ZETA

COMPARING THE OPERATING COSTS

OF ELECTRIC VEHICLES AND GAS-POWERED VEHICLES

It is far cheaper to drive an electric vehicle than a gas-powered car, and surging gasoline prices are making the cost-savings increasingly apparent.

Contents

Overview

This analysis compares the operating costs of gas-powered vehicles and electric vehicles (EVs) nationally and in various states. The three gas-powered cars featured in the analysis represent the most popular vehicles in the pickup truck, SUV, and sedan vehicle segments in the United States. The EVs included in this analysis are approximate analogues to the highlighted gas-powered vehicles. While they are imperfect corollaries to the gas-powered vehicles, these electric models nevertheless illustrate the substantial cost savings.

Key Takeaways on Cost to Drive an EV vs. a Gas-Powered Vehicle

Gas prices are inherently volatile—and they always will be. EVs, on the other hand, are not dependent on global oil and gas markets, so their operating costs are not subject to price shocks, disruptions, and supply shortages. Instead, EVs run on electricity, which is cheaper than gasoline and is domestically produced from increasingly renewable and local resources.

EVs are far cheaper to drive than gas-powered vehicles. Overall, as of March 2022, it is markedly cheaper to charge an EV battery than it is to fill up a gas-powered vehicle's tank. Additionally, EVs are far cheaper to drive per mile than driving a gas-powered vehicle both nationally and in each state we analyzed. Nationally, EVs are 3-5 times cheaper to drive per mile than gas-powered vehicles. In several states (including Arizona, Florida, Georgia, Nevada, North Carolina, Tennessee, and Virginia), some EVs are 5–6 times cheaper to drive per mile.

EVs are getting cheaper, and they will reach sticker price parity with gas-powered cars in just two years, if not sooner. EV sticker price parity with gas-powered cars is likely to occur between 2024–2025 for shorter-range and 2026–2028 for longer-range EVs, according to the International Council on Clean Transportation. These projected EV sticker price decreases do not include any potential federal or state EV tax incentives, which will further lower EVs' consumer prices. In addition to their fuel cost savings, EVs require less maintenance than gas-powered vehicles. EVs can save drivers between $1,800 and $2,600 on operating and maintenance costs per year, according to Consumer Reports.

EVs will cost less to buy if Congress passes clean energy tax incentives. The proposed EV tax credit expansion in President Biden's clean energy plan would further reduce EV sticker prices by up to $12,500, making it cost less to both buy and drive an EV. Congress should pass these clean energy provisions to deliver cost parity between EVs and gas-powered vehicles even sooner than expected.

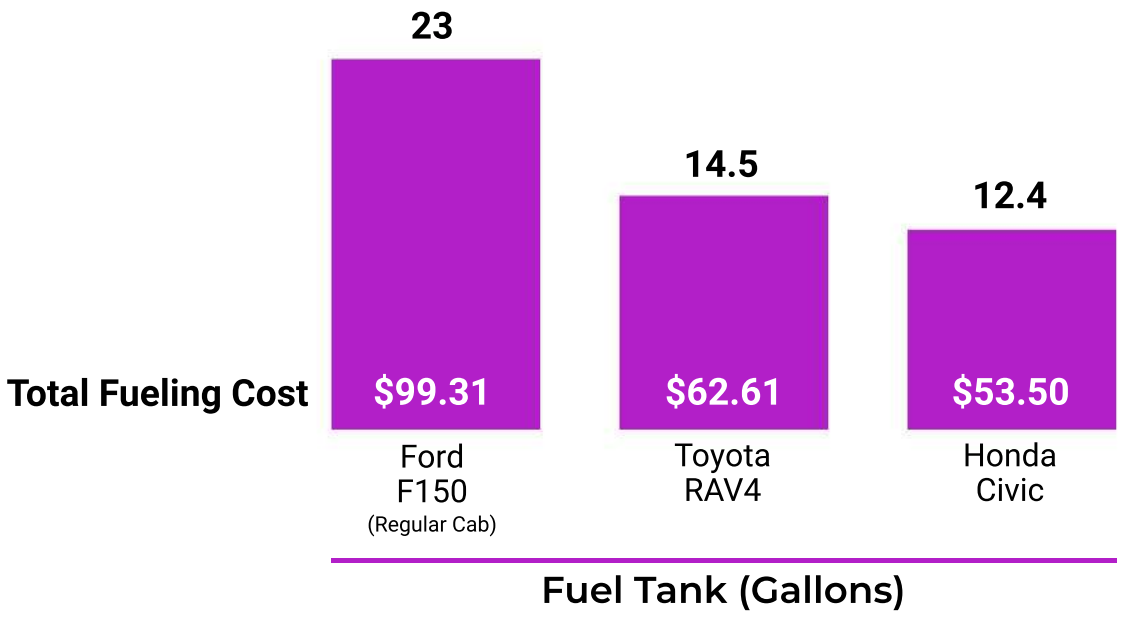
Comparing the Operating Costs of Gas-Powered and Electric Vechicles

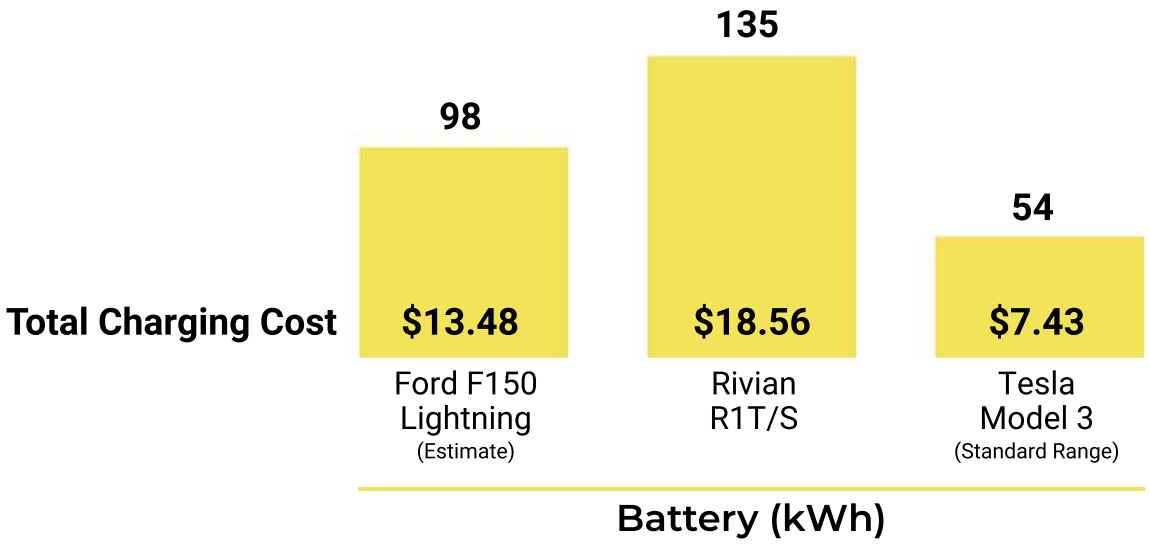
National Average Gas Price Per Gallon
(As of March 10)

$4.32

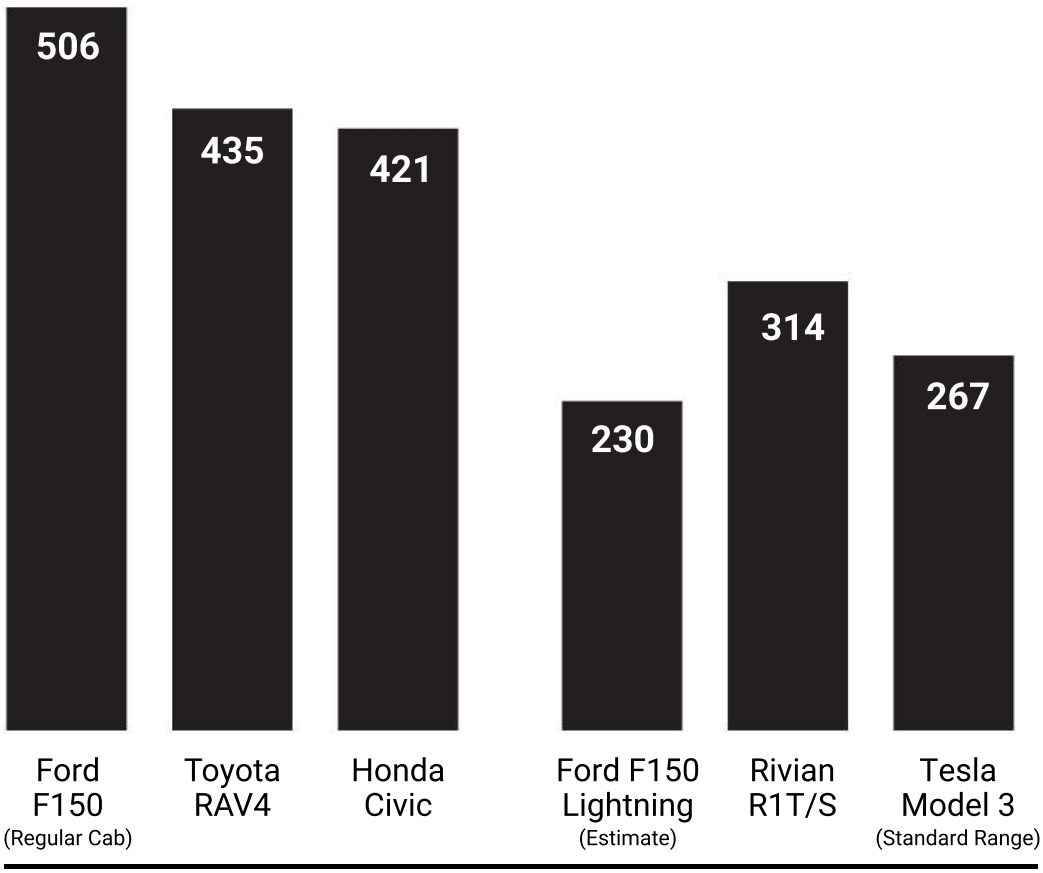
National Average Electricity Price Per Kilowatt-hour
(As of Dec 2021)

