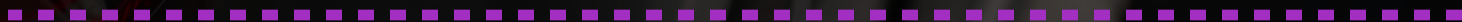


Z E T A

MARCH 2023

Electric vehicles are far cheaper to drive than gas-powered cars.

As the Biden Administration begins implementation of the Inflation Reduction Act—a bill that sets the U.S. on track to transition to clean transportation and job creation—ZETA research finds that EVs consistently save owners money.



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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. The passage of the Inflation Reduction Act will further these cost savings with historic clean energy investments and tax credits, lowering the sticker prices of EVs and expanding manufacturing.



Key Takeaways on The 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, operate independently of global oil and gas markets, so their operating costs are not subject to fossil fuel price shocks, disruptions, and supply shortages. Instead, EVs run on electricity, which is cheaper than gasoline, is price-stable, and is domestically produced from increasingly renewable and local resources.
 - > **EVs are far cheaper to drive than gas-powered vehicles.** Nationally, gas-powered vehicles can cost up to 4.5 times more to drive per mile than EVs. However, there can be significant variation across state lines. In addition to examining this month's data, this ZETA report also looks back at previous months, and the data confirms that over time, EVs are markedly cheaper to drive per mile—and experience far greater price stability—than gas-powered vehicles.
 - > **The total cost of EVs is lower than that of gas-powered vehicles.** In many cases, EVs are already comparable in price to similar new gas-powered models. And in addition to their fuel cost savings, EVs require less maintenance than gas-powered vehicles, too. EVs can save drivers between \$1,800 and \$2,600 on operating and maintenance costs per year, according to Consumer Reports.
 - > **EVs will cost even less to buy thanks to consumer and manufacturing tax credits.** The EV tax credit expansions and advanced manufacturing production tax credits in the Inflation Reduction Act will further reduce EV sticker prices, making it cost less to both buy and drive an EV. This will help American EV manufacturers compete against foreign entrants into the market by aggressively incentivising supply chain onshoring. Furthermore, EV tax credits will help signal durable market certainty, which will help American EV manufacturers scale up to meet demand. This will create millions of good-paying American jobs and help the United States win the global clean transportation race.
- 

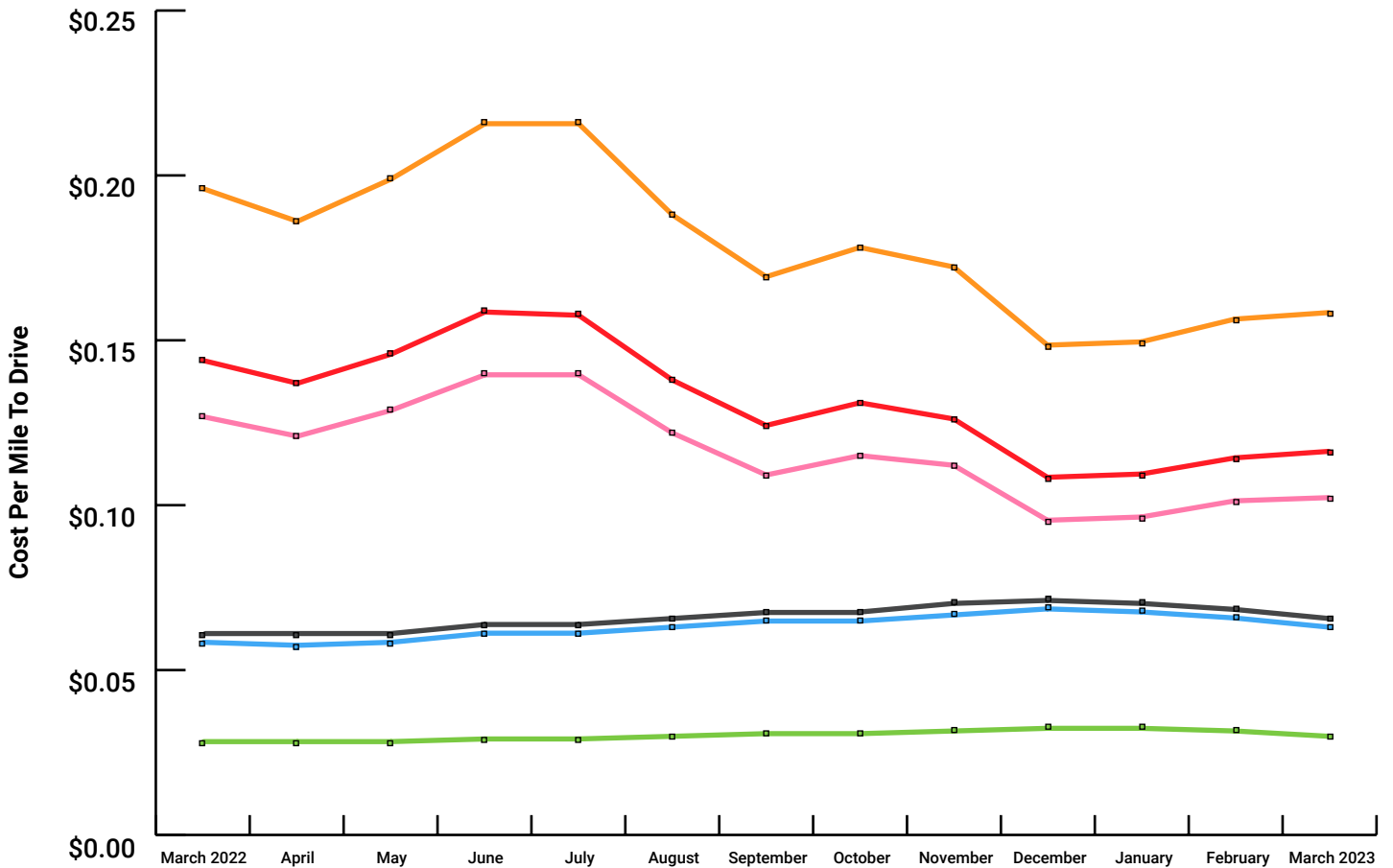
Comparing The Operating Costs of Electric and Gas-Powered Vehicles Over The Past Six Months

