



Electric Transportation in North Carolina

Lisa Poger,
Transportation Project Manager



Electric Vehicle Trivia



Question One

How many electric cars are currently registered to drivers in the North Carolina?

- a) 975
- b) 1,588
- c) 4,230
- d) 7,416



Question Two

How many car manufacturers now offer electric vehicle options?

- a) 3
- b) 5
- c) 9
- d) 18



Question Three

What is the average driving range (per charge) of the newest electric vehicle models?

- a) < 50 miles
- b) 75 miles
- c) 100 miles
- d) > 200 miles



EV Market Outlook

Electric Vehicle Evolution

- Move toward **electricity** as primary fuel source
- Plug into an external electrical power supply to re-fuel
- Have an electric motor or combination of electric motor and gasoline engine (hybrid) that propels the vehicle



Toyota Prius
Hybrid Electric



GM's Chevy Volt
Plug-In Hybrid



Nissan Leaf
All-Electric

Most Popular all-electric EVs



Nissan LEAF

107 Miles (2017)
200 Miles (2018+)



BMW i3

114 Miles
(optional range
extension)



Tesla Model S

210 - 315 Miles

Chevy Bolt
238 Miles



Tesla Model 3

220 - 310 miles



Plug-In Hybrid Models



Chevy Volt

53 electric / 420 total Miles



Ford CMax

21 electric / 620 total Miles



BMW X5 eDrive

20 electric / 340 total Miles



Workhorse Pick-Up

80 electric / 310 total Miles

Manufacturers Producing Electric Vehicles



Why Drive Electric?



Why support electric vehicles?



Environmental Improvements

- Air quality improvements are the goal of the Settlement funds.
- Investing in charging infrastructure can help consumer marketplace to electric vehicles free on NOx emissions.
- The electric grid gets cleaner every day and benefits will grow over time.



Economic Development

- Several NC companies work with electric vehicle including charging station manufacturers and integration suppliers. These include ABB, GE, Siemens and Brightfield Transportation Solutions.
- By shifting to electric fuel, drivers save money locally.



Cost Savings

- Electricity is a \$1 per gallon equivalent fuel.
- Federal tax credits and dealer incentives make vehicle purchases attractive.
- Electric vehicles have lower maintenance costs.



Energy Independence

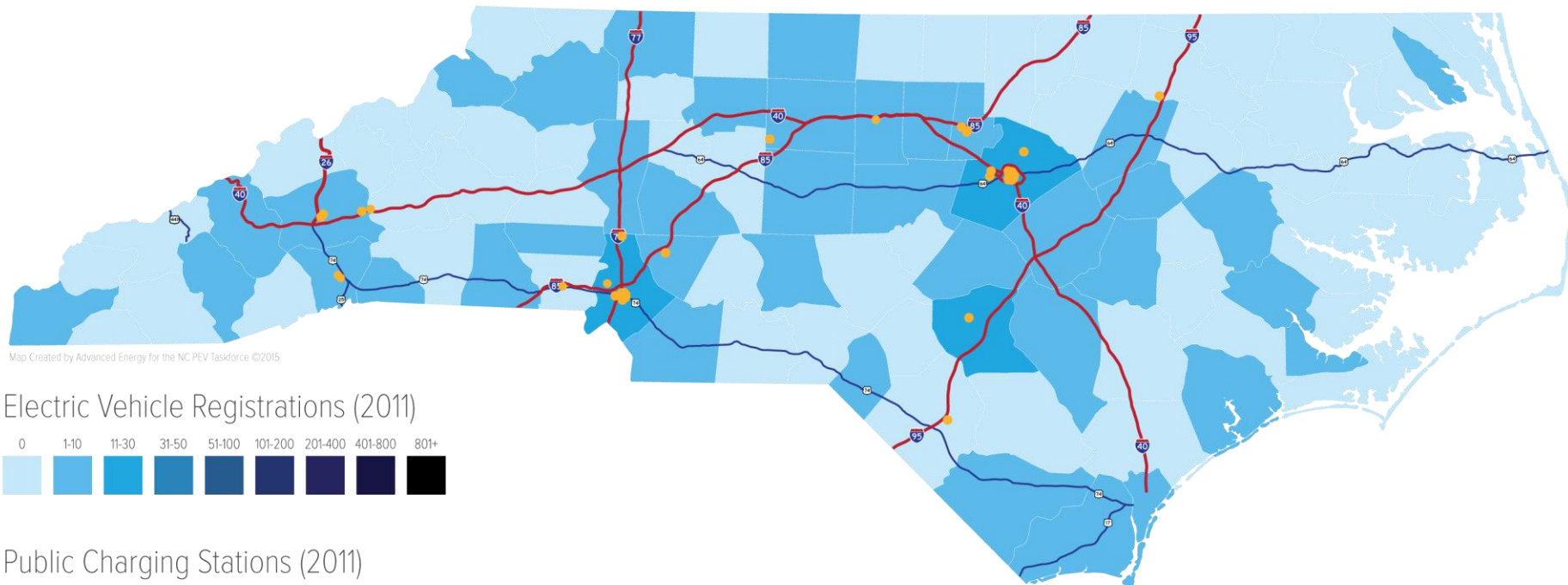
- Electric fuels are locally generated.
- Domestically produced fuels are not as subject to international influences and/or severe weather.
- A variable mix of electric generation fuels provides stability in electricity pricing.



