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#### USING THE FUEL ECONOMY GUIDE

The U.S. Environmental Protection Agency (EPA) and U.S. Department of Energy (DOE) produce the *Fuel Economy Guide* to help car buyers choose the most fuel-efficient vehicle that meets their needs. The guide is published in print and on the Web at <a href="https://www.fueleconomy.gov">www.fueleconomy.gov</a>. For additional print copies, please send your request to EERE Information Center, 656 Quince Orchard Road, Suite 500, Gaithersburg, MD 20878.

## **Fuel Economy Estimates**

Each vehicle in this guide has two fuel economy estimates.

**City** represents urban driving, in which a vehicle is started in the morning (after being parked all night) and driven in stopand-go rush hour traffic.

**Highway** represents a mixture of rural and interstate highway driving in a warmed-up vehicle, typical of longer trips in free-flowing traffic.

EPA miles-per-gallon (MPG) estimates are based on lab testing

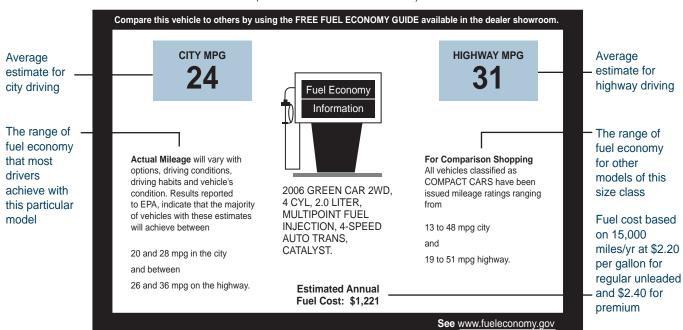
and are adjusted downward by about 15% to better reflect real-world driving conditions for an average U.S. motorist. Vehicles are tested in the same manner to allow fair comparisons. For answers to frequently asked questions about fuel economy estimates, visit www.fueleconomy.gov.

#### **Annual Fuel Cost Estimates**

This guide provides fuel cost estimates for each vehicle. The estimates are based on the assumptions that you travel 15,000 miles per year (55% under city driving conditions and 45% under highway conditions) and that fuel costs \$2.20/gallon for regular unleaded gasoline and \$2.40/gallon for premium. Cost-per-gallon assumptions for vehicles that use other fuel types are discussed at the beginning of those vehicle sections. The fuel costs were determined in advance to allow time for printing labels and the Guide and do not reflect the recent unanticipated rise in fuel prices. Visit <a href="https://www.fueleconomy.gov">www.fueleconomy.gov</a> for up-to-date fuel cost estimates using current fuel prices.

## Sample Fuel Economy Label

(Attached to New Vehicle Window)



Check the fuel economy label on the vehicle at the dealer showroom for its specific fuel economy (mpg) ratings. The ratings may vary slightly from the values in this guide because of engine and fuel system differences not listed here.

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## **Your Fuel Economy Will Vary**

Your vehicle's fuel economy will almost certainly vary from EPA's fuel economy rating. Fuel economy is not a fixed number; it varies significantly based on where you drive, how you drive, and other factors. Thus, it is impossible for one set of estimates to predict fuel economy precisely for all drivers in all environments. For example, the following factors can lower your vehicle's fuel economy:

- Aggressive driving (hard acceleration and braking)
- Excessive idling, accelerating and braking in stop-and-go traffic
- Cold weather (engines are more efficient when warmed up)

- · Driving with a heavy load or the air conditioner running
- Improperly tuned engine, dirty air filter, under-inflated tires

Small variations in vehicle manufacturing can cause MPG variations in the same make and model, and some vehicles don't attain maximum fuel economy until they are "broken in" (around 3,000-5,000 miles).

So please remember that the EPA ratings are a useful tool for comparing vehicles when car buying, but they may not accurately predict the MPG *you* will get. This is also true for annual fuel cost estimates. For more information on fuel economy ratings and factors that affect fuel economy, visit <a href="https://www.fueleconomy.gov">www.fueleconomy.gov</a>.

#### UNDERSTANDING THE GUIDE LISTINGS

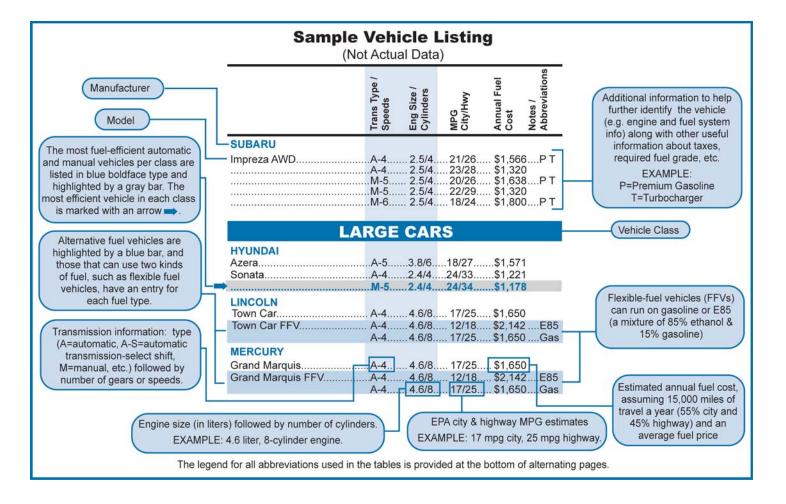
We hope you'll find the Fuel Economy Guide easy to use! Fuel economy and annual fuel cost data are organized by vehicle class (see page 2 for a list of classes). Within each class, vehicles are listed alphabetically by manufacturer and model.