ELECTRIC VEHICLES

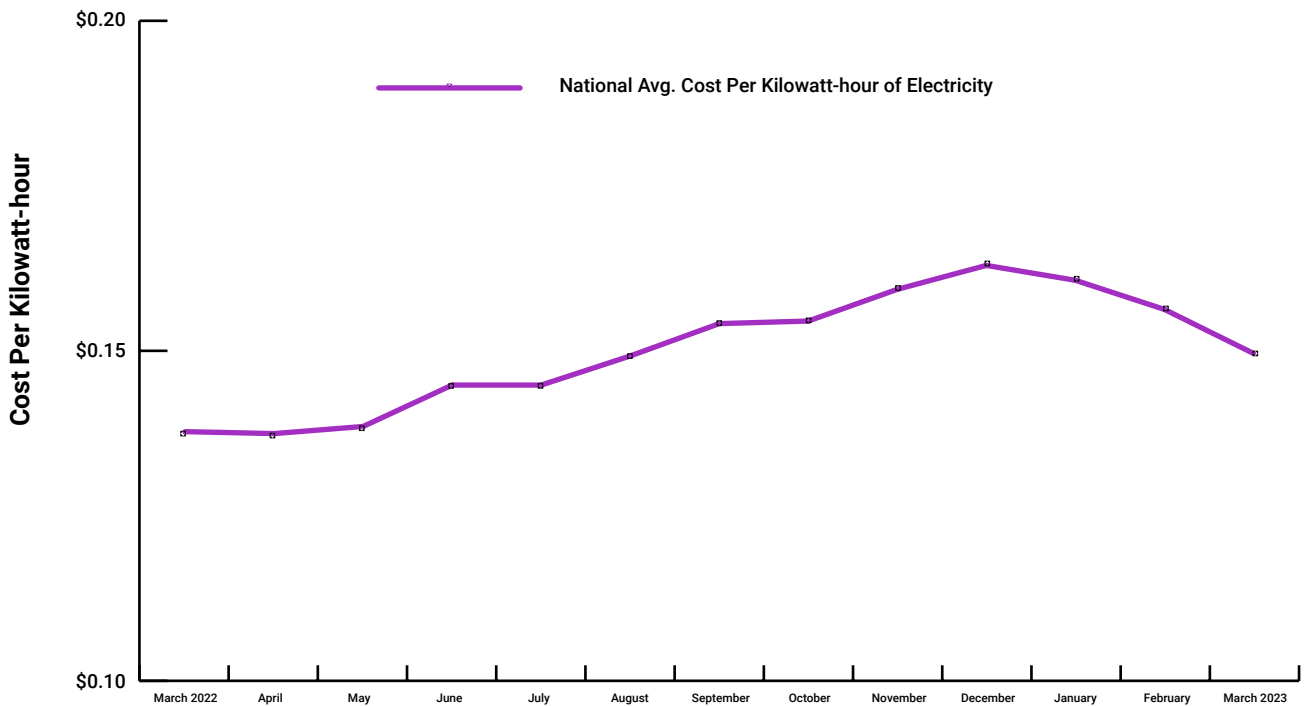
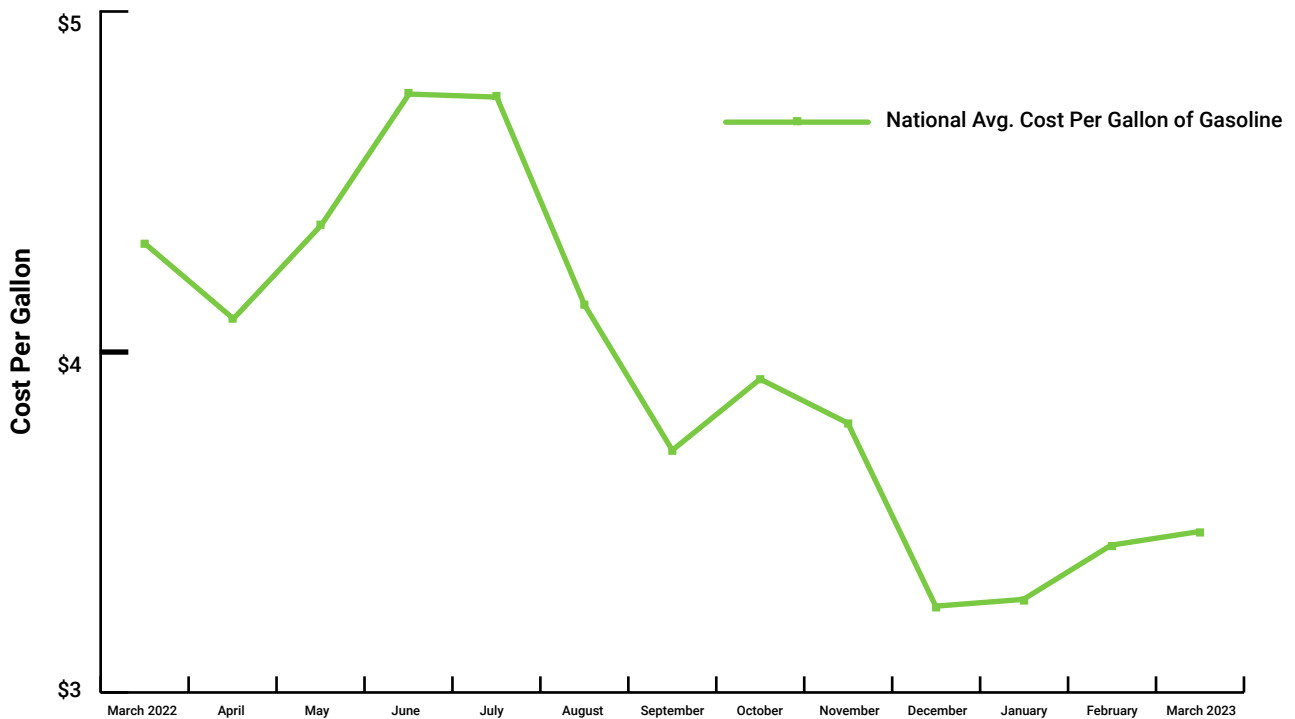
- Rivian R1S
- Ford F150 Lightning
- Tesla Model 3

GAS-POWERED VEHICLES

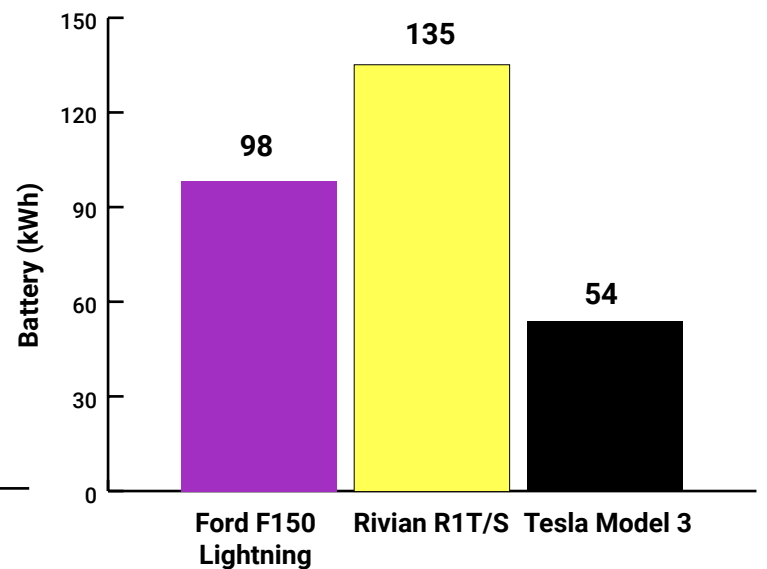
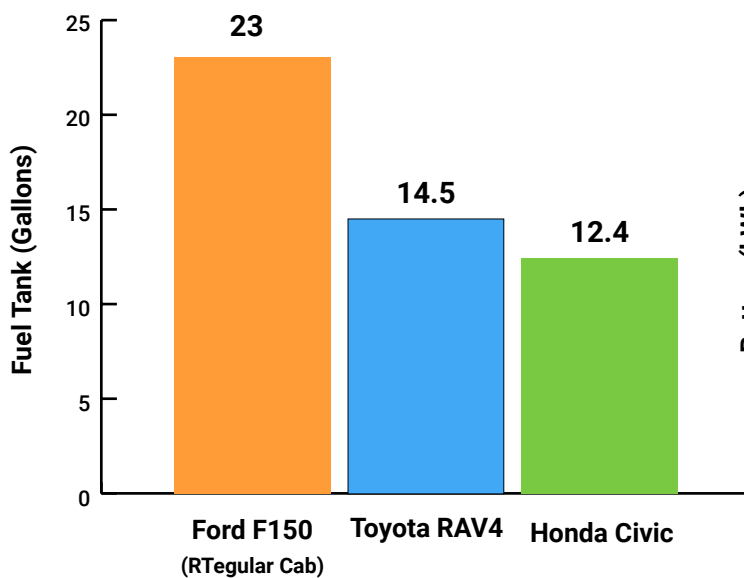
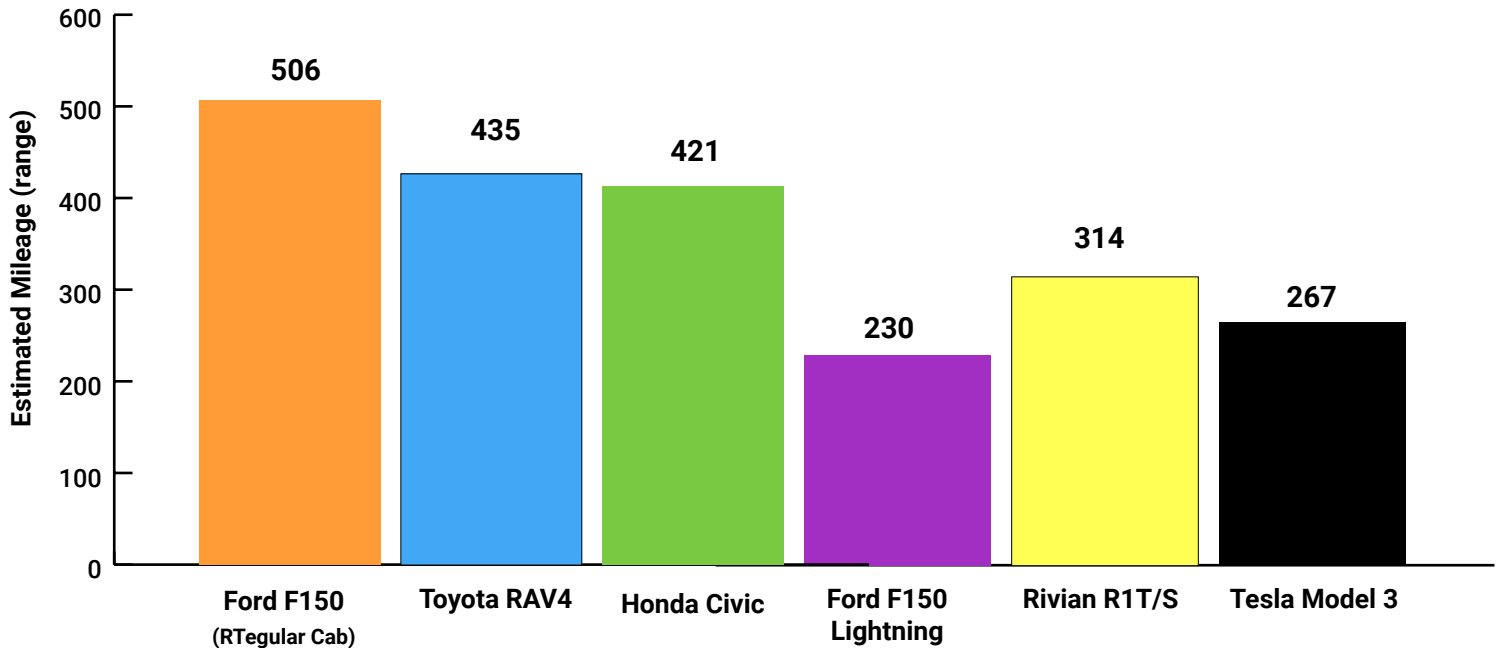
- Ford F150
- Toyota RAV4
- Honda Civic