$0.14

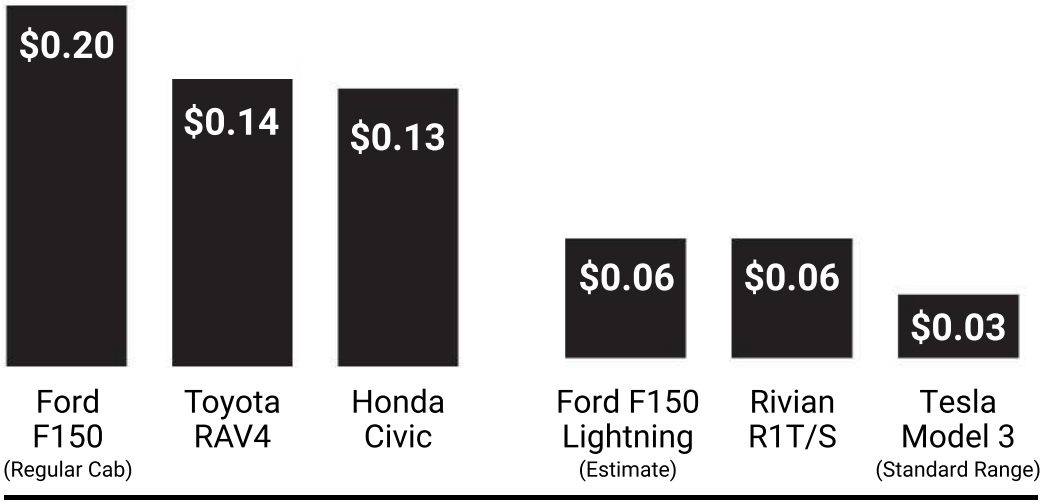




Comparing The Operating Costs of Gas-Powered And Electric Vehicles



Estimated Mileage

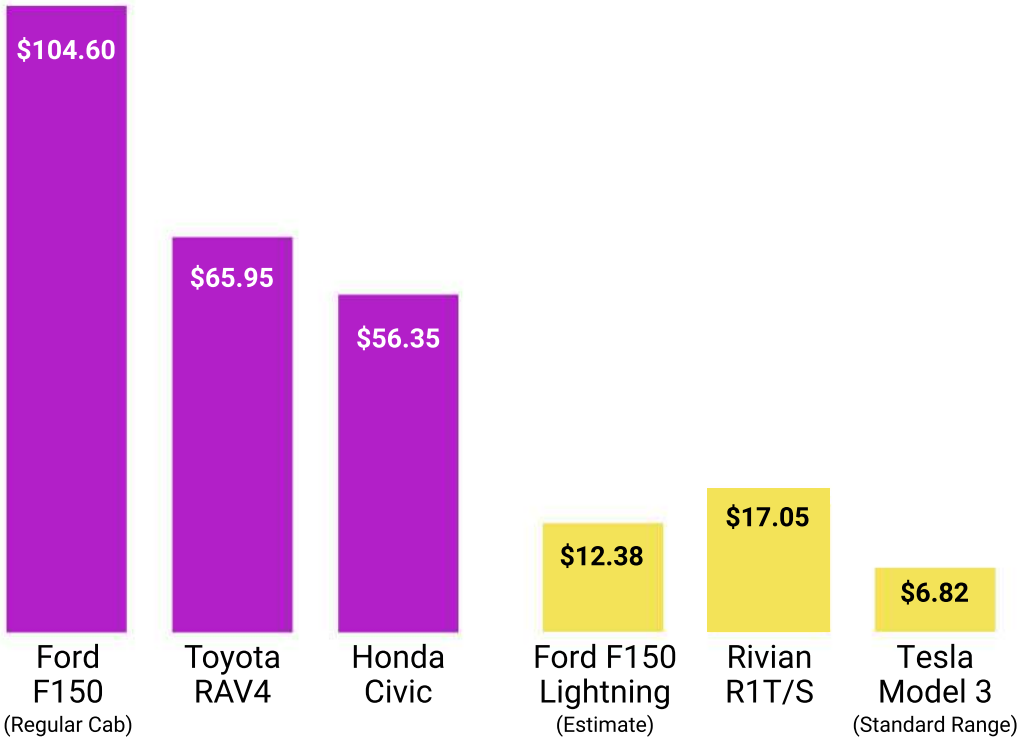


Total Cost Per Mile

Arizona

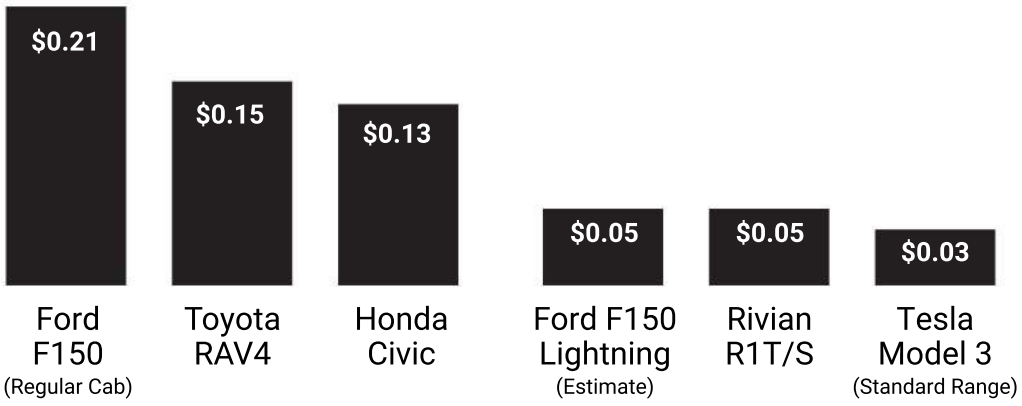
Average Energy price for Gallon of Gasoline
$4.55