Beneficial Grid Asset

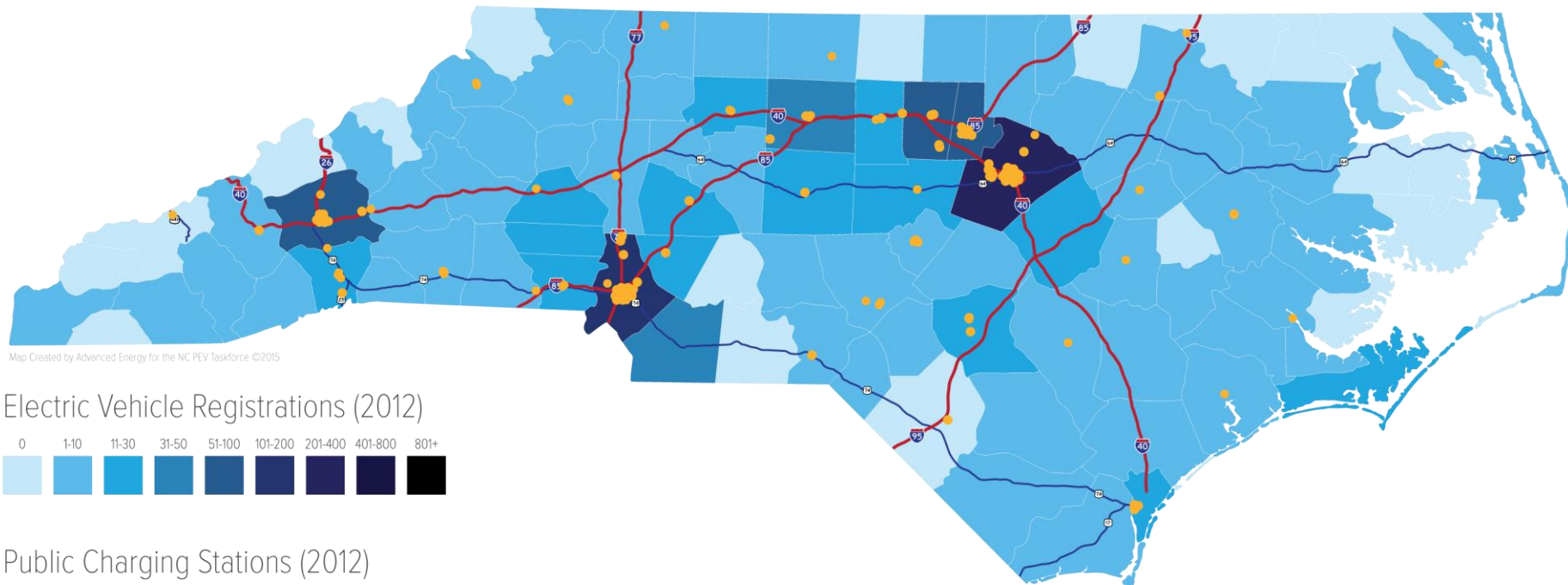
- Encourage greater integration of renewable energy.

