissions. Game-changing Technology.

"WITH ELECTRIC RATES AT $0.12/KWH, the LEAF costs about **3.4 cents/mile to drive**. If you drive 1,000 miles per month, you can expect to spend about $34, saving $100/month on fuel when compared to a 25 mpg car. And lower maintenance costs save money too."

-SR, JUNEAU

"JUNEAU IS IDEAL FOR A LEAF IN MANY WAYS...

Our short road system makes the relatively short range a non-issue. Our weather is extremely mild--so there's no danger to the battery...

On ice and snow, I found the LEAF performs surprisingly well, despite being 2WD. Although, you would need new winter tires because the tires that come standard are not sufficient on ice. Yet, the good thing about a LEAF on ice is that it has **extremely quick slip-detection** and will adjust/cut power to a slipping wheel until it grabs traction again...

The heated steering wheel, mirrors, and seats are very nice as well. Also, the heaters are electric and therefore can start defrosting the front window without having to wait for the engine to warm."

-MV, JUNEAU

"Purchased new in fall of 2013, still going strong with over 50,000 Juneau miles. Quite happy with it." *-KC, JUNEAU*

MORE RESOURCES

Check out on Facebook:
JUNEAU NISSAN LEAF OWNER'S GROUP

JUNEAU ELECTRIC VEHICLE ASSOCIATION (JEVA)
Devon Kibby (957-1541)
Monthly meetings, with good information.
WEBSITE COMING SOON!

RICH FELDMAN'S "A GUIDE FOR BUYING A USED LEAF"
www.facebook.com/notes/seattle-nissan-leaf-owners/a-guide-for-buying-a-used-leaf/1100737373291032

INSIDE EVS "USED NISSAN LEAF BUYING GUIDE"
insideevs.com/used-nissan-leaf-buying-guide

UPDATED ***RENEWABLEJUNEAU.ORG*** APRIL 2018

RENEWABLE JUNEAU'S

BRIEF GUIDE TO

Buying a Used NISSAN LEAF

When it comes to used LEAF's, model years 2013-2015 are good choices for a long-term purchase.

BETTER THAN EARLIER MODEL YEARS

Nissan made significant improvements in model year 2013 – everything from little but convenient things like a light under the charge port cover, to major improvements like a higher rate of regular charging and a better heating system. Most importantly, Nissan made changes to improve the battery performance starting in May 2013.

STILL COVERED UNDER WARRANTY

A 2014-2015 LEAF can be bought with low enough mileage and months that it will still be covered under the 36-month/36,000-mile basic warranty. A 2013 LEAF will be covered under the 60-month/60,000-mile powertrain and EV system warranty, 96-month/100,000 miles battery defect & workmanship warranty and the battery capacity warranty that kicks in if the battery loses more than 30 percent of its charge capacity within 60 months or 60,000 miles.

LOTS OF SUPPLY AND GREAT PRICES

Most LEAFs were leased for 2-3 years rather than purchased. As these vehicles come off lease, they are sold on the wholesale market. Prices are then dropped so low because along with higher levels of supply coming onto the market from lease turn-ins, the dramatic improvements found in newer plug-in models are putting downward pressure on used EV values.

LEAF MODEL BASICS

LEAF's come in 3 trim levels: **S** (base level), **SV** (mid-level) and **SL** (high level). Standard features for each trim level vary across model years so it is important to understand what came standard with the different 2013-2015 trim levels. *(SEE BACK FOR MORE INFORMATION)*

A 2013+ SV or SL will have BOTH the bigger charger and heat pump heater. No pre-2013 LEAF will have either. The S is the tricky one: it won't ever have the heat pump, but if it has a QC port it will have the 6.6kW charger. So look for "Charge Package" as an option on an S if you want the faster charger.

A used LEAF may show 12 battery bars on the dash but this does not indicate the true capacity of the battery. The first bar will be lost at 85% of original capacity so a used LEAF with 87% of original capacity will still show 12 bars.

Buying Tips

Buying a used LEAF from a Nissan dealer offering certified vehicles can be a good way to go. Juneau folks have had good experiences with Campbell Nelson Nissan. There are also used car dealers that specialize in EV's like Paramount Motors NW.

SHIPPING.

SEATTLE OR BELLINGHAM TO JUNEAU, VIA FERRY OR BARGE, **COSTS $1,200-1,500**. SOME DEALERS WILL ALSO DELIVER TO THE SHIPPER.

TIRES.

BE SURE TO CHECK TIRE CONDITION BECAUSE A LEAF COMING OFF LEASE MAY NEED NEW TIRES; THEY TEND TO WEAR QUICKLY IF INFLATED AT THE RECOMMENDED PRESSURE. **KEEP TIRE PRESSURES AT 44 LBS** INSTEAD OF THE RECOMMENDED 38 LBS, AND **ROTATE THEM EVERY 5,000 MILES.** OTHERWISE THEY ARE LIKELY TO WEAR EXCESSIVELY ON THE OUTSIDE OF THE TREAD. **THESE TWO THINGS WILL ENSURE THAT YOUR TIRES WILL LAST 45K+ MILES.**

HYBRID HEATER SYSTEM (HEAT PUMP).