Comparing The Fueling Costs of Electric and Gas-Powered Vehicles Over The Past 12 Months



Comparing The Mileage of Gas-Powered And Electric Vehicles



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

National Average Energy Price

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

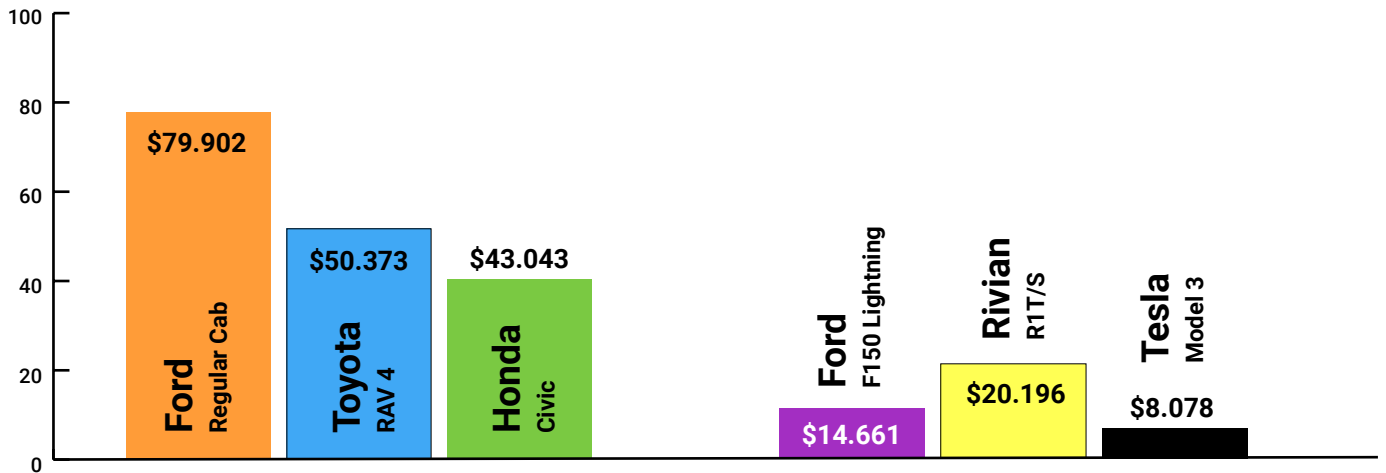
\$3.474

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1496

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.158 | Ford Regular Cab

\$0.064 | Ford F150 Lightning

\$0.116 | Toyota RAV 4

\$0.064 | Rivian R1T/S

\$0.102 | Honda Civic

\$0.030 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Arizona

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

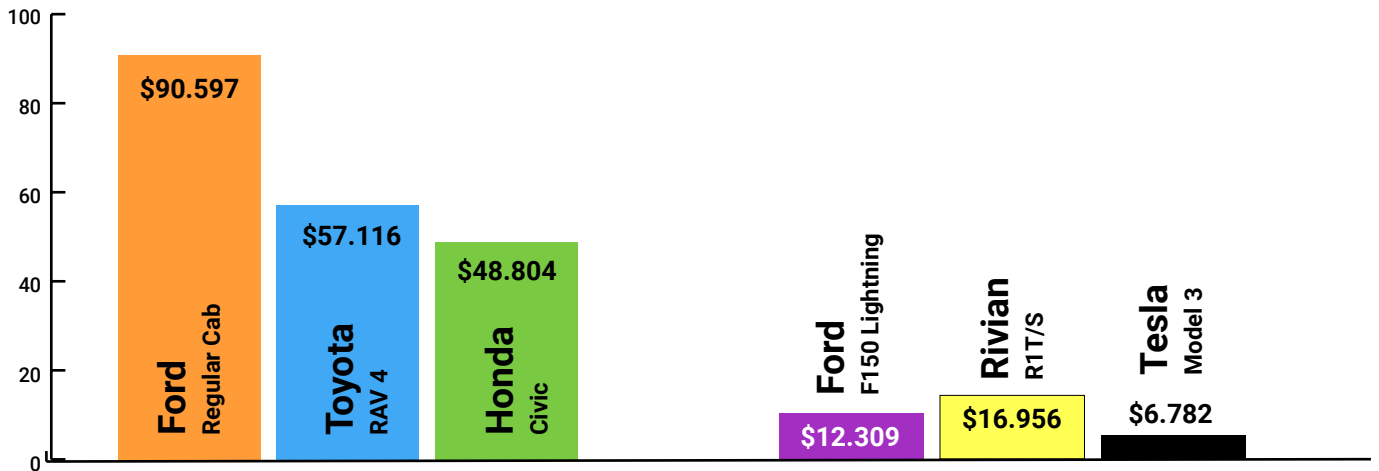
\$3.939

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1256

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.179 | Ford Regular Cab

\$0.054 | Ford F150 Lightning

\$0.131 | Toyota RAV 4

\$0.054 | Rivian R1T/S

\$0.116 | Honda Civic

\$0.025 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

California

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

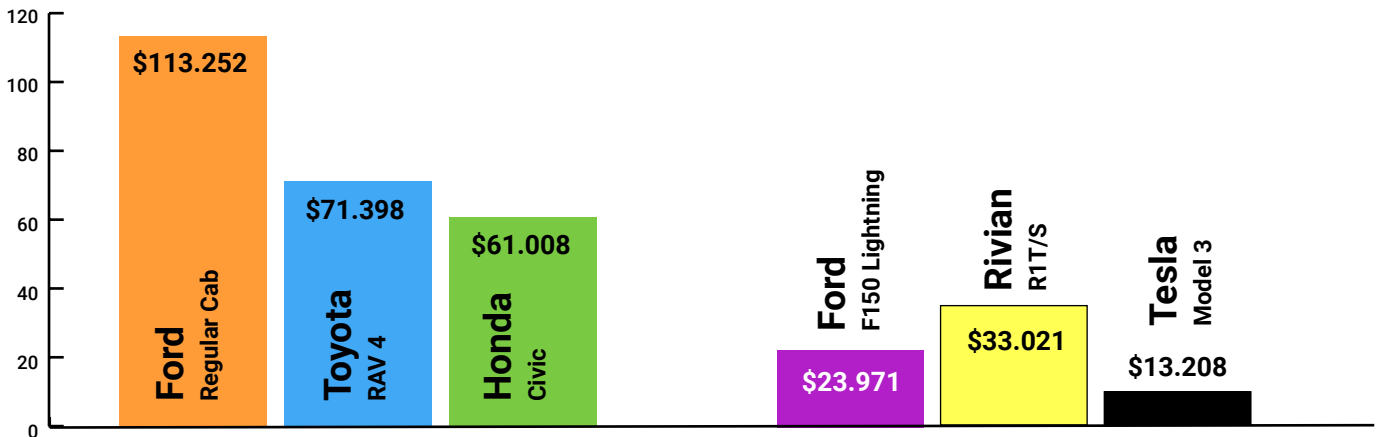
\$4.924

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.2446

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.224 | Ford Regular Cab

\$0.104 | Ford F150 Lightning

\$0.164 | Toyota RAV 4

\$0.105 | Rivian R1T/S

\$0.145 | Honda Civic

\$0.049 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Colorado

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

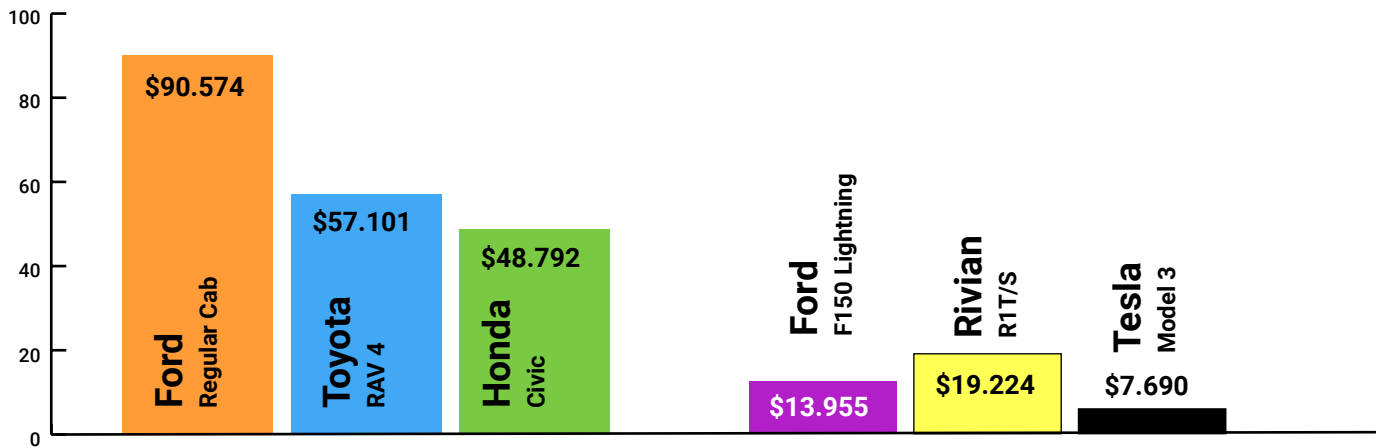
\$3.938

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1424

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.179 | Ford Regular Cab

\$0.061 | Ford F150 Lightning