North Carolina Electric Vehicles & Charging Stations: 2011



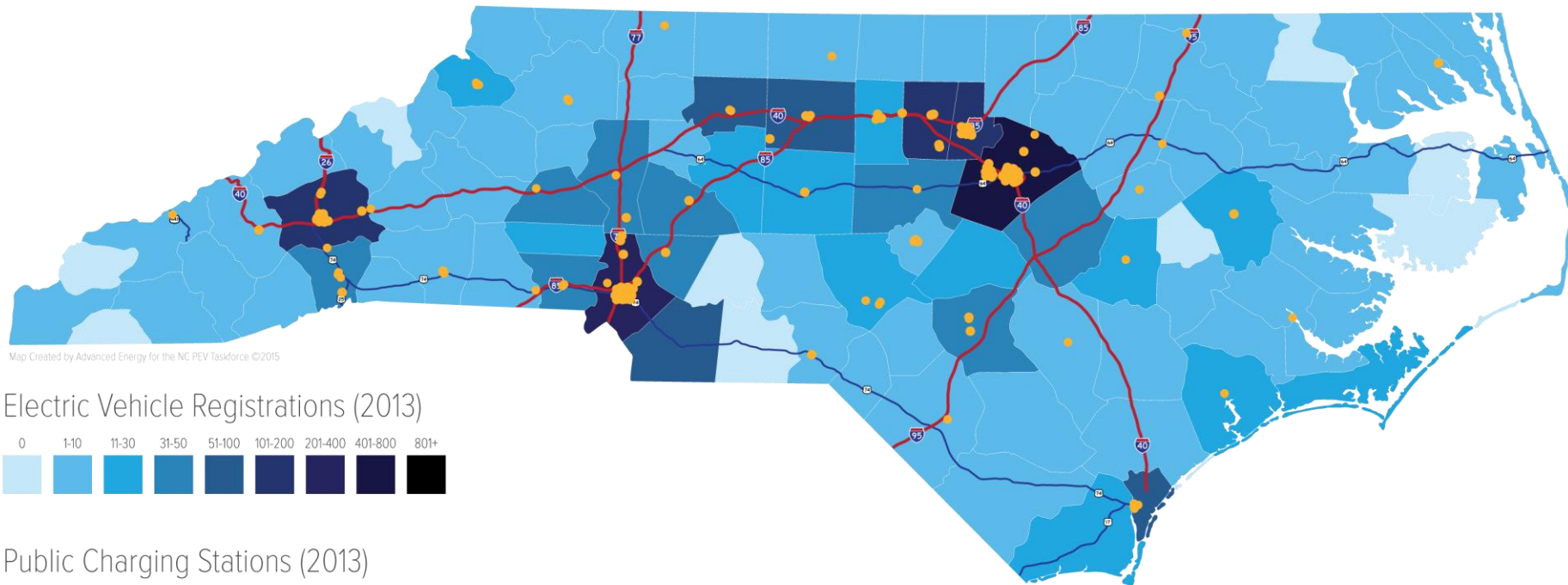
Electric Vehicle Data Source: National Renewable Energy Laboratory analysis, R.L. Polk, POLK_VIO_DETAIL_2011, 2015 (data pulled by Triangle Clean Cities Coalition)
Charging Station Data Source: AFDC Alternative Fueling Station Locator Data, U.S. Department of Energy