Average Energy price for kWh in Electricity
$0.13



Total fueling cost

Total charging cost

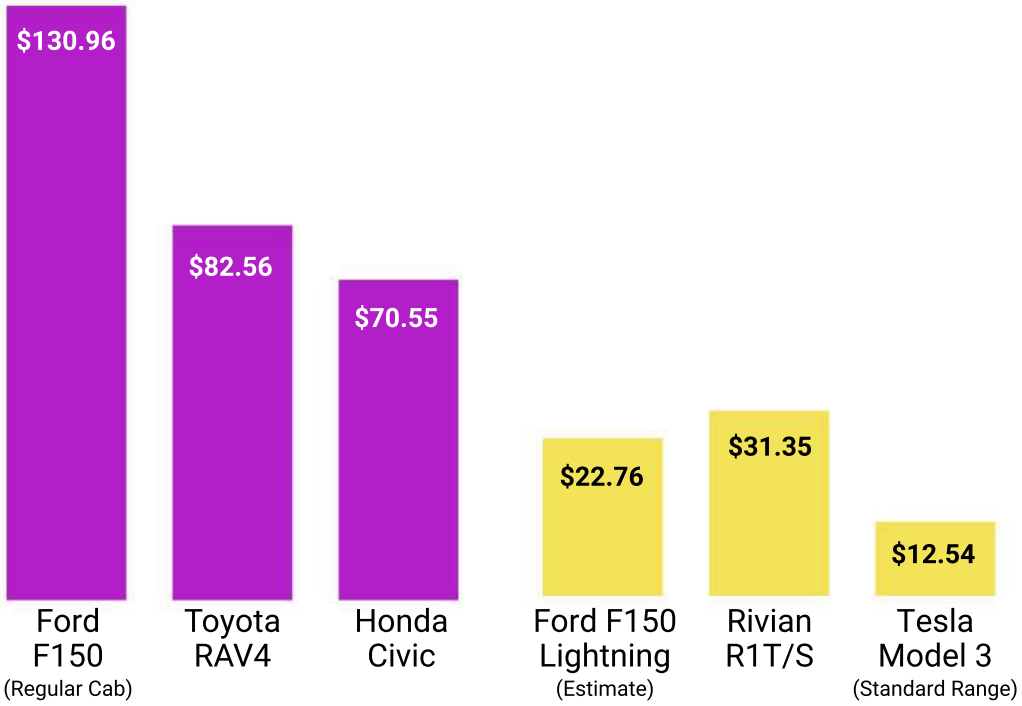


Total Cost Per Mile

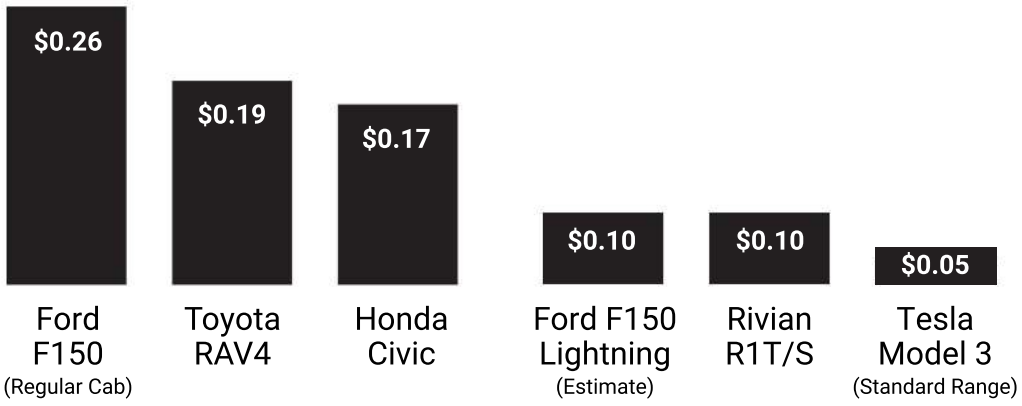
California

Average Energy price for Gallon of Gasoline
$5.69

Average Energy price for kWh in Electricity
$0.23



Total fueling cost | **Total charging cost**

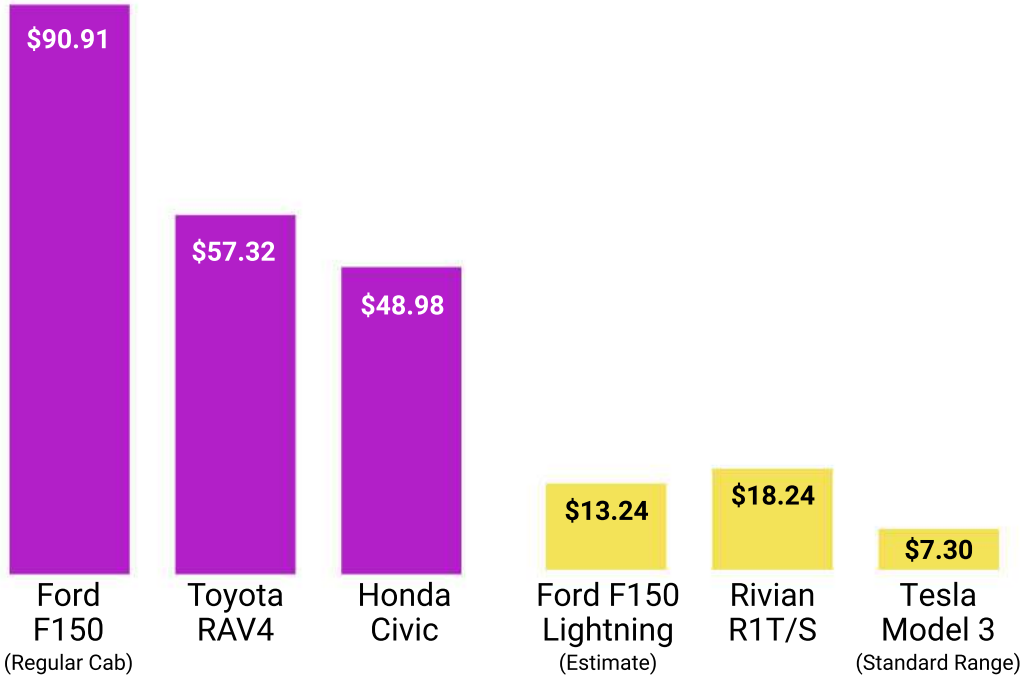


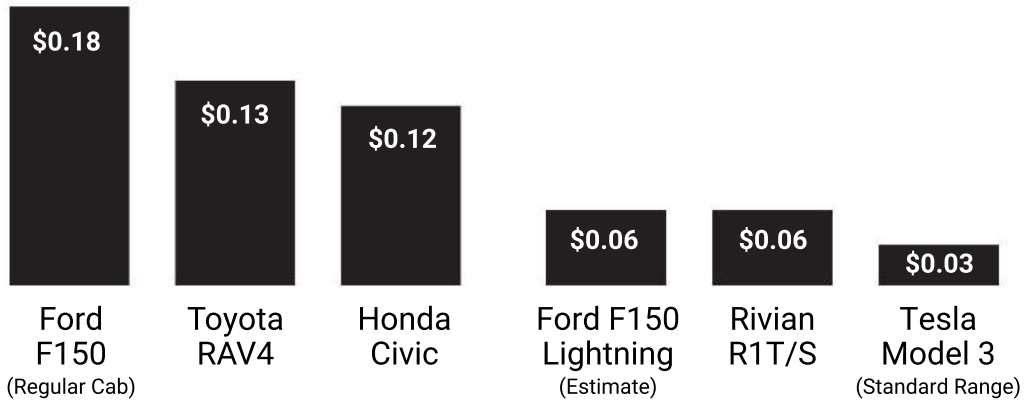
Total Cost Per Mile

Colorado

Average Energy price for Gallon of Gasoline
$3.95

Average Energy price for kWh in Electricity
