



# Transforming Transportation in North Carolina

In January 2022, North Carolina Governor Roy Cooper issued Executive Order 246, reaffirming North Carolina's commitment to electrifying the state's transportation sector by setting out ambitious but attainable goals for electric vehicle (EV) adoption. These goals include reaching 1.25 million light-duty EVs on the state's roads by 2030 and for zero-emission vehicles (ZEVs) to account for half of all new vehicle sales in the state by 2030. EO 246 also calls for the state to reduce emissions of greenhouse gases (GHGs) by 50 percent below 2005 levels by 2030 and to zero no later than 2050, and requires state agencies to incorporate environmental justice and equity when implementing the EO.

Sierra Club and its partners worked with Synapse Energy Economics, an energy analysis firm, to prepare a report providing new modeling and analysis that has not been quantified in other papers.

First, the report presents a charging gap analysis, documenting the type and cost of publicly-accessible EV charging infrastructure that is necessary to meet and

support EO 246's aggressive EV adoption goals. North Carolina, like other states, has a lot of work to do in this space. The report articulates the cost of the necessary infrastructure, and Sierra Club and its partners call on the State to create a framework for coordinating federal, state, private, and utility-scale investments in EV charging infrastructure, which does not currently exist.

Second, the report calculates the benefits to North Carolinians of meeting EO 246's EV goals by quantifying the greenhouse gas reductions, public health benefits, and fuel cost savings to consumers of switching from gasoline and diesel cars and trucks to EVs.

Meeting EO 246's EV adoption goals will require a massive expansion of charging infrastructure in North Carolina. This report analyzes the state's EV charging infrastructure gap, comparing the number of publicly-accessible EV chargers in place now with the type, amount, and cost of public chargers needed by 2030 under EO 246. As of 2022, there were only 978 public Level 2 charging stations and 568 DC fast chargers in the state.

**In this report, Synapse Energy Economics and Sierra Club used the Department of Energy's EVI-Pro Lite modeling tool to demonstrate that in order to support 1.25 million EVs on the road by 2030, North Carolina will need approximately 35,000 additional Level 2 chargers, and 4,100 additional DC fast chargers located at workplaces or along roadways by 2030.** And while North Carolina is due to receive \$109 million from the federal infrastructure bill for highway charging infrastructure over the next five years, that is less than one-third of the cost of installing the charging infrastructure the state needs through 2026, and only about one-tenth of the funds required by 2030.

As detailed in this report, despite the cost of the necessary EV charging infrastructure, the benefits of achieving EO 246's EV adoption goals are massive:



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