



Consumer Education Fuel Economy Label

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Office of Transportation & Air Quality

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Background

- Fuel economy estimates have been provided to consumers since the 1970s as a tool to help shoppers compare the fuel economy of different vehicles.
- EPA has a statutory requirement to require manufacturers to disclose fuel economy information for light-duty vehicles
- Initially, EPA relied on data from two laboratory tests to determine the city and highway fuel economy estimates.
 - The test methods for calculating these estimates were revised in 1984, when the fuel economy derived from the two tests were adjusted downward – 10 percent for city and 22 percent for highway -- to more accurately reflect driving styles and conditions.

Background (Continued)

However, since the mid-1990s, EPA's emissions certification program has required the use of three additional tests which capture a much broader range of real-world driving conditions.

Now, EPA's new methods bring the miles per gallon (mpg) estimates closer to consumers' actual fuel economy by including factors such as high speeds, quicker accelerations, air conditioning use, and driving in cold temperatures.



FIGURE 1
ILLUSTRATIVE LABEL FOR 1974 VEHICLES--COMPARATIVE INFORMATION

The fuel economy values listed below were determined from tests conducted by the U.S. Environmental Protection Agency.

The table shows miles per gallon (MPG) performance and fuel costs for vehicles in different weight categories. These results were developed using a test procedure which simulates commuter-type driving. They are not indicative of highway-type driving.

The fuel economy numbers for the weight category in which this vehicle falls are circled.

Vehicle Test Weight (lbs.)	Range of MPG	Average MPG	Fuel Costs (10,000 mi. and 40¢/gal.)
2,000	22-27	25	\$160
2,250	19-23	21	\$190
2,500	18-23	20	\$200
2,750	14-21	18	\$220
3,000	13-18	15.5	\$260
3,500	10-18	14	\$285
4,000	8-13	11	\$365
4,500	8-14	10	\$400
5,000	8-11	9.5	\$420
5,500	7-10	8.5	\$470

The actual fuel economy of this vehicle will depend on factors such as individual driving habits, the maintenance conditions of the vehicle, and the optional equipment chosen. Additional fuel economy information is available from your dealer and from the U.S. Environmental Protection Agency, Washington, D.C.

1974

Compare this vehicle to others in the FREE GAS MILEAGE GUIDE available at the dealer.

CITY MPG: 18
HIGHWAY MPG: 25
COMBINED: 21

Estimated Annual Fuel Cost: \$2,039

1981 CANARY 2.8 LITER V6 ENGINE 2 800 CARB MAN 4 190 TRANS CATALYST FEEBACK FUEL SYSTEM

1986

EPA Fuel Economy Estimates

These estimates reflect new EPA methods beginning with 2008 models.

CITY MPG: 18
HIGHWAY MPG: 25
COMBINED: 21

Estimated Annual Fuel Cost: \$2,039

See the FREE Fuel Economy Guide at dealers or www.fueleconomy.gov

2008

1978

EPA FUEL ECONOMY ESTIMATES

Combined MPG: 17
Annual Fuel Cost: \$ 8,012
City MPG: 10
Highway MPG: 16

1978 Apea with 200 cubic inch engine, 8 cylinders, automatic transmission, catalyzt, 2 barrel carburetor

1995

Compare this vehicle to others in the FREE FUEL ECONOMY GUIDE available at the dealer.

CITY MPG: 23
HIGHWAY MPG: 30
COMBINED: 26

Estimated Annual Fuel Cost: \$600

1993 CANARY 2.0 LITER I4 ENGINE FUEL INJECTED AUTO 3 SPD TRUNG CATALYST FEEBACK FUEL SYSTEM

2013

EPA DOT Fuel Economy and Environment

Midsize cars range from 13 to 99 MPGe. The best vehicle rates 112 MPGe.

Electricity: 98 MPGe (combined city/highway)
Gasoline Only: 38 MPG (combined city/highway)

Annual fuel cost: \$900

Fuel Economy & Greenhouse Gas Rating: 10 (Best)
Smog Rating: 8 (Best)

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 23 MPG and costs \$11,600 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$3.55 per gallon and \$0.12 per kW-hr. This is a dual fueled automobile. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fuel economy.gov

Consumer Information on Electric Vehicles

EPA DOT Fuel Economy and Environment **Electric Vehicle**

Fuel Economy
99 MPGe Midsize cars range from 10 to 99 MPGe. The best vehicle rates 99 MPGe.
 103 city 95 highway 34 kW-hrs per 100 miles
Driving Range
 When fully charged, vehicle can travel about...
 0 20 40 60 80 **99** miles
 Charge Time: 8 hours (240V)

You save \$9,600 in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost \$600

Fuel Economy & Greenhouse Gas Rating (tailpipe only) **Smog Rating (tailpipe only)**
 1 10 Best 1 10 Best
 This vehicle emits 0 grams CO₂ per mile. The best emits 0 grams per mile (tailpipe only). Does not include emissions from generating electricity; learn more at fueleconomy.gov.