$0.14

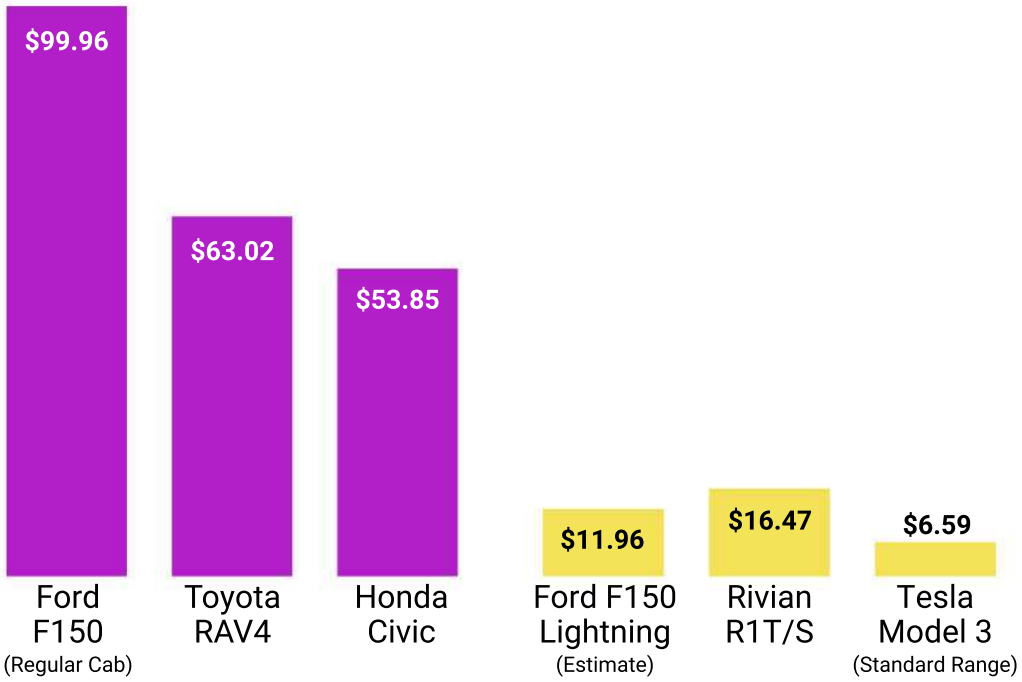




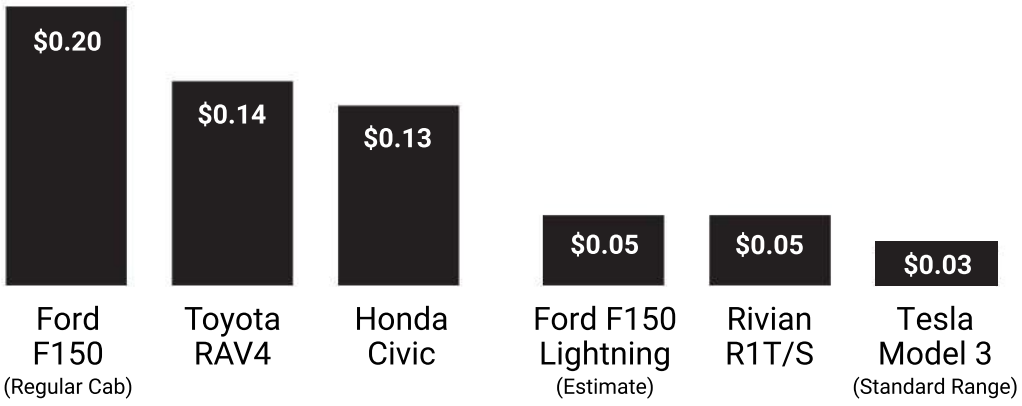
Florida

Average Energy price for Gallon of Gasoline
$4.35

Average Energy price for kWh in Electricity
$0.12



Total fueling cost | **Total charging cost**

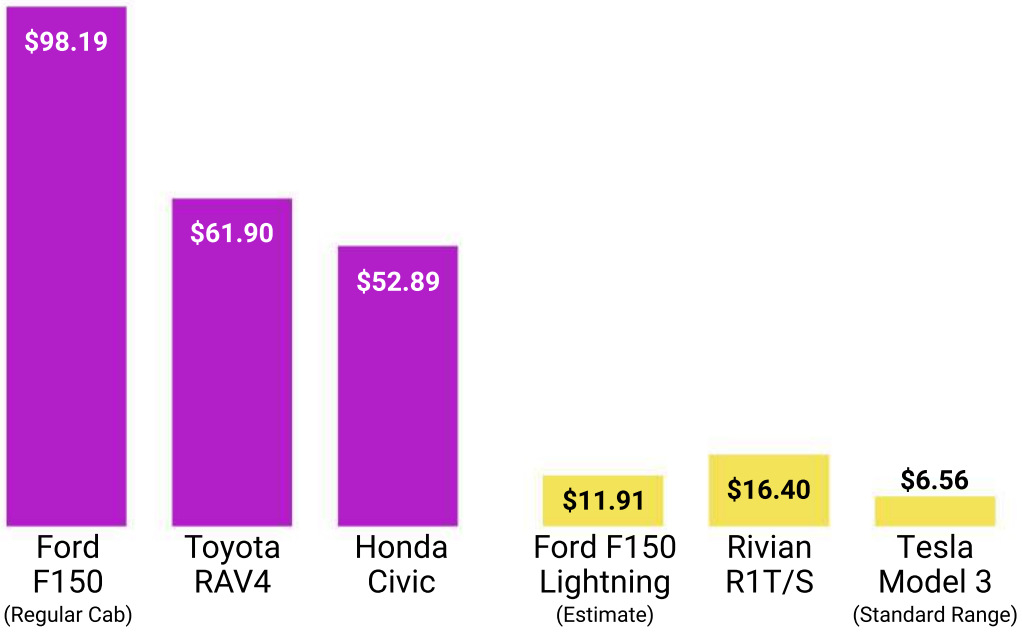


Total Cost Per Mile

Georgia

Average Energy price for Gallon of Gasoline
$4.27

Average Energy price for kWh in Electricity
$0.12



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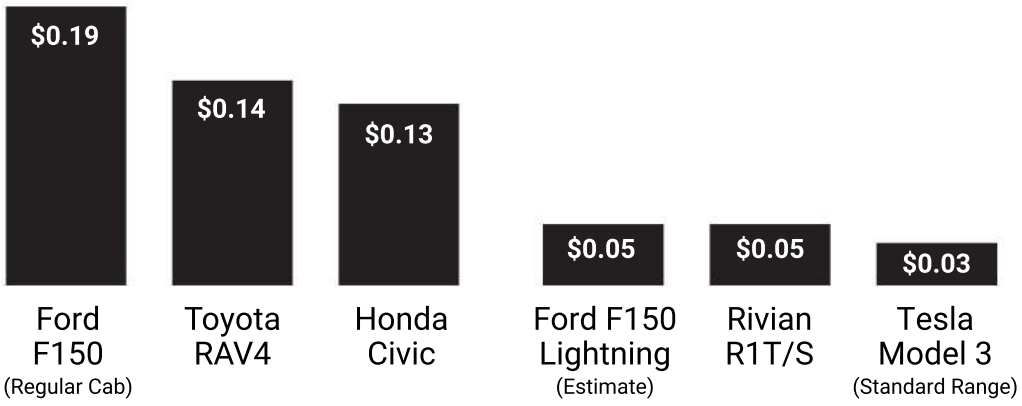
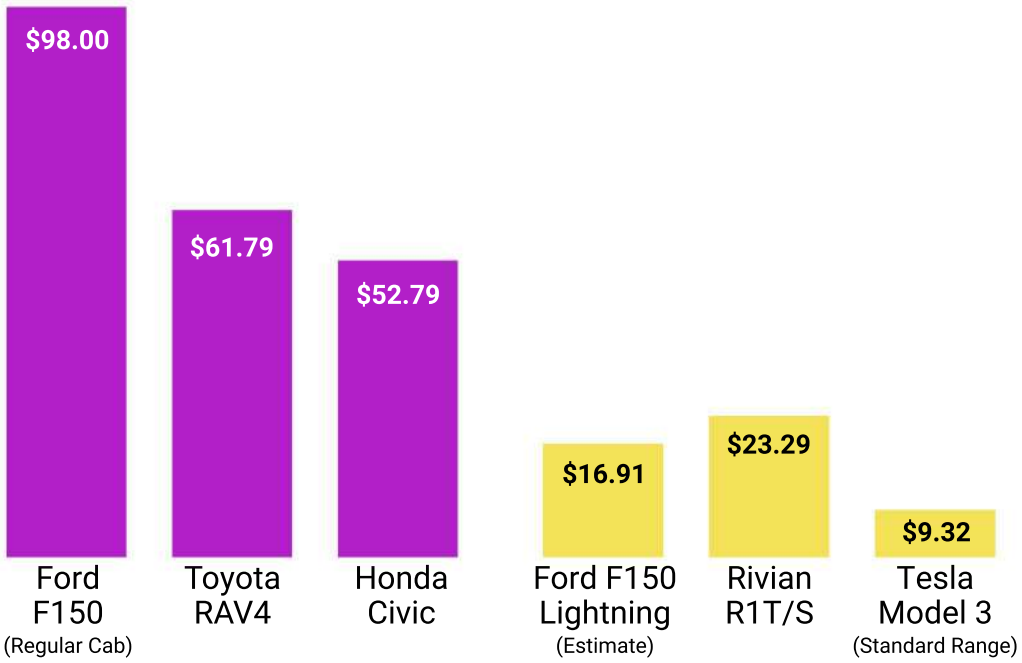


