

Electric Vehicle Charging for North Carolina's State Parks

Why should North Carolina install electric vehicle charging at all state parks?

- North Carolina's state parks receive millions of visitors.
 - In 2018, 19.4 million people visited our state parks, a 25% increase from 2014.¹
- North Carolina and the U.S. are seeing a growth in electric vehicles (EVs), a change that's expected to accelerate.
 - The state has roughly 9,600 EVs as of 2019. That number is expected to grow as EV prices decline, ranges improve and the used EV market grows.
- Governor Cooper set a goal in his Executive Order 80 for the state to have 80,000 ZEVs by 2025.
- EV charging availability at state parks will draw EV drivers, improve the visibility of EVs, and broaden North Carolina's limited EV charging network to underserved regions of state.

Do other states have EV charging in state parks?

- Yes. Several states offer free EV charging at state parks and others are developing plans.
 - West Virginia: EV charging stations including infrastructure are available at nine state parks.
 - Pennsylvania: EV charging stations including infrastructure are installed at all 40 state parks.
 - California: In 2019 Southern California Edison utility announced a plan to put 130 EV charging stations at 27 state parks and beaches. The plan was approved by the utility regulator and the cost will be recouped through charger fees.

How much would it cost to install EV charging in North Carolina's state parks?

- There are 41 state parks in North Carolina. Four have EV charging already: Crowders Mountain, Jordan Lake, Lake James, and Lake Norman state parks.
- The overall cost to install one EV charger at each of the remaining state parks would be roughly \$203,500.
 - This estimate is for 37 parks at an average of \$5,500 per park. It assumes a Level 2 charger² with an average cost of \$4,500 and \$1,000 for the EV charger. Installation costs vary significantly based on considerations such as the length of conduit run³, access to paneling⁴, and the need for trenching. EV charger costs range based on the number of ports but \$1,000 is a reasonable estimate.

¹ N.C. State Parks Annual Report, <https://files.nc.gov/ncparks/dpr-annual-report-2018.pdf>

² EV charging ranges from a regular wall outlet (Level 1) to networked charging stations (Level 2). Level 2 charging refers to the voltage the electric charger uses and it typically supplies 240 volts - equivalent to an oven or dryer. It uses a box and a cord for safety purposes. Level 2 allows for a range of charging "speeds" that can charge an average EV for up to 70 miles of use.

³ Conduit run refers to the tube used to route and protect electrical wiring. A conduit system includes a wall system, mechanical protection, and material used to make the tubing.

⁴ Paneling refers to the location that controls electric current that flows to the EV charging station. Breakers control electrical flow to protect against power surges.