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 22 MPG and costs \$12,600 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$0.12 per kW-hr. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

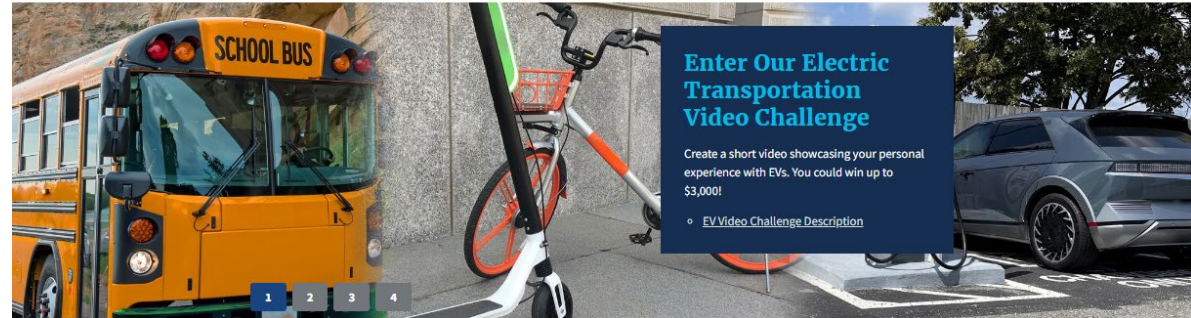
fueleconomy.gov
 Calculate personalized estimates and compare vehicles

Smartphone QR Code™

Example label for illustrative purposes; does not represent a real automobile

CONTACT US

Green Vehicle Guide



Learn About Green Vehicles



Help Make Transportation Greener



Transportation & Climate Change

Green Vehicle Guide:
www.epa.gov/greenvehicles

Greenhouse Gas Emissions from Electric and Plug-In Hybrid Vehicles

Beyond Tailpipe Emissions Calculator

Use this calculator to estimate the total greenhouse gas (GHG) emissions associated with driving an electric vehicle (EV) or plug-in hybrid electric vehicle (PHEV), including GHG emissions from the production of electricity used to power the vehicle. Enter your ZIP Code, model year, and vehicle to calculate the tailpipe and upstream emissions.



What are the emissions from your EV or PHEV?

Vehicle:

Year

Vehicle

Your Location:*

ZIP Code

* GHG emissions depend on how electricity is generated in your area.





www.fueleconomy.gov

You are here: [Find a Car Home](#) > [Side-by-Side Select](#) > Compare Side-by-Side



Compare Side-by-Side

Fuel Economy Energy and Environment Safety Specs

	2016 Chevrolet Volt X	2016 Chevrolet Cruze X	2016 Toyota Prius X	2016 Nissan Leaf (24 kW-hr battery pack) X
<p>Personalize</p> <p>Edit Vehicles</p>	<p>Plug-in Hybrid Vehicle Gasoline-Electricity</p>  <p>1.5 L, 4 cyl, Automatic (variable gear ratios) MSRP: \$33,170 - \$37,520 Plug-in Hybrid Calculator</p>	<p>Gasoline Vehicle</p>  <p>1.4 L, 4 cyl, Automatic (S6), Turbo MSRP: \$16,620 - \$21,120</p>	<p>Hybrid Vehicle Gasoline</p>  <p>1.8 L, 4 cyl, Automatic (variable gear ratios) MSRP: \$24,200 - \$30,000</p>	<p>Electric Vehicle</p>  <p>Automatic (A1) MSRP: \$29,010 - \$36,790</p>
<p>EPA Fuel Economy 1 gallon of gasoline=33.7 kWh Show electric charging stations near me</p>	<p>Electricity 106 MPGe combined city/highway 31 kWh/100mi</p> <p>Reg. Gas 42 MPG combined city/highway 2.4 gal/100mi</p> <p>Gasoline Only: 53 miles Electricity Total Range: 420 miles</p>	<p>Regular Gasoline</p> <p>35 MPG combined city/highway 2.9 gal/100mi</p> <p>Gasoline: 413 miles Total Range</p>	<p>Regular Gasoline</p> <p>52 MPG combined city/highway 1.9 gal/100mi</p> <p>Gasoline: 588 miles Total Range</p>	<p>Electricity 114 MPGe combined city/highway 30 kWh/100 mi</p> <p>Electricity: 84 miles Total Range</p>
<p>Unofficial MPG Estimates from Vehicle Owners Learn more about "My MPG" Disclaimer</p>	<p>Average based on 1 vehicle 986.1 MPG</p> <p>Not comparable to EPA fuel economy because these estimates do not include electricity use.</p>	<p>User MPG estimates are not yet available for this vehicle</p>	<p>Average based on 3 vehicles 61.3 MPG 58 Lo → 66 Hi View Individual Estimates</p>	<p>User MPG estimates are not yet available for this vehicle</p>
<p>You save or spend* Note: The average 2016 vehicle gets 25 MPG</p>	<p>You SAVE \$3,000 in fuel costs over 5 years compared to the average new vehicle</p>	<p>You SAVE \$1,750 in fuel costs over 5 years compared to the average new vehicle</p>	<p>You SAVE \$3,250 in fuel costs over 5 years compared to the average new vehicle</p>	<p>You SAVE \$3,250 in fuel costs over 5 years compared to the average new vehicle</p>
<p>Annual Fuel Costs</p>	<p>Electricity + Gasoline: \$650</p>	<p>\$900</p>	<p>\$600</p>	<p>\$600</p>