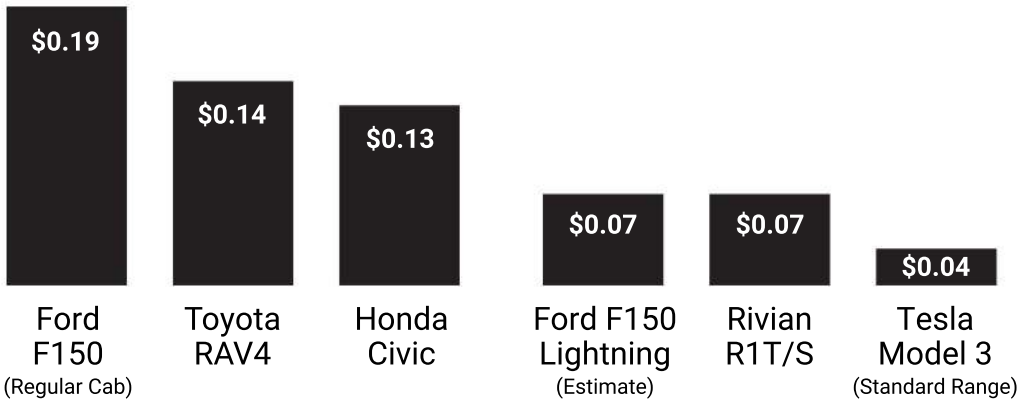
Total Cost Per Mile

Michigan

Average Energy price for Gallon of Gasoline
$4.26

Average Energy price for kWh in Electricity
$0.17

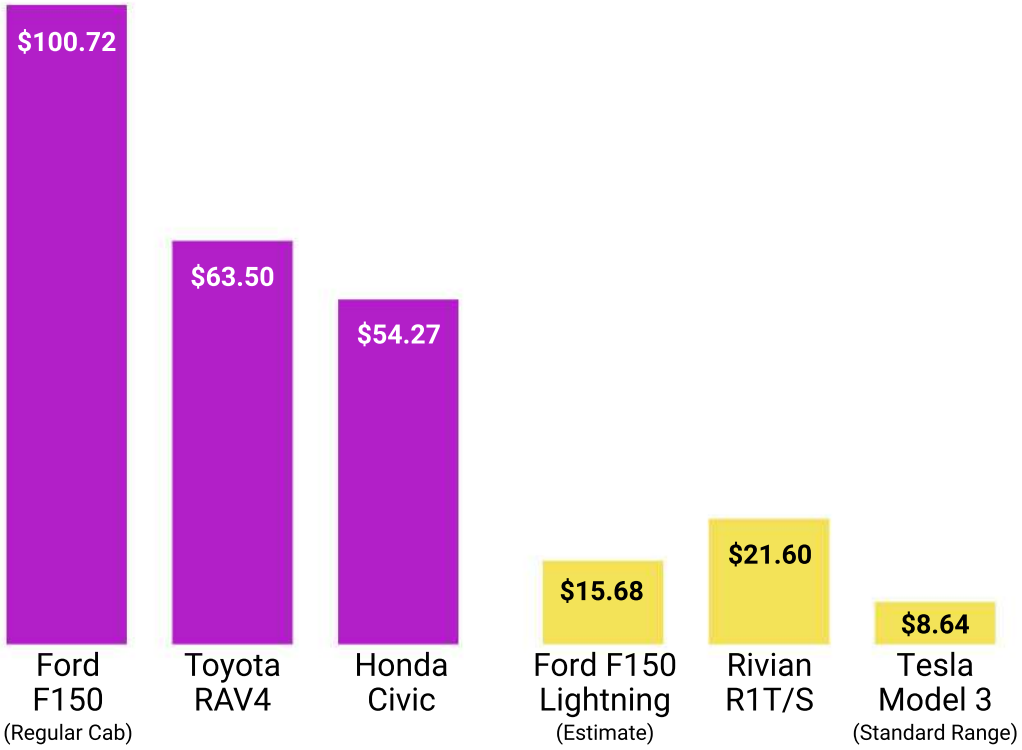




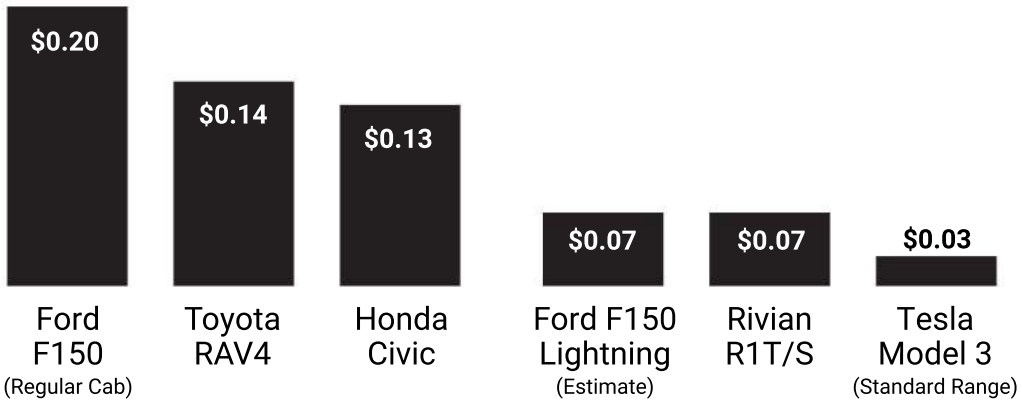
New Jersey

Average Energy price for Gallon of Gasoline
$4.38

Average Energy price for kWh in Electricity
$0.16



Total fueling cost | **Total charging cost**

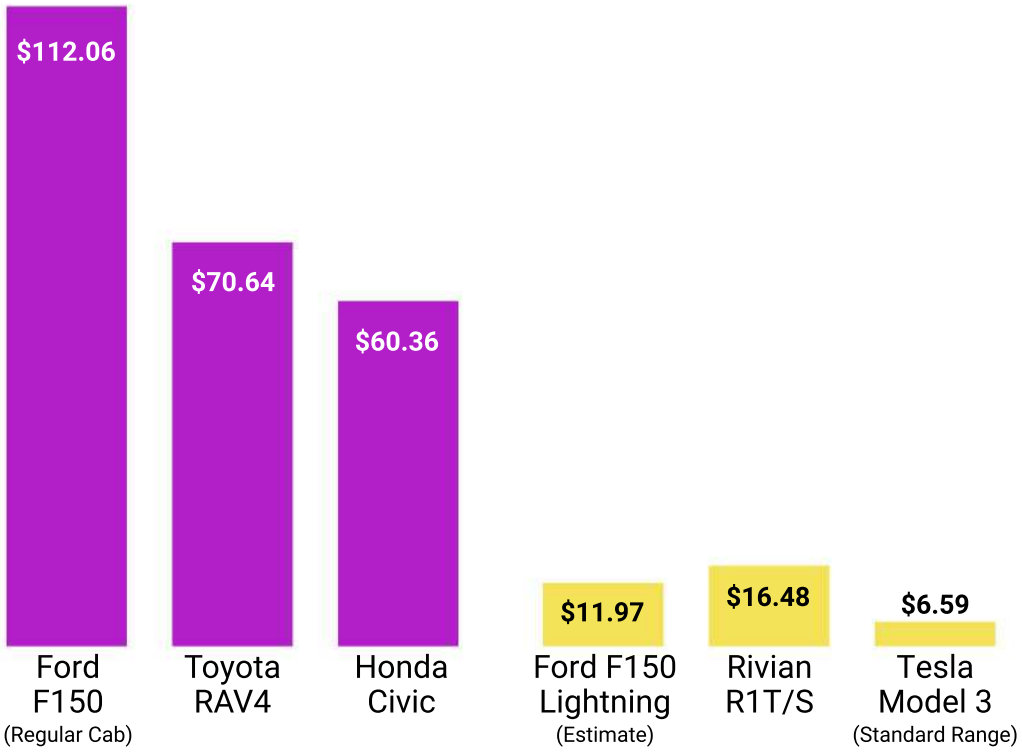


Total Cost Per Mile

Nevada

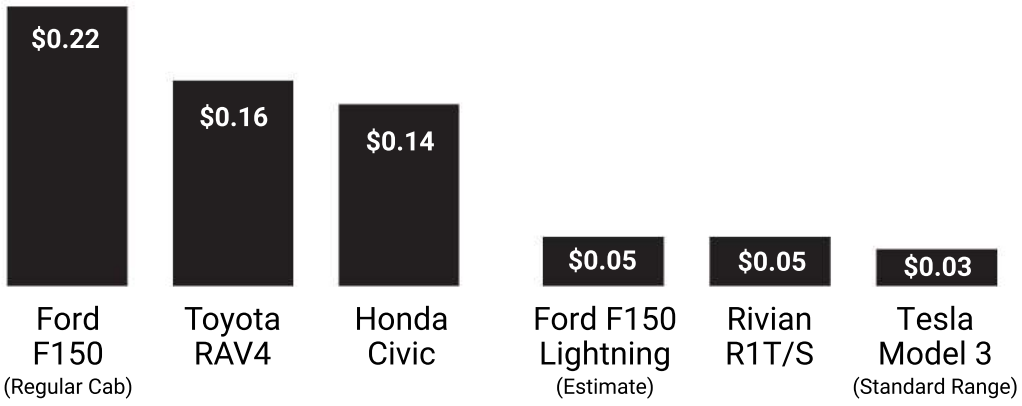
Average Energy price for Gallon of Gasoline
$4.87