\$0.131 | Toyota RAV 4

\$0.061 | Rivian R1T/S

\$0.116 | Honda Civic

\$0.029 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Florida

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

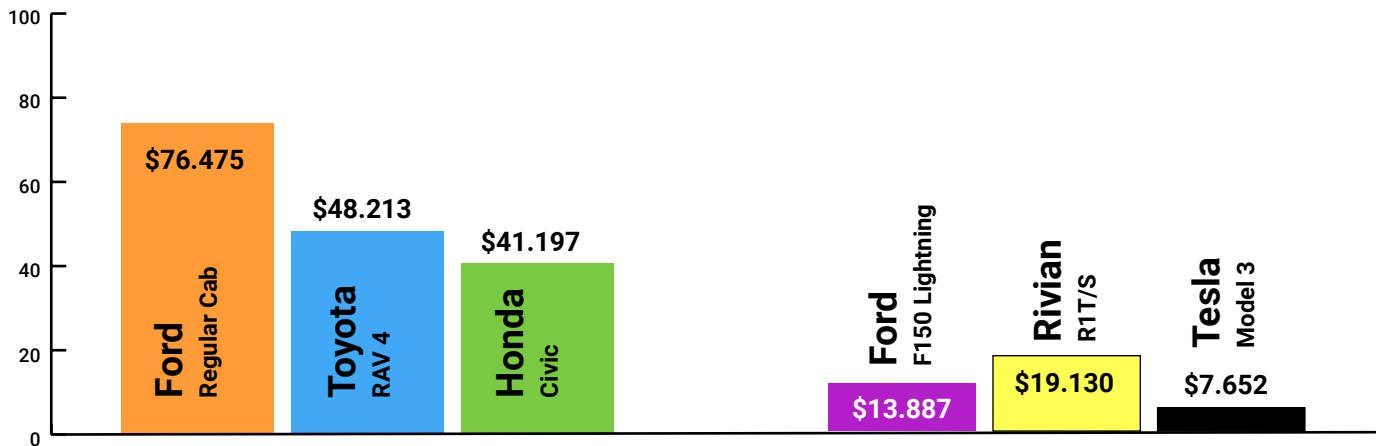
\$3.325

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1417

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.151 | Ford Regular Cab

\$0.060 | Ford F150 Lightning

\$0.111 | Toyota RAV 4

\$0.061 | Rivian R1T/S

\$0.098 | Honda Civic

\$0.029 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Georgia

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

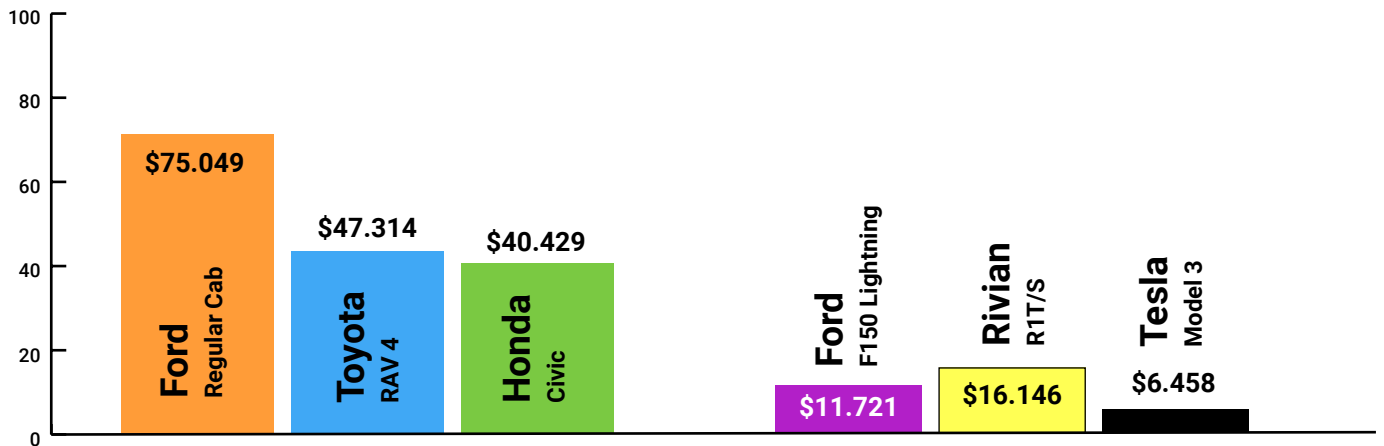
\$3.263

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1196

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.148 | Ford Regular Cab

\$0.051 | Ford F150 Lightning

\$0.109 | Toyota RAV 4

\$0.051 | Rivian R1T/S

\$0.096 | Honda Civic

\$0.024 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Michigan

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

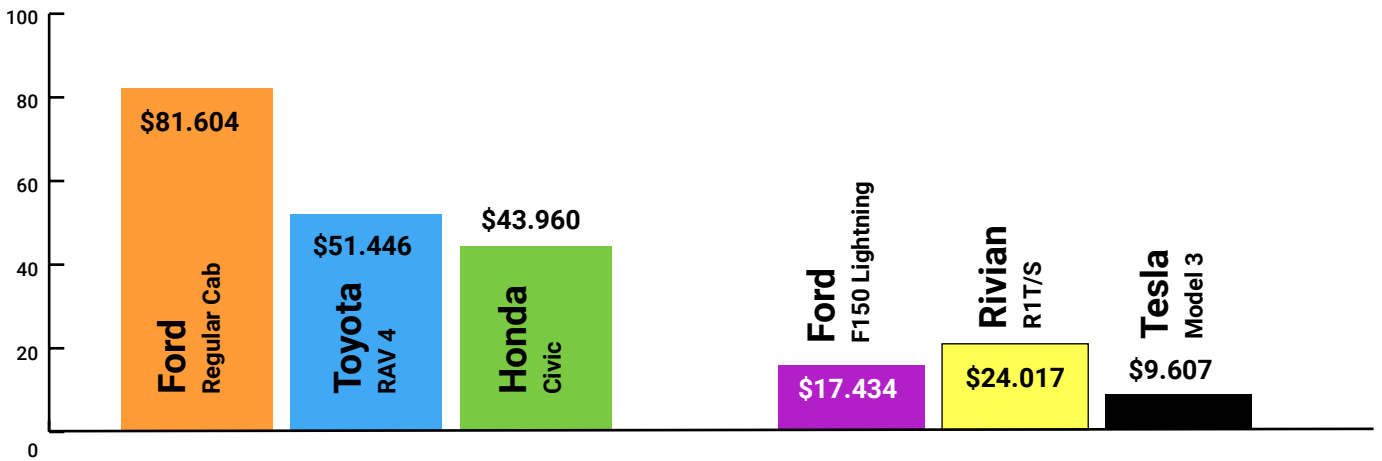
\$3.548

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1779

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.161 | Ford Regular Cab

\$0.076 | Ford F150 Lightning

\$0.118 | Toyota RAV 4

\$0.076 | Rivian R1T/S

\$0.104 | Honda Civic

\$0.036 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

New Jersey

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

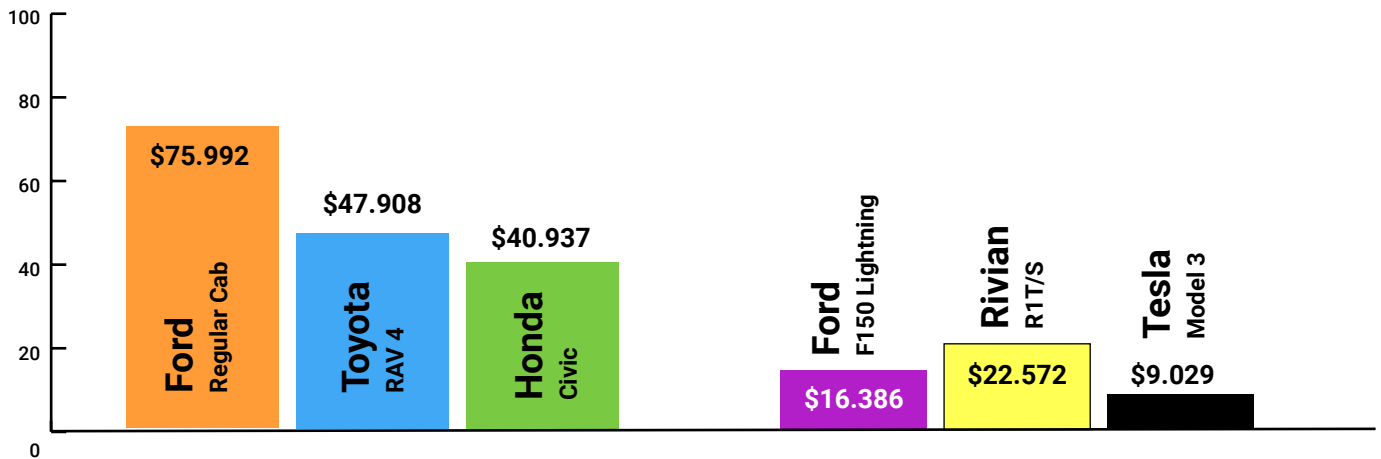
\$3.304

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1672

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.150 | Ford Regular Cab

\$0.071 | Ford F150 Lightning

\$0.110 | Toyota RAV 4

\$0.072 | Rivian R1T/S

\$0.097 | Honda Civic

\$0.034 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Nevada