FuelEconomy.gov

- Joint EPA/DOE site
- Fueleconomy.gov is one of the most visited government sites
- Roughly 30 million visits per year

Green Vehicle Guide

Comparison: Your Car vs. an Electric Vehicle

How does your gasoline vehicle compare to a typical electric vehicle for greenhouse gas emissions?

Input your vehicle's approximate miles per gallon (MPG) and annual mileage below. Results show **annual carbon dioxide (CO₂) emissions** in metric tons.

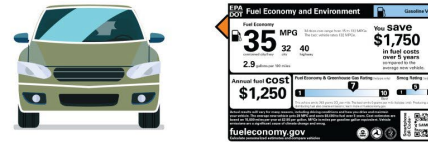
Comparison: Your Car vs. an Electric Vehicle



Your Car's MPG
 Your Annual Mileage

EPA's Fuel Economy & Environment Label

Buying a New Car?
The label can help you compare vehicles.



Find it on a vehicle's window sticker!
Or visit fuelconomy.gov

Why Should I Rely on the Label Values?

Label values are based on fuel economy tests that reflect real-world driving conditions for the average driver. These tests take into account:



This testing provides a common yardstick for comparing different cars.

Will I Always Get the Label Values?

No, your mileage may vary based on how you drive and the road and weather conditions.

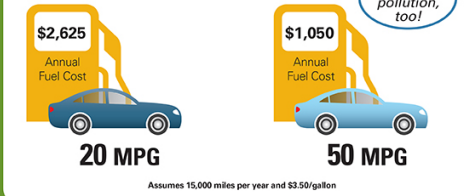
By buying the most efficient vehicle that meets your needs, you can save money and spend less time at the gas station!



Visit fuelconomy.gov for more information.

MPG and Your Wallet

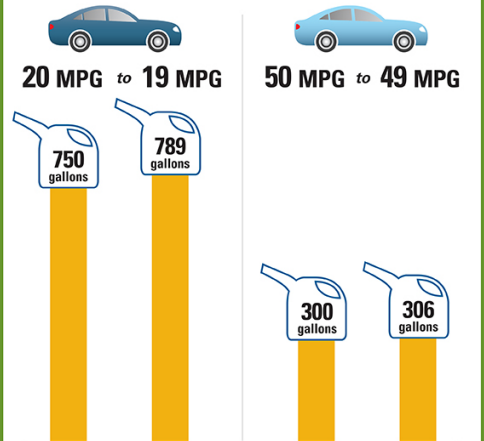
Buying a high MPG vehicle saves you money at the pump



Assumes 15,000 miles per year and \$3.50/gallon

What if my MPG varies?

Let's compare how much fuel two cars use over a year



A loss of 1 MPG costs:

39 gallons and **\$138**

Losing 1 MPG on this car costs more...

6 gallons and **\$21**

...than losing 1 MPG on this car.

Even a loss of 5 MPG at 50 costs you less than 1 at 20.

Yep! That's 33 gallons and \$117.

Small differences in calculated gallons and cost may occur due to rounding.

Though MPG varies,

Higher MPG always saves fuel and carbon !!



Topic for Consideration

- Testing requirements and provisions for fuel economy labeling associated with advanced technology vehicles (such as electric vehicles and fuel cell vehicles) and vehicle performance data, as characterized on the label, fuelconomy.gov, and other consumer-facing websites

Ideas/Recommendations

- New electronic version of the labels; QR codes; Equity concerns
 - Car purchasing process has changed; Modernized response
- Give consumers information they can use/understand
 - Range in miles/charge
 - Charging time
 - Cost of fuel/electricity
- EV Testing and Reporting Standards
 - i.e. EV charging curves
 - Additional testing for cold weather, high speeds, etc.?

Questions for Consideration

1. How should EPA think about the future of the fuel economy label?
2. Should we pivot from an MPG/MPGe metric that isn't ideal for electricity use? Lean into educating on kWh/mile?
3. How should EPA consider different charging types on the label or website?
 - Should charging time be based only on Level 2 charging?
 - Should EPA provide additional charging times for DC fast charging, if so, for which power levels (e.g., 150 kW, 250 kW, 350 kW)?
4. Temperature effects on range?
5. How much information should be on the label versus the fueleconomy.gov?
6. What web information would benefit from being customizable for the user?

Breakout Discussion

EV Efficiency, Testing, & Labeling

Breakout Questions

- What are the challenges we see in this area?
- What could EPA do in this space within the next 5 years, in terms of potential solutions to this area?
- Are there specific areas of research or additional work needed to complete a recommendation for the MSTRS?

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