Average Energy price for kWh in Electricity
$0.12



Total fueling cost

Total charging cost

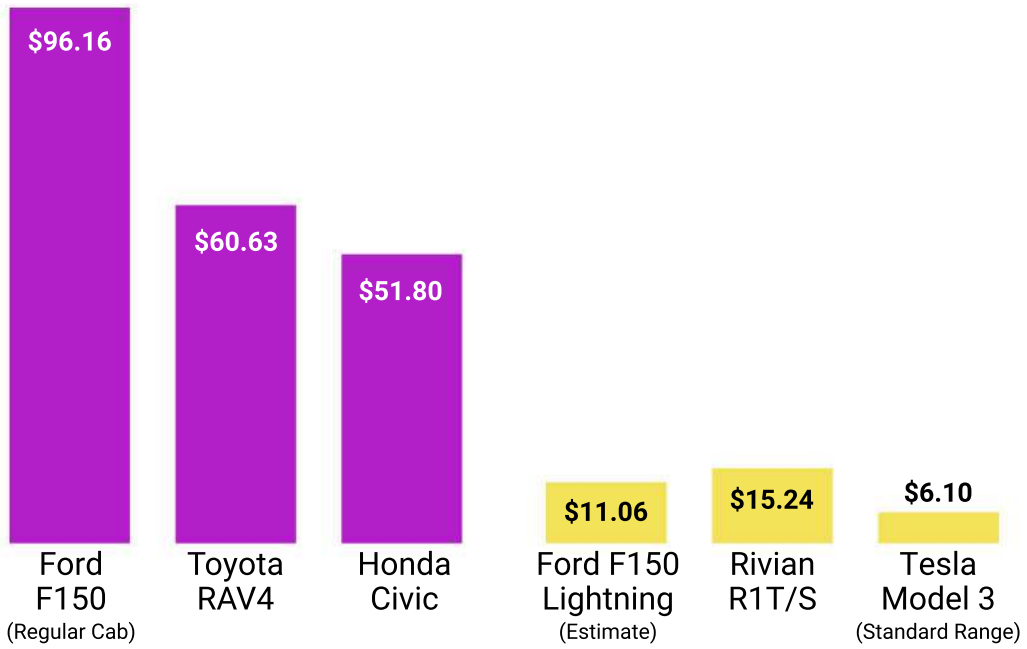


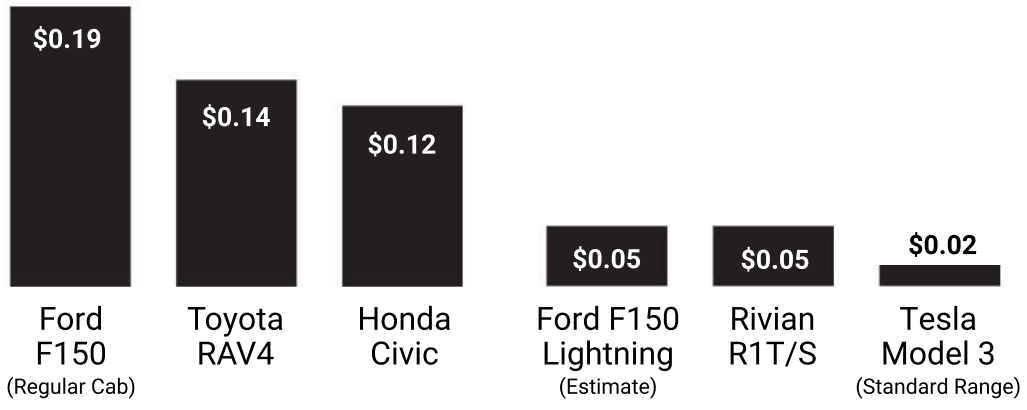
Total Cost Per Mile

North Carolina

Average Energy price for Gallon of Gasoline
$4.18

Average Energy price for kWh in Electricity
$0.11

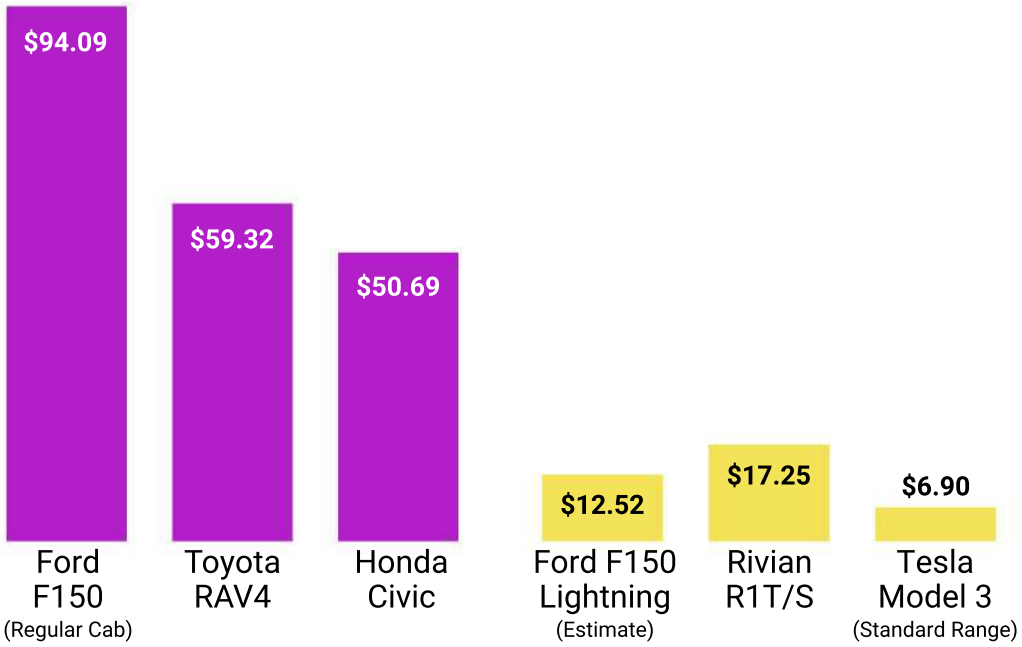




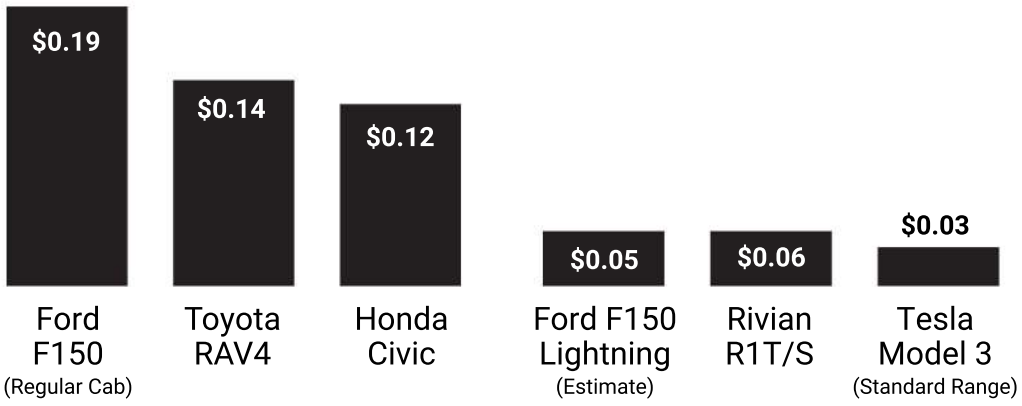
Ohio

Average Energy price for Gallon of Gasoline
$4.09

Average Energy price for kWh in Electricity
$0.13



Total fueling cost | **Total charging cost**

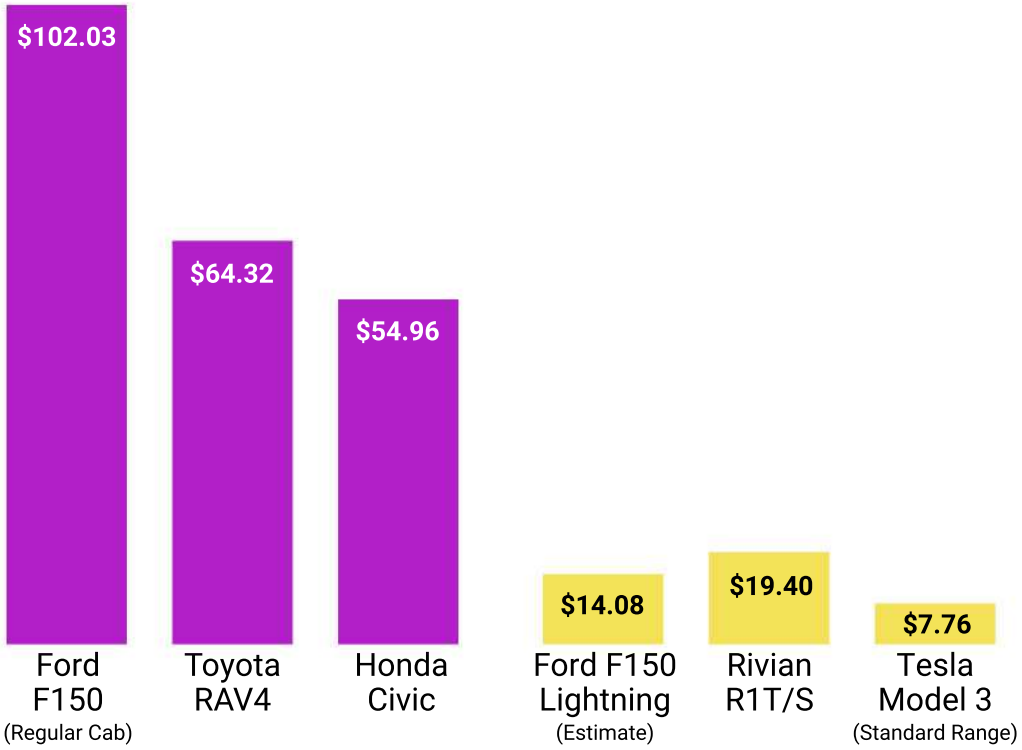


Total Cost Per Mile

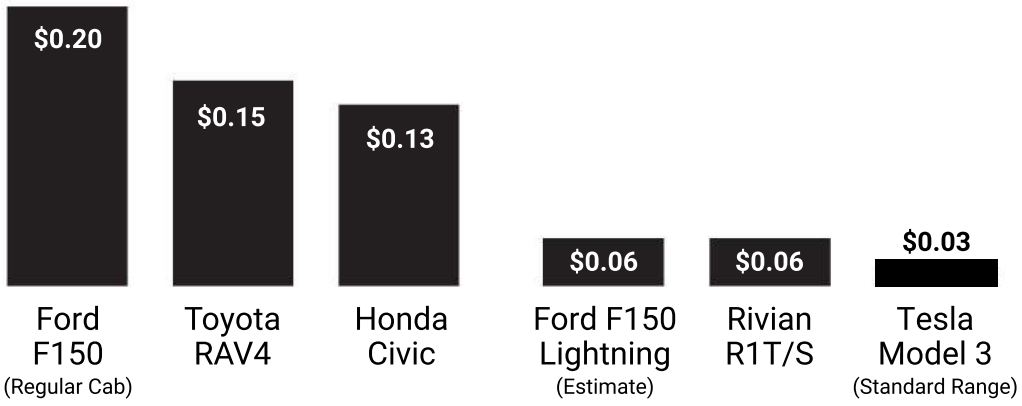
Pennsylvania

Average Energy price for Gallon of Gasoline
$4.44

Average Energy price for kWh in Electricity
$0.14



Total fueling cost | **Total charging cost**

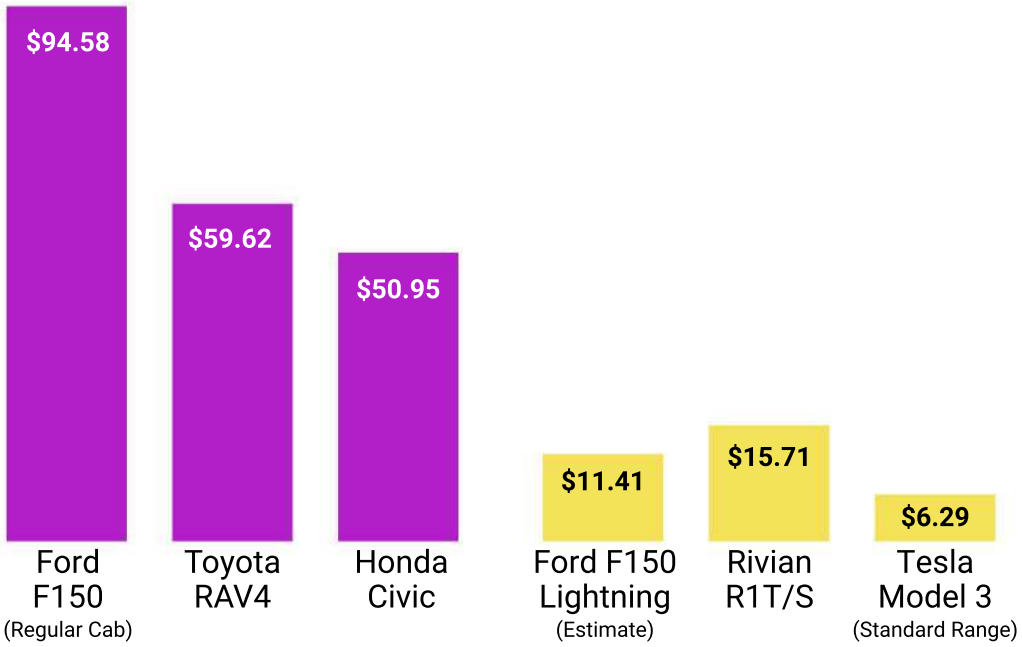


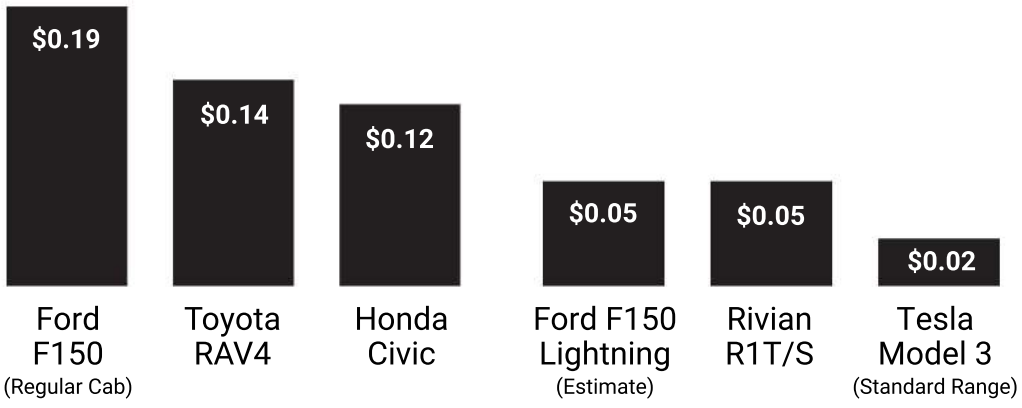
Total Cost Per Mile

Tennessee

Average Energy price for Gallon of Gasoline
$4.11

Average Energy price for kWh in Electricity
$0.12

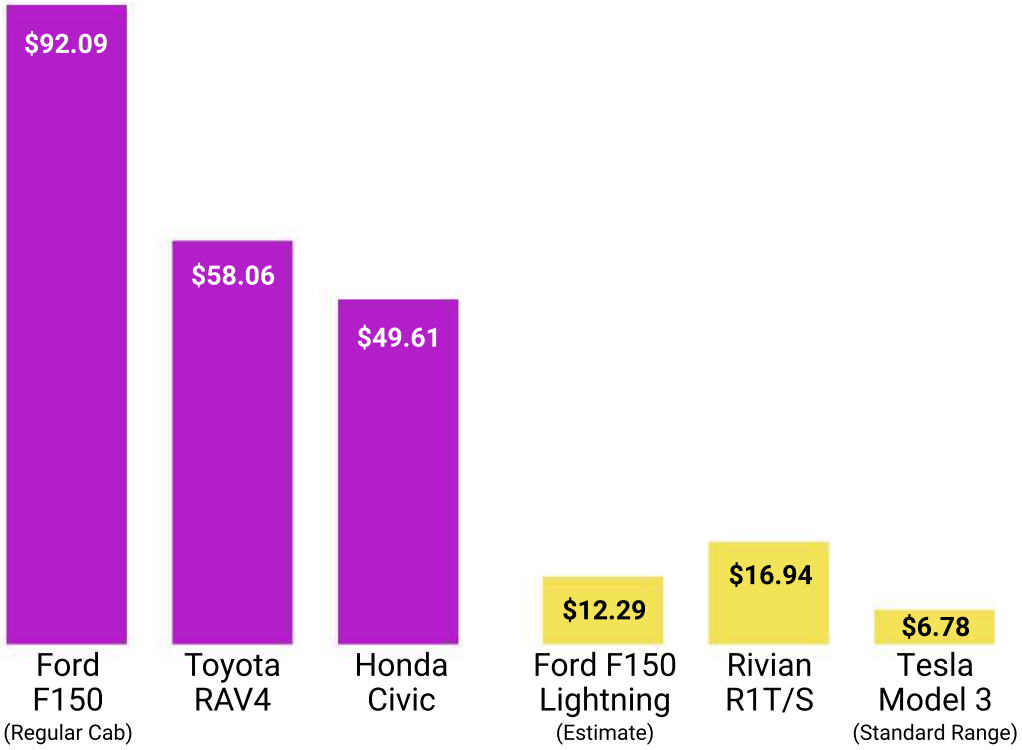




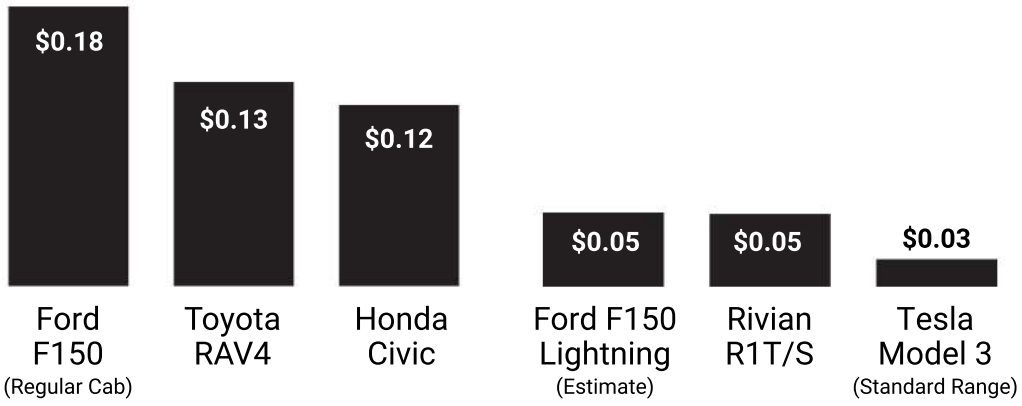