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

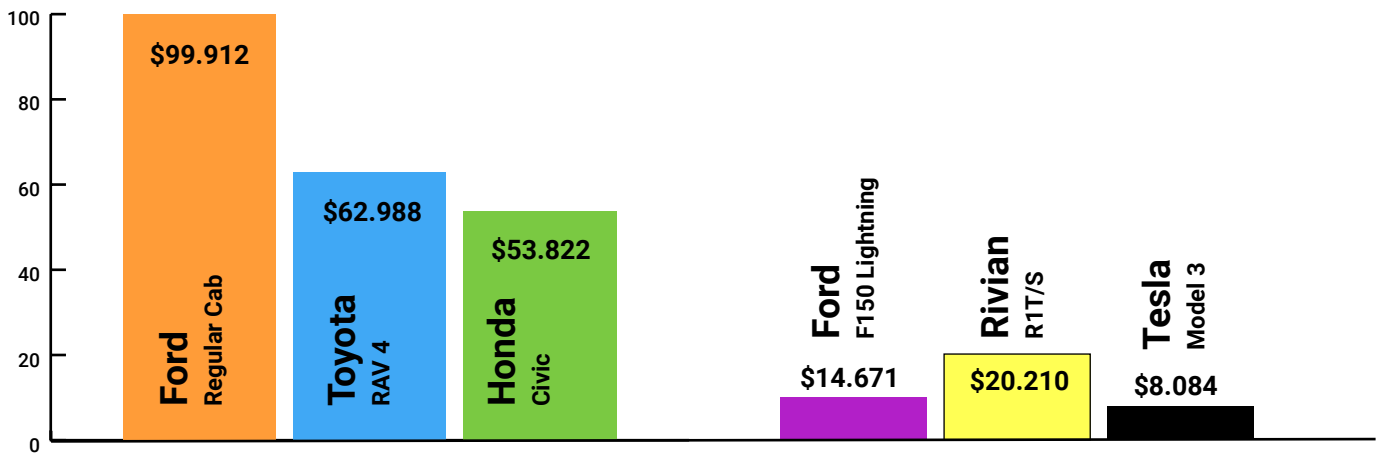
\$4.344

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1497

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.197 | Ford Regular Cab

\$0.064 | Ford F150 Lightning

\$0.145 | Toyota RAV 4

\$0.064 | Rivian R1T/S

\$0.128 | Honda Civic

\$0.030 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Pennsylvania

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

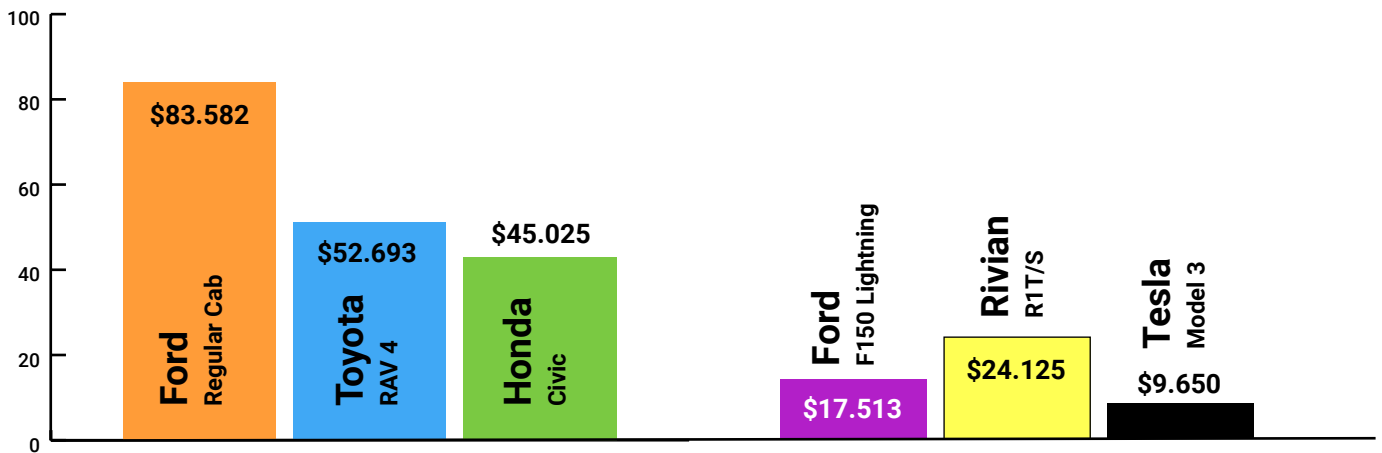
\$3.634

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1787

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.165 | Ford Regular Cab

\$0.076 | Ford F150 Lightning

\$0.121 | Toyota RAV 4

\$0.077 | Rivian R1T/S

\$0.107 | Honda Civic

\$0.036 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Texas

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

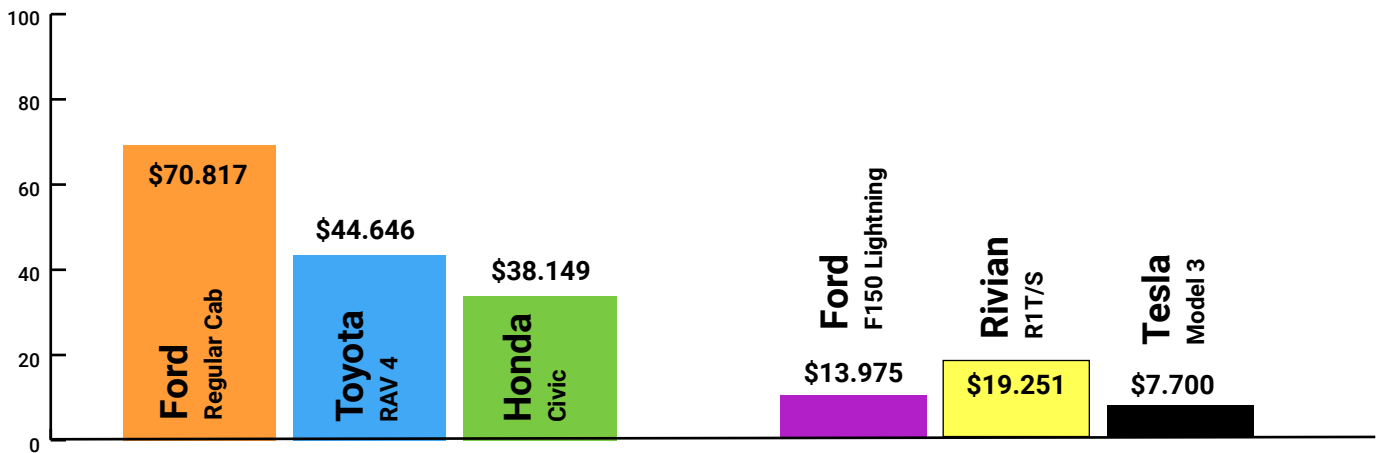
\$3.079

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1426

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.140 | Ford Regular Cab

\$0.061 | Ford F150 Lightning

\$0.103 | Toyota RAV 4

\$0.061 | Rivian R1T/S

\$0.091 | Honda Civic

\$0.029 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Virginia

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

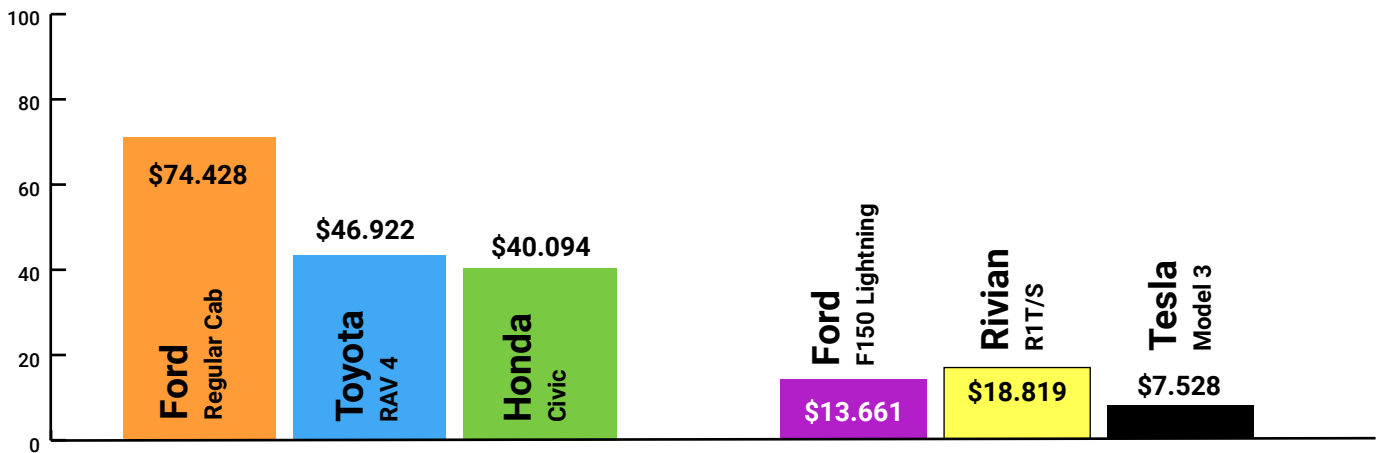
\$3.236

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1394

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.147 | Ford Regular Cab

\$0.059 | Ford F150 Lightning

\$0.108 | Toyota RAV 4

\$0.060 | Rivian R1T/S

\$0.095 | Honda Civic

\$0.028 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Wisconsin

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