North Carolina Electric Vehicles & Charging Stations: 2012



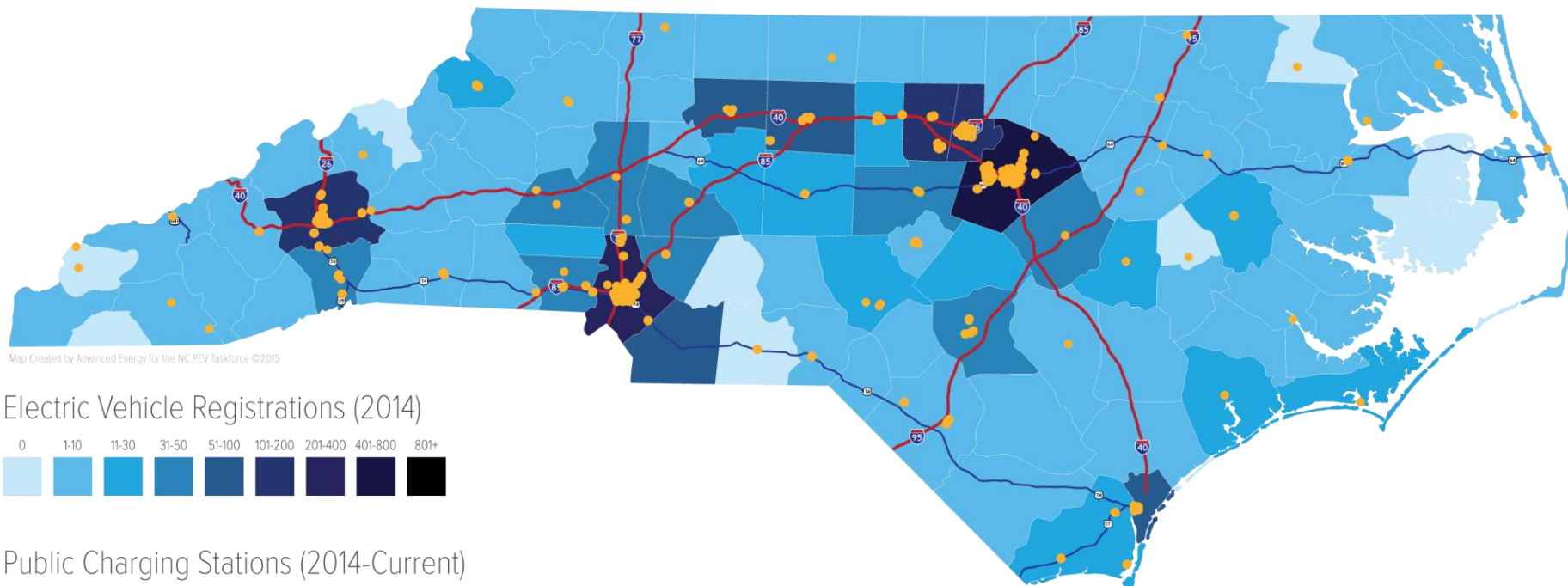
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North Carolina Electric Vehicles & Charging Stations: 2013



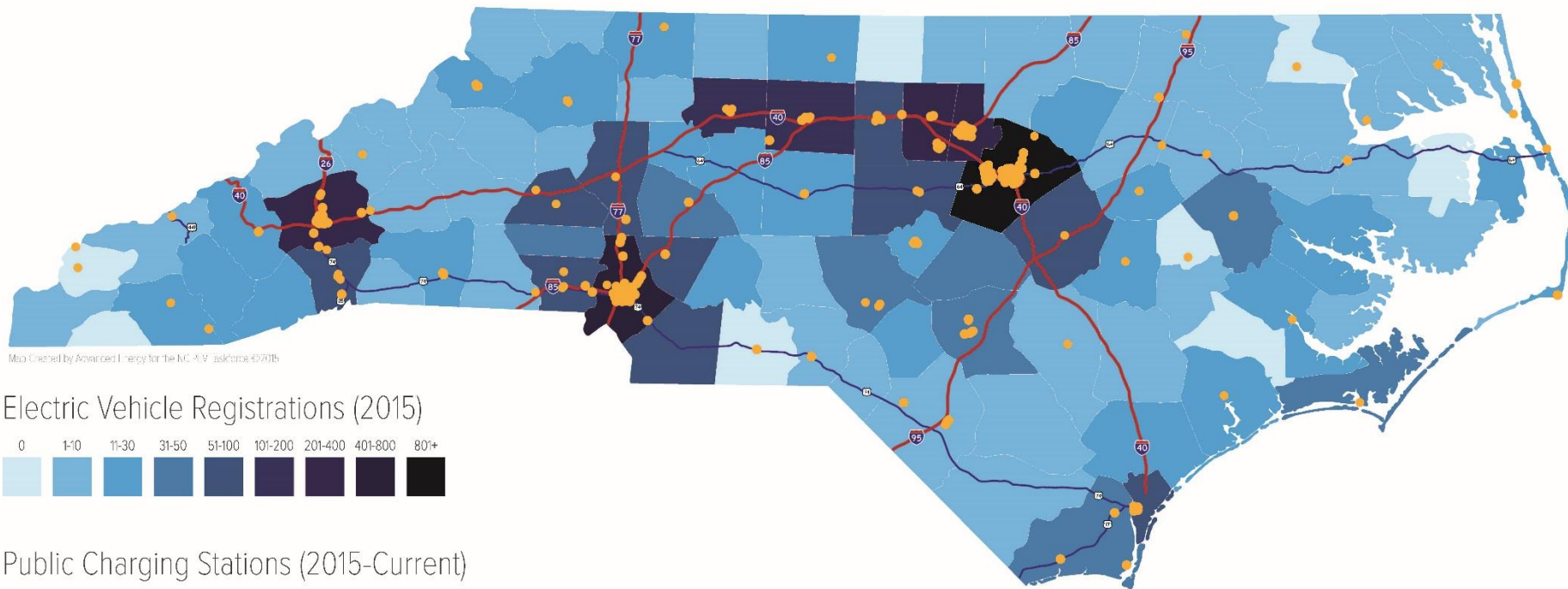
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North Carolina Electric Vehicles & Charging Stations: 2014