Texas

Average Energy price for Gallon of Gasoline
$4.00

Average Energy price for kWh in Electricity
$0.13



Total fueling cost | **Total charging cost**

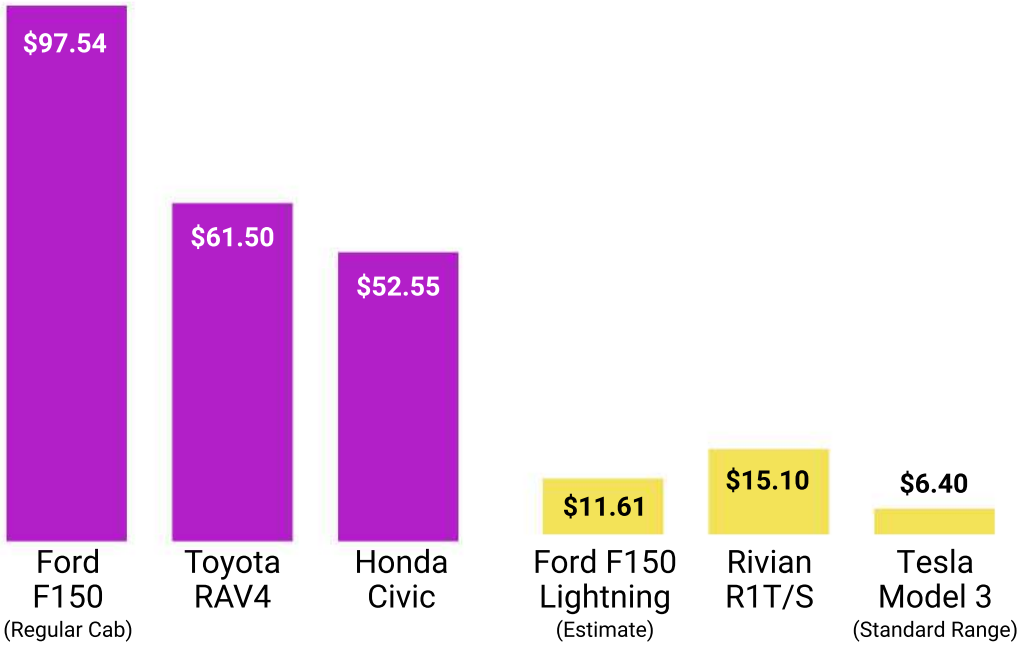


Total Cost Per Mile

Virginia

Average Energy price for Gallon of Gasoline
$4.24

Average Energy price for kWh in Electricity
$0.12



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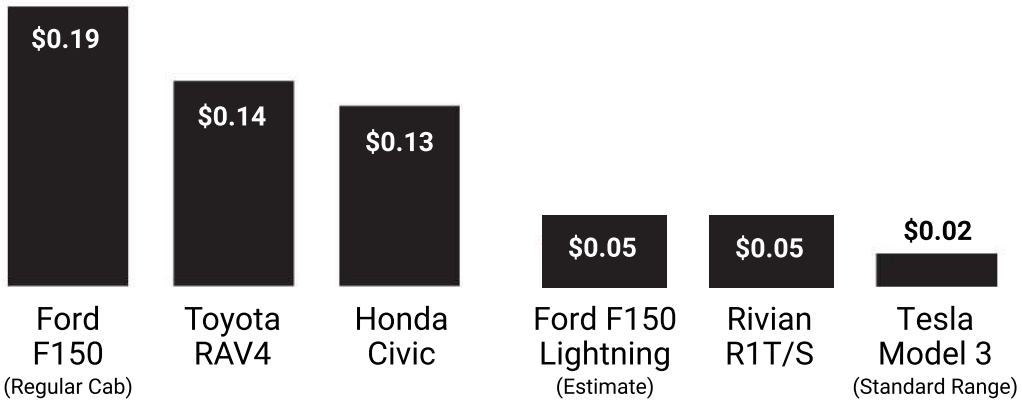
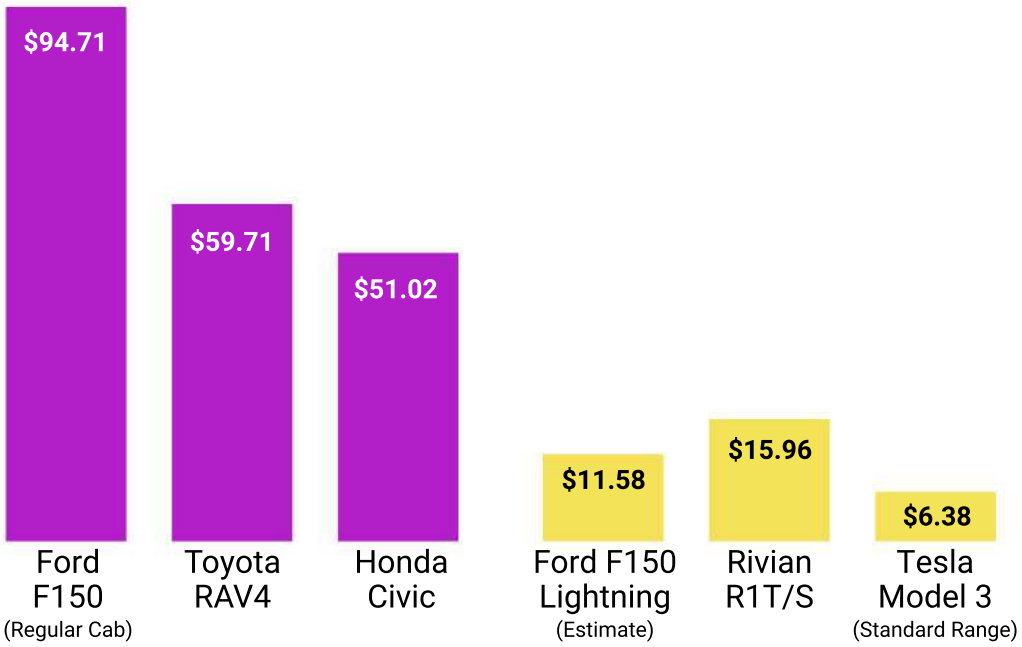


Total Cost Per Mile

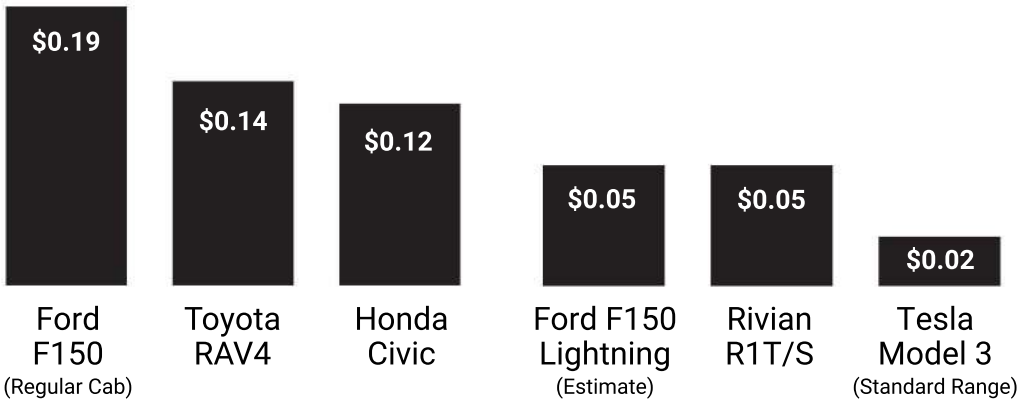
West Virginia

Average Energy price for Gallon of Gasoline
$4.12

Average Energy price for kWh in Electricity
$0.12



Total fueling cost | **Total charging cost**

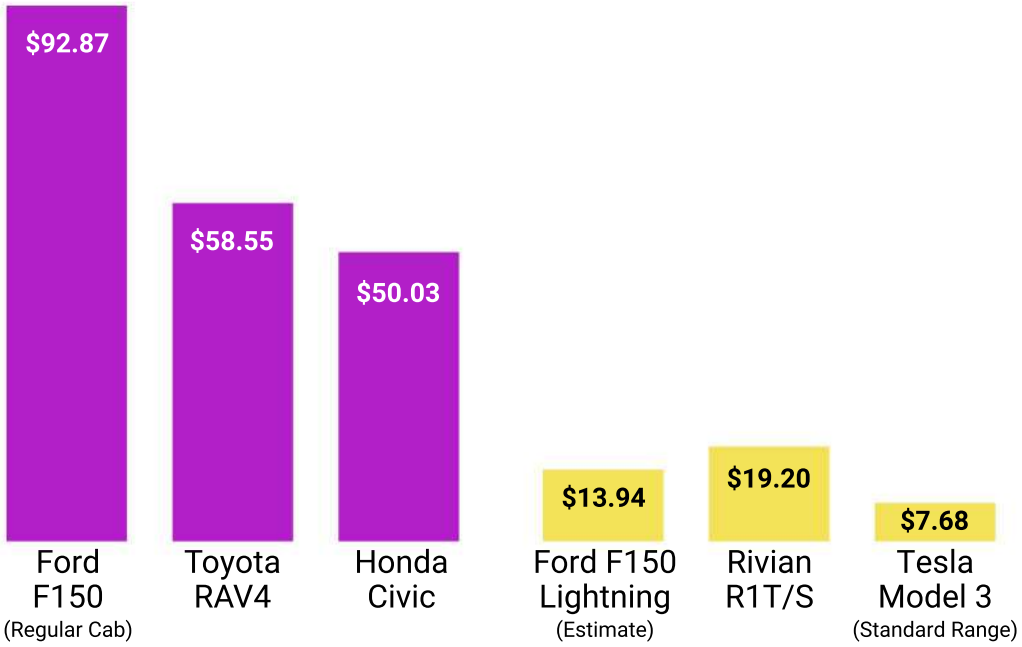


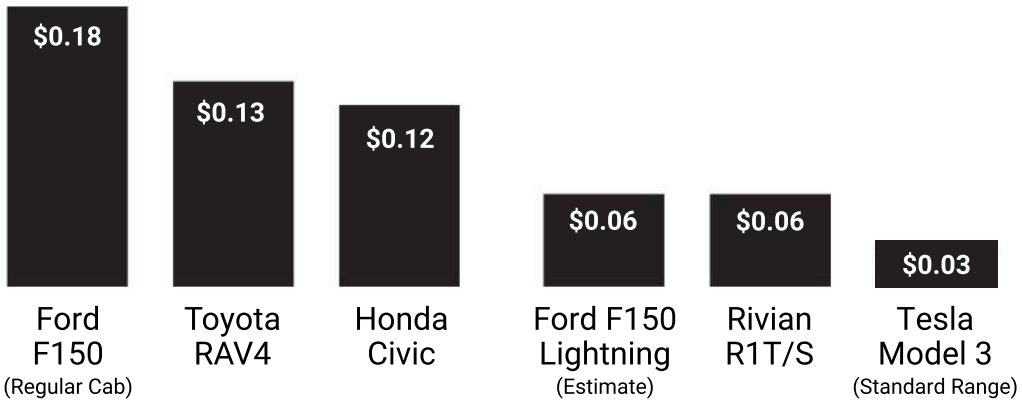
Total Cost Per Mile

Wisconsin

Average Energy price for Gallon of Gasoline
$4.04

Average Energy price for kWh in Electricity
$0.14





Sources

Gas Prices as of March 10, 2022: https://gasprices.aaa.com/
Electricity Prices in Residential End-Use Sector in Dec 2021 (most recent data available):
https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a
Ford F150: https://www.ford.com/trucks/f150/models/f150-xl/
Toyota RAV4: https://www.toyota.com/rav4/features/mpg/4430
Honda Civic:
https://hondanews.com/en-US/honda-automobiles/releases/release-abdd33728c044217ba85db3c233b2483-2020-civic-hatchback-specifications-features
Ford F150 Lightning:
https://www.greencarreports.com/news/1134532_ford-confirms-f-150-lightning-ev-battery-pack-details-range-estimates
Rivian R1T + R1S:
https://www.caranddriver.com/news/a37500438/rivian-r1t-r1s-epa-range/
Tesla Model 3: https://www.evspecifications.com/en/model-driving-range/cc48e0

Additional Resources

Gas Gallons vs. Electricity E-Gallons: https: //www.energy.gov/maps/egallon
Vehicle Fueling Cost Calculator: https://afdc.energy.gov/calc/

About ZETA

The **Zero Emission Transportation Association** (ZETA) is a federal coalition focused on advocating for 100% EV sales by 2030. ZETA is committed to enacting policies that drive EV adoption, create hundreds of thousands of jobs, secure American global EV manufacturing leadership, drastically improve public health, and significantly reduce carbon pollution.