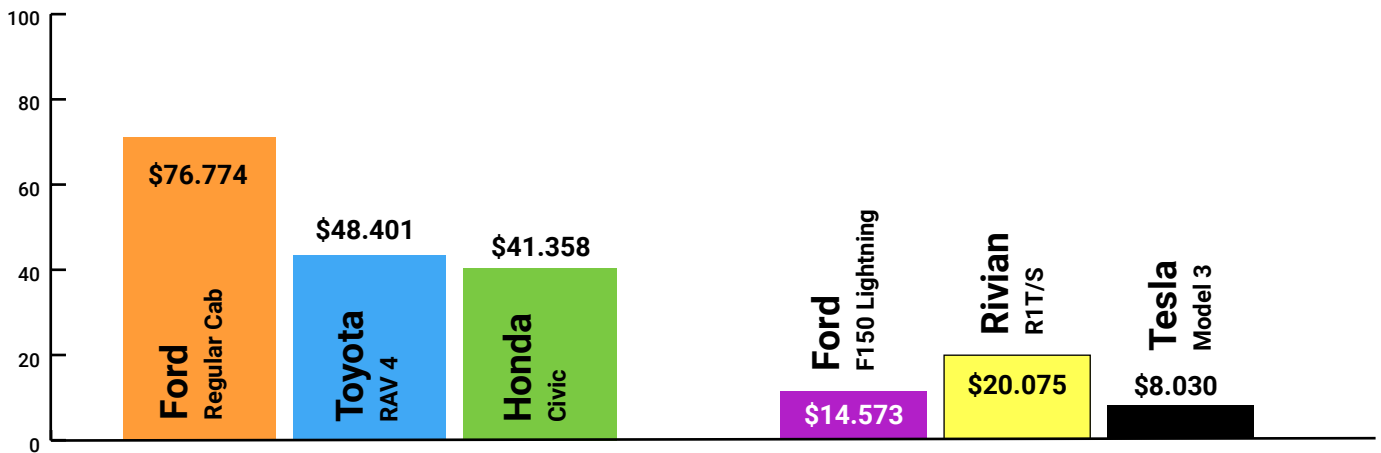
\$3.338

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1487

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.152 | Ford Regular Cab

\$0.063 | Ford F150 Lightning

\$0.111 | Toyota RAV 4

\$0.064 | Rivian R1T/S

\$0.098 | Honda Civic

\$0.030 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

New Mexico

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

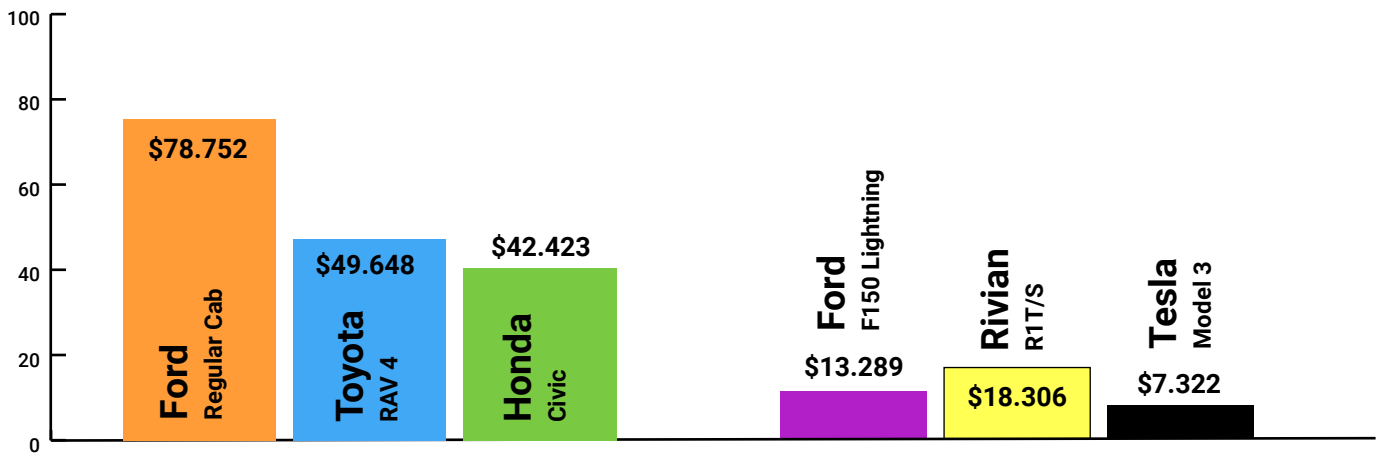
\$3.424

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1356

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.156 | Ford Regular Cab

\$0.058 | Ford F150 Lightning

\$0.114 | Toyota RAV 4

\$0.058 | Rivian R1T/S

\$0.101 | Honda Civic

\$0.027 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

North Carolina

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

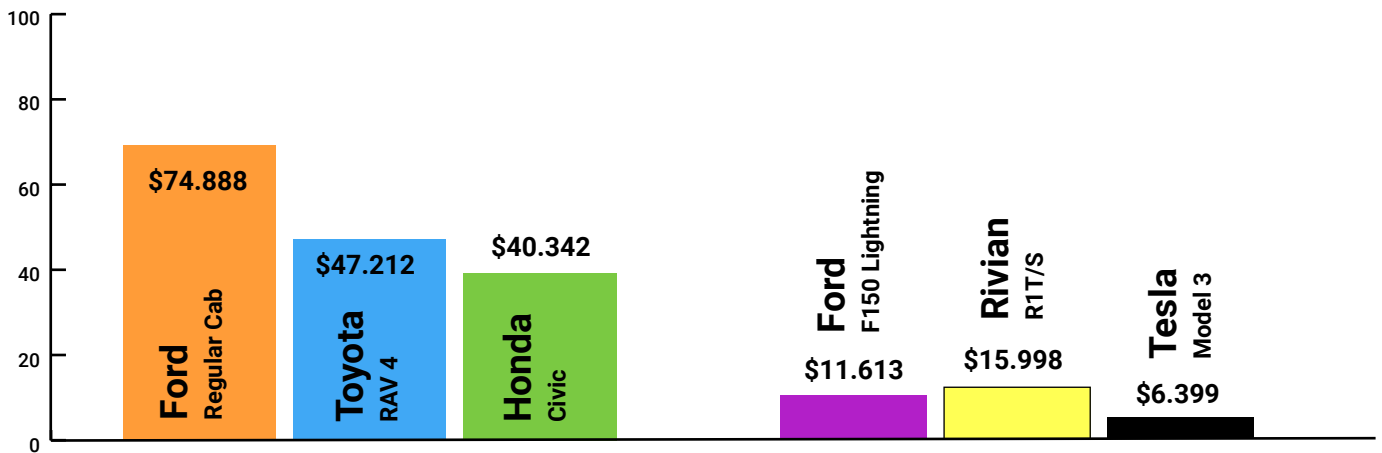
\$3.256

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1185

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.148 | Ford Regular Cab

\$0.050 | Ford F150 Lightning

\$0.109 | Toyota RAV 4

\$0.051 | Rivian R1T/S

\$0.096 | Honda Civic

\$0.024 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Ohio

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

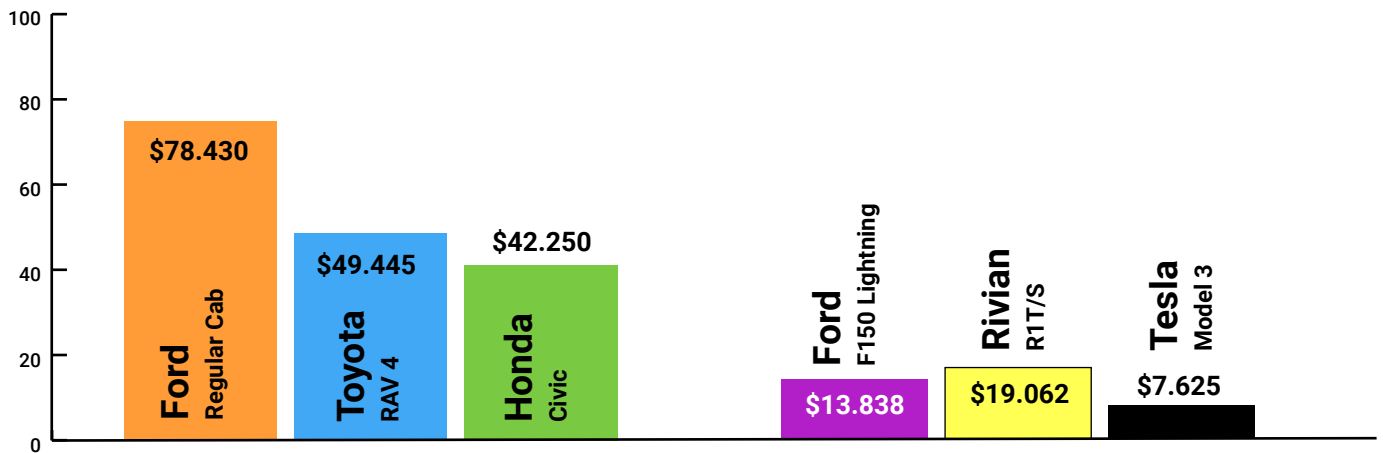
\$3.410

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1412

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.155 | Ford Regular Cab

\$0.060 | Ford F150 Lightning

\$0.114 | Toyota RAV 4

\$0.061 | Rivian R1T/S

\$0.100 | Honda Civic

\$0.029 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Tennessee

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

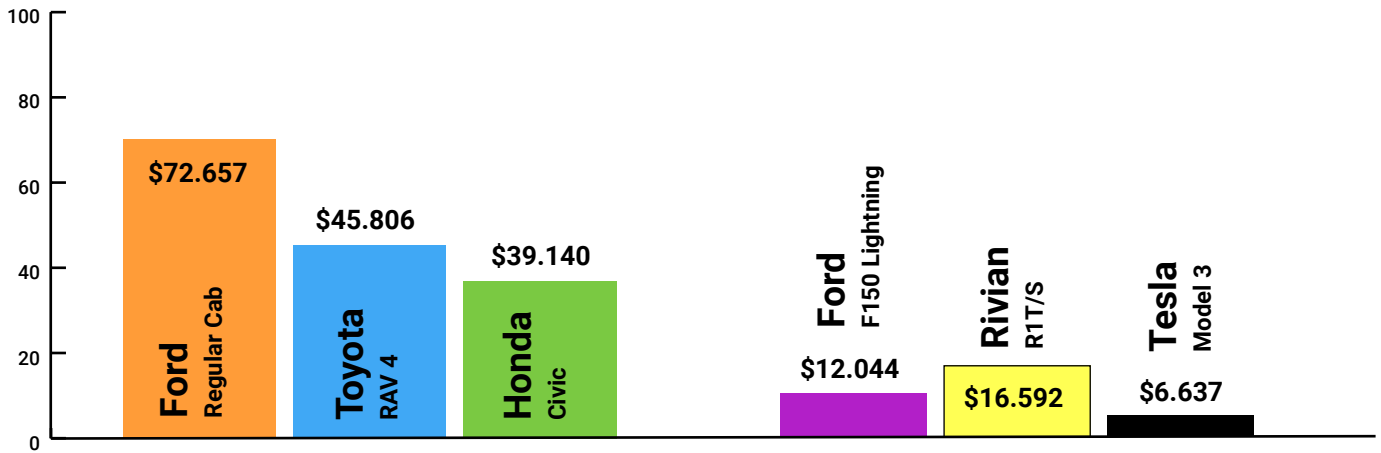
\$3.159

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1229