USE OF THE STANDARD HEATER WHILE DRIVING USES ENERGY FROM THE BATTERY AND REDUCES RANGE. **IN 2013, NISSAN STARTED OFFERING A HEAT PUMP HEATER STANDARD WITH THE SV AND SL TRIMS** - WHICH IS FAR MORE EFFICIENT AND EFFECTIVE. **THIS HEATER IS NOT AVAILABLE IN THE S TRIM.** THE TRICK WITH THE STANDARD HEATER IS TO PRE-HEAT THE CAR WHILE IT'S STILL PLUGGED IN.

SNOW, ICE AND SLUSH.

A NUMBER OF JUNEAU DRIVERS REPORT THAT THE LEAF HAS **GOOD TRACTION AND HANDLING**, DUE TO THE LOW CENTER OF GRAVITY. SEVERAL HAVE EVEN REPORTED THAT *BRIDGESTONE BLIZZAKS* WORK WELL AS WINTER TIRES.

WINDSHIELD WIPERS.

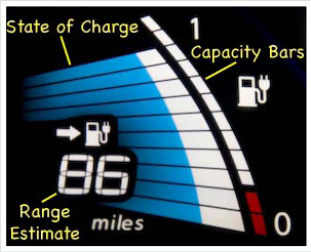
THE WIPERS ON THE LEAF HAVE A UNIQUE OFFSET ON THE ATTACHMENT. MOST WIPERS DON'T HAVE THIS OFFSET AND WILL RESULT IN THE WIPER OVERLAPPING THE EDGE OF THE WINDOW AND NOT WORKING PROPERLY. THE WIPERS ARE 26" AND 16". THE OEM *(ORIGINAL EQUIPMENT MANUFACTURER)* WIPERS ARE EXPENSIVE, BUT *TRICO* MAKES WIPERS THAT WILL WORK PERFECTLY. THEY ARE *TRICO 18-260* AND *18-160 FLEX UNIVERSAL BEAM WIPER*. THEY ARE AVAILABLE AT O'REILY'S, AS WELL AS ON AMAZON.

MISSING SD CARD.

IF THE NAVIGATION SCREEN IS BLANK, **DON'T BUY UNTIL THE SD CARD IS REPLACED.** THIS IS AN EXPENSIVE ITEM TO FIX AND HAS TO BE ORDERED THROUGH NISSAN. THERE CAN BE PROBLEMS WITH THE NAVIGATION SYSTEM THAT WILL NOT BE KNOWN UNTIL THE SD CARD IS PRESENT.

LEAF BATTERY BASICS

The LEAF's battery technology has proven very reliable with recent reports of 99.9% of batteries still in operation today. However, the LEAF's battery will lose capacity over time. To understand battery capacity you need to understand some terminology and concepts special to EV's. LEAF battery capacity is shown in the form of bars along the right-side of the dash display. When new, the battery shows 12 bars.



However, the only way to accurately measure a used LEAF's battery capacity is to use the LeafSpy app for smart phones with a WiFi or Bluetooth device that plugs into the vehicle's OBDII diagnostic port (above the accelerator pedal). "LEAFSpy" will provide a readout of Amp Hours *(AHr)* - effectively the size of your *"tank"* - which reduces over time as the battery ages and is cycled. One of the hallmarks of a Battery Management System (BMS) reset, i.e. tampering with the number of bars, is a low AHr reading on Leafspy (like 40-45) but 12 capacity bars on the dash display.

Meanwhile, SOH *(State of Health)* is on a percentage scale from 1 to 100% of original battery capacity. However, SOH apparently also gets reset if a dealer resets the BMS or dashboard bars. So always check AHr first; if the AHr is low and the bars are high, it's been tampered with. But if the AHr is appropriately high, you can either directly use the AHr to approximate how close it is to losing a bar, *OR* you can look at the SOH to see what percentage of battery capacity is intact.

Kilowatt hours *(kWh)* is a standard way to measure battery capacity. When new, a 2013 LEAF will have around 21 useable kWh. The equivalent of miles/gal for an EV is kWh/mile. EV efficiency, like a gas car, will vary depending on how the car is driven, speed of travel, outside temperatures and terrain. LEAF drivers commonly see 4 miles/kWh during non-winter months for average driving. Based on those conditions, a 2013 LEAF can achieve 84 miles (4 miles/kWh x 21 kWh) of range in AVERAGE conditions in a single run. Although, drivers will typically not drive all the way to a zero percent. During a cold winter day, LEAF efficiency can drop to 3 miles/kWh or less, significantly reducing range.

You should be able to buy a used LEAF with 90% or better capacity as measured by LEAFSpy. But make sure to consider if the vehicle will still work for you several years from when the battery has a slightly lower capacity.