Vehicle models with different features, such as engine size or transmission type, are listed as different vehicles—engine and transmission attributes are shown in columns 2 and 3. Additional attributes needed to distinguish among vehicles are listed in the "Notes" column (e.g., fuel type, suggested fuel grade). A legend for all abbreviations is provided at the bottom of alternating pages.

Vehicles with a "P" in the "Notes" column require premium-grade gasoline, and the higher price of premium is reflected in the annual fuel cost.

The most fuel-efficient vehicles in each class and alternative fuel vehicles are indicated with special markings (see diagram below). Vehicles that can use more than one kind of fuel have an entry for each fuel type.

Interior passenger and cargo volumes are located in the index at the back of the guide.



## VEHICLE CLASSES USED IN THIS GUIDE

CARS		TRUCKS	
	Passenger and Cargo Volume (cu. ft.)		Gross Vehicle Weight Rating* (pounds)
TWO-SEATER CARS	Any	PICKUP TRUCKS	<u>, , , , , , , , , , , , , , , , , , , </u>
SEDANS		Small	Under 4,500
Minicompact	Under 85	Standard	4,500 to 8,500
Subcompact	85 to 99	VANS	Under 8,500
Compact	100 to 109	Passenger	
Midsize	110 to 119	Cargo	
Large	120 or more	MINIVANS	Under 8,500
STATION WAGONS		SPORT UTILITY VEHICLES	Under 8,500
Small	Under 130	SPECIAL PURPOSE VEHICLES	Under 8,500
Midsize	130 to 159		,
Large	160 or more	*Gross Vehicle Weight Rating = vehicle weight plus carrying capacity.	

## WHY SOME VEHICLES ARE NOT LISTED

- Fuel economy regulations do not apply to vehicles with a Gross Vehicle Weight Rating (vehicle weight plus carrying capacity) of more than 8,500 pounds. Therefore, some large pickup trucks, vans, and SUVs are not tested, and fuel economy labels are not posted on their windows.
- Some vehicles' fuel economy information is not available in time to be printed in the guide. However, you can find more up-to-date information at <a href="https://www.fueleconomy.gov">www.fueleconomy.gov</a>.
- The availability of some vehicles is restricted.

## TAX INCENTIVES AND DISINCENTIVES

#### **Tax Credits and Deductions**

If you purchase a qualifying hybrid or alternative fuel vehicle in 2005-2006, you may be eligible for federal income tax incentives. Current incentives, which include tax deductions for qualifying gasoline-electric hybrids, compressed natural gas (CNG) vehicles, and others powered by alternative fuels, will be available until the end of 2005.

New incentives, in the form of tax credits, take effect beginning in 2006 and are also available for qualifying lean-burn vehicles. The IRS has not yet determined which vehicle models will be

eligible for the new tax credits or the credit amount for each vehicle. Visit <a href="www.fueleconomy.gov">www.fueleconomy.gov</a> for more detailed and up-to-date information on current and upcoming incentives.

#### **Gas Guzzler Tax**

The Energy Tax Act of 1978 requires auto companies to pay a gas guzzler tax on the sale of cars with exceptionally low fuel economy. Such vehicles are identified in the guide by the word "Tax" in the "Notes" column. In the dealer showroom, the words "Gas Guzzler" and the tax amount are listed on the vehicle's fuel economy label. The tax does not apply to light trucks.

## WHY CONSIDER FUEL ECONOMY?

#### **Save Money**

You could save \$300-\$700 in fuel costs each year by choosing the most fuel-efficient vehicle in a particular class. This can add up to thousands over a vehicle's lifetime. Fuel-efficient models come in all shapes and sizes, so you need not sacrifice utility or size.

Each vehicle listing in the *Fuel Economy Guide* provides an estimated annual fuel cost (see page i). The online guide at <a href="https://www.fueleconomy.gov">www.fueleconomy.gov</a> features an annual fuel cost calculator that allows you to insert your local gasoline prices and typical driving conditions (% city & highway) to achieve the most accurate fuel cost information for your vehicle.

## **Strengthen National Energy Security**

Buying a more fuel-efficient vehicle can help strengthen our national energy security by reducing our dependence on foreign oil. More than half of the oil used to produce the gasoline you put in your tank is imported. The United States uses

about 20 million barrels of oil per day, two-thirds of which is used for transportation. Petroleum imports cost us about \$3 billion a week—that's money that could be used to fuel our own economy.