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.144 | Ford Regular Cab

\$0.052 | Ford F150 Lightning

\$0.105 | Toyota RAV 4

\$0.053 | Rivian R1T/S

\$0.093 | Honda Civic

\$0.025 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

West Virginia

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

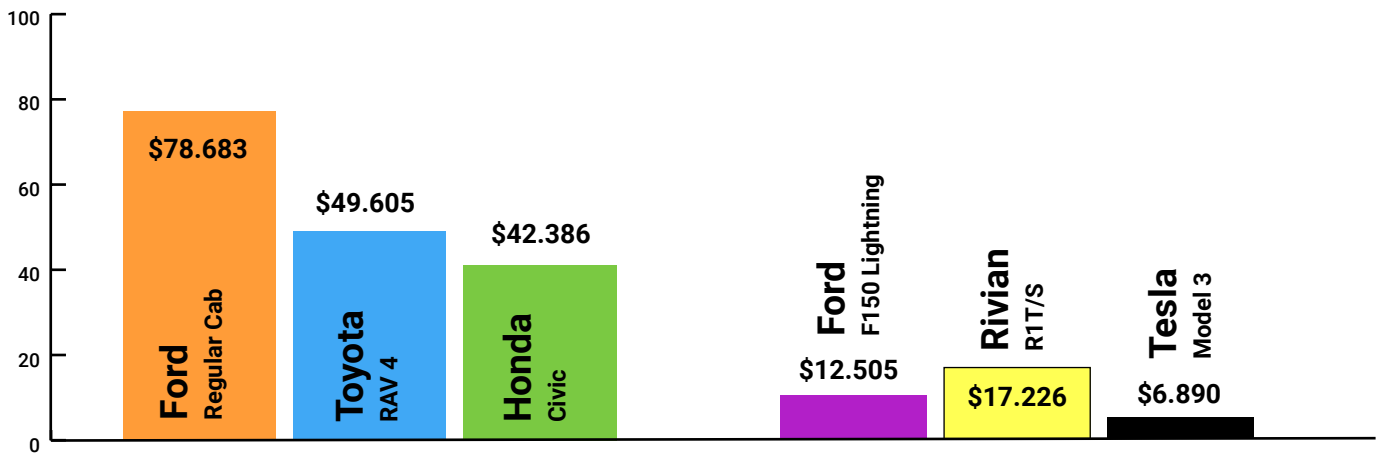
\$3.421

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1276

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.156 | Ford Regular Cab

\$0.054 | Ford F150 Lightning

\$0.114 | Toyota RAV 4

\$0.055 | Rivian R1T/S

\$0.101 | Honda Civic

\$0.026 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Arkansas

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

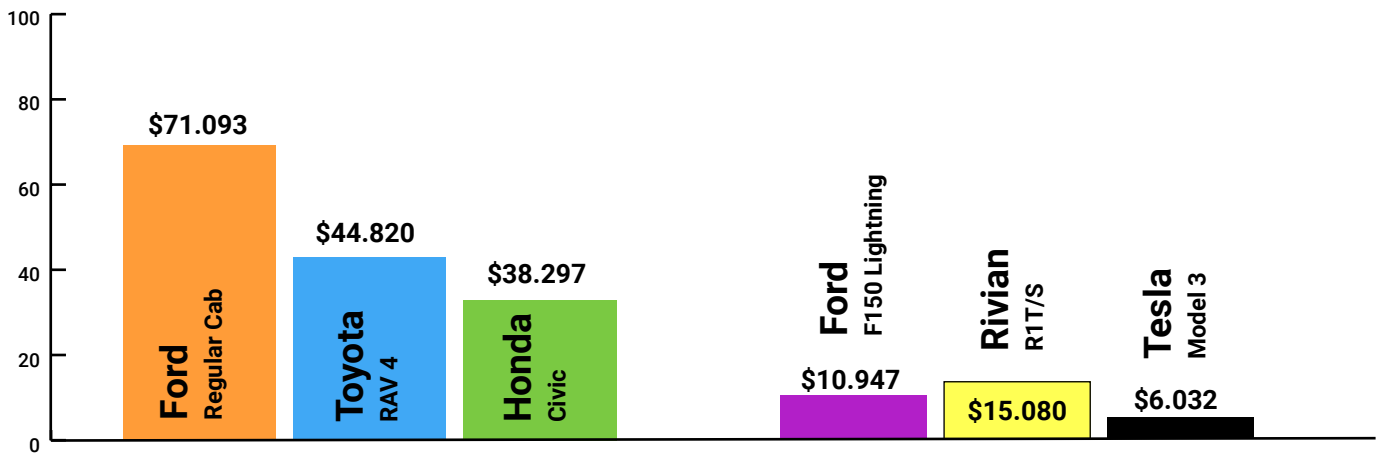
\$3.091

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1117

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.141 | Ford Regular Cab

\$0.048 | Ford F150 Lightning

\$0.103 | Toyota RAV 4

\$0.048 | Rivian R1T/S

\$0.091 | Honda Civic

\$0.023 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Kansas

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

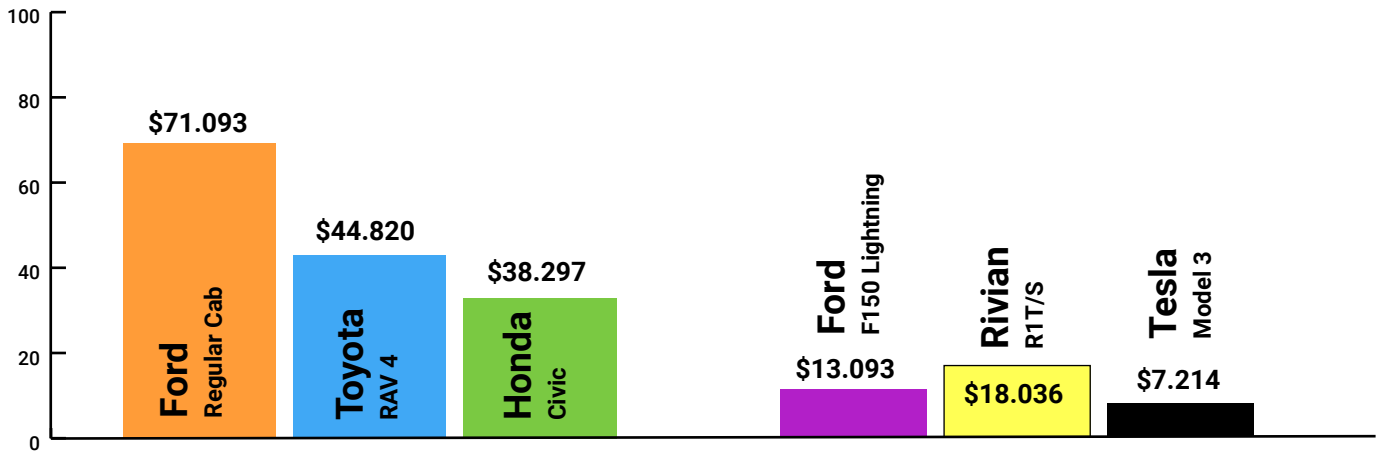
\$3.091

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1336

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.141 | Ford Regular Cab

\$0.057 | Ford F150 Lightning

\$0.103 | Toyota RAV 4

\$0.057 | Rivian R1T/S

\$0.091 | Honda Civic

\$0.027 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Missouri

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

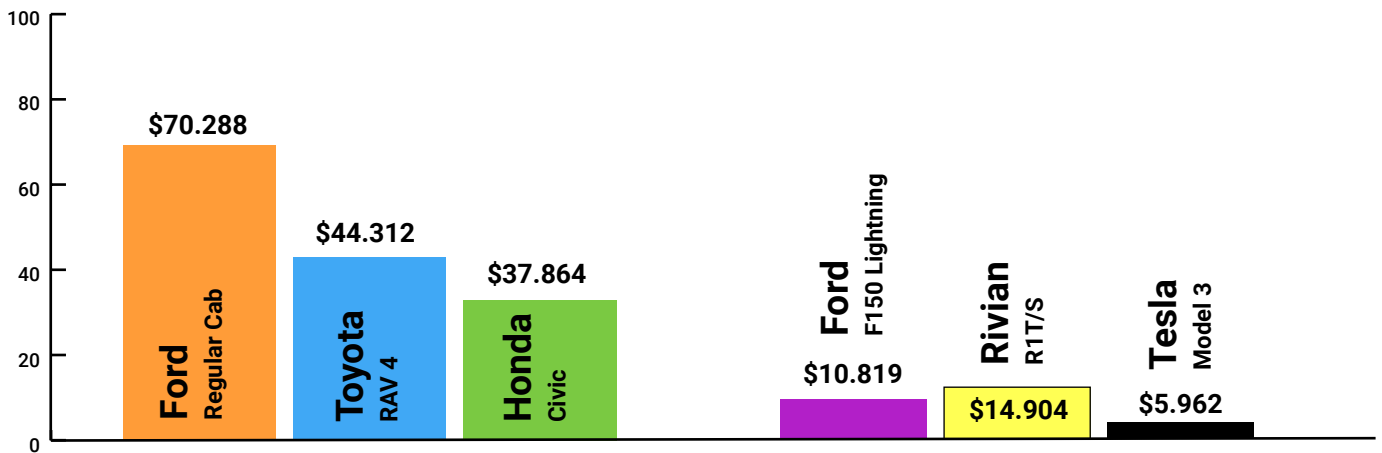
\$3.056

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1104

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.139 | Ford Regular Cab

\$0.047 | Ford F150 Lightning