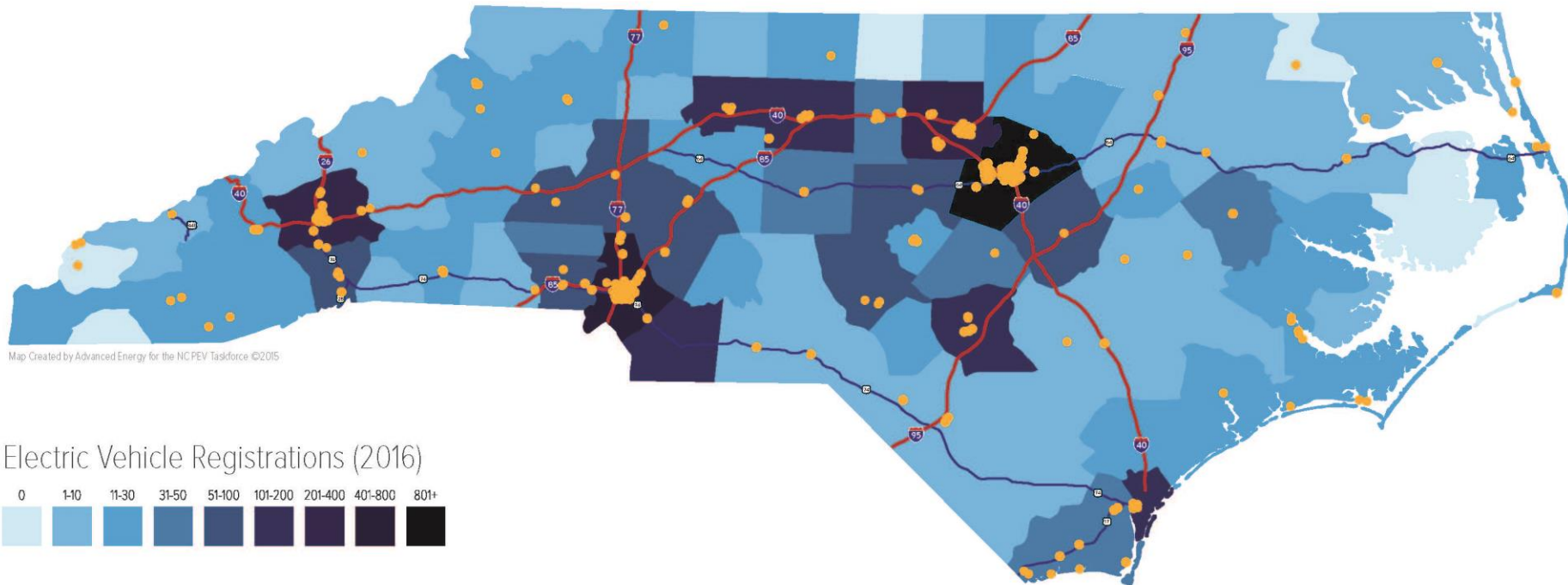
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North Carolina Electric Vehicles & Charging Stations: 2015



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North Carolina Electric Vehicles & Charging Stations: 2016



Public Charging Stations (2016)



2017 (August)
Registered Vehicles: 7,416
Charging Stations: 983

NC PEV Trends