\$0.102 | Toyota RAV 4

\$0.047 | Rivian R1T/S

\$0.090 | Honda Civic

\$0.022 | Tesla Model 3



COMPARING THE OPERATING COSTS OF GAS-POWERED AND ELECTRIC VEHICLES

Oklahoma

Gas-Powered Vehicles

Avg. Energy Price Per Gallon of Gasoline

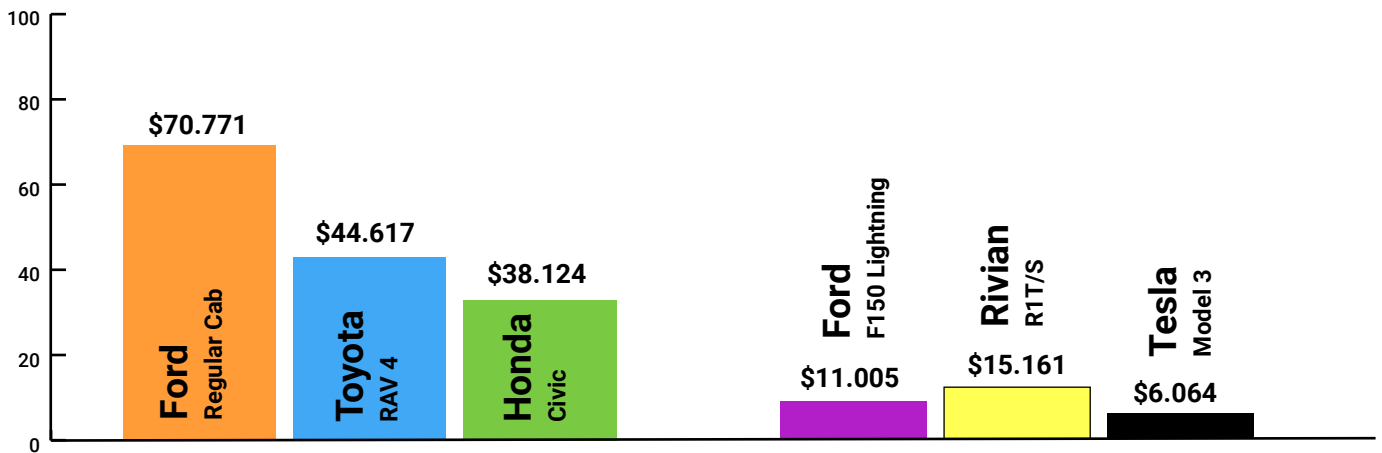
\$3.077

Electric Vehicles

Avg. Energy Price Per Kilowatt-hour of Electricity

\$0.1123

Total Fueling / Charging Cost



Total Cost Per Mile

\$0.140 | Ford Regular Cab

\$0.048 | Ford F150 Lightning

\$0.103 | Toyota RAV 4

\$0.048 | Rivian R1T/S

\$0.091 | Honda Civic

\$0.023 | Tesla Model 3



Sources

Gas Prices as of March 10, 2023

<https://gasprices.aaa.com/>

Electricity Prices in Residential End-Use Sector in December 2022
(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/>

*Gasoline prices are based on March 2023 data, and residential end-use sector electricity prices are based on December 2022 data. In both cases, these are the most recent available data. Electricity prices have been relatively static; in many states, the price of residential end-use sector electricity has decreased from previous iterations of this report, which is updated monthly.



100% electric vehicle sales.

The next decade will be critical in implementing federal policies that accelerate the transition to zero emission vehicles and help address these problems head-on.

The advanced transportation sector already boasts hundreds of thousands of jobs but, if we encourage its growth, the U.S. can decisively win the global race to develop a new clean vehicle economy. This leadership will drive American prosperity and secure billions of dollars of economic benefits and job creation for generations to come.

Z E T A

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