#### **Protect the Environment**

Burning fossil fuels such as gasoline and diesel adds green-house gases, mostly carbon dioxide (CO<sub>2</sub>), to the Earth's atmosphere. Large-scale increases in greenhouse gases in the Earth's atmosphere can lead to global climate change.

Vehicles with lower fuel economy burn more fuel, creating more  $\mathrm{CO}_2$  Your vehicle creates about 20 pounds of  $\mathrm{CO}_2$  (170 cu. ft.) per gallon of gasoline it consumes. Therefore, you can reduce your contribution to global climate change by choosing a vehicle with higher fuel economy.

By choosing a vehicle that achieves 25 miles per gallon rather than 20, you can prevent the release of about 17 (260 thousand cu. ft.) tons of greenhouse gases over the lifetime of your vehicle.

WWW.FUELECONOMY.GOV 3

# ADVANCED TECHNOLOGIES THAT IMPROVE ENERGY EFFICIENCY...NOW!

Advanced energy-efficient technologies are available now! Many of the vehicles currently on display in dealer showrooms boast new performance-enhancing, fuel-saving technologies that can save you money. The technologies described below can be used to increase fuel economy and/or performance. To compare fuel economy performance use, the numbers in this guide. For more about advanced technologies, visit <a href="https://www.fueleconomy.gov">www.fueleconomy.gov</a>.

## **Hybrid Vehicles**

Hybrids combine the benefits of gasoline engines and electric motors and use other fuel-efficient technologies. Available hybrids are listed on page 17.

#### **Clean Diesels**

Diesel engines are more fuel-efficient than gasoline engines, and new breakthroughs in diesel technology have improved performance and made these engines cleaner and quieter. Today's diesel vehicles must meet the same emission requirements as gasoline vehicles. Available diesel vehicles are listed on page 16.

## **Improved Engine Technologies**

**Variable valvetrains**, also called *variable-cam timing*, *VVT*, and *VTEC®*, improve engine efficiency by optimizing the flow of fuel and air in the cylinders for various engine speeds.

**Cylinder Deactivation**, also called *multiple displacement*, *displacement on demand*, and *variable cylinder management*, saves fuel by deactivating cylinders when they are not needed.

**Turbochargers & superchargers** increase engine power, allowing engines to be downsized without sacrificing performance.

**Direct Fuel Injection (DFI)** allows higher compression ratios, which deliver higher performance with lower fuel consumption.

## **Transmission Technologies**

**Automated Manual Transmissions (AMTs)** combine the efficiency of manual transmissions with the convenience of automatics (gears shift automatically).

Continuously Variable Transmissions (CVTs) produce an infinite number of engine/wheel speed ratios, optimizing engine operation and improving fuel efficiency.

**Six- and Seven-Speed Transmissions** allow an engine to operate at its most efficient speeds more of the time, improving efficiency.

## TIPS FOR IMPROVING FUEL ECONOMY

#### **Keep Your Car in Shape**

- Fixing a car that is noticeably out of tune can improve gas mileage by about 4%. Repairing a faulty oxygen sensor can improve fuel economy by much more!
- Replacing a clogged air filter can significantly improve gas mileage.
- Keeping tires inflated to the recommended pressure and using the recommended grade of motor oil can improve fuel economy by up to 5%. The manufacturer's recommended tire pressure can be found on the tire information placard and/or vehicle certification label located on the vehicle door edge, doorpost, glove-box door, or inside the trunk lid.

## **Plan and Combine Trips**

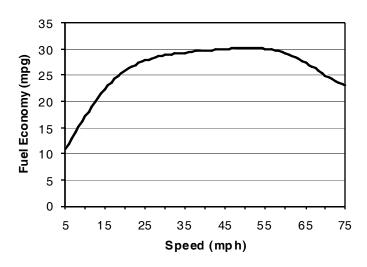
 A warmed-up engine is more fuel efficient than a cold one. Many short trips taken from a cold start can use twice as much fuel as one multipurpose trip covering the same distance when the engine is warmed up and efficient.

**Note:** Letting your car idle to warm-up doesn't help your fuel economy, it actually uses more fuel and creates more pollution.

For more tips and for more information about gasoline pricing, visit <a href="www.fueleconomy.gov">www.fueleconomy.gov</a>.

## **Drive More Efficiently**

- Aggressive driving (speeding and rapid acceleration and braking) can lower your gas mileage by as much as 33% at highway speeds and 5% around town.
- Observe the speed limit—each 5 miles per hour (mph) you drive over 60 mph can reduce your fuel economy by 10%.
- Avoid idling—idling gets 0 miles per gallon!



Speed vs. Fuel Economy

#### MODEL YEAR 2006 FUEL ECONOMY LEADERS

Listed below are vehicles with the highest fuel economy in the most popular classes, including vehicles with both automatic and manual transmissions. Please note that many vehicle models come in a range of engine sizes and trim lines, resulting in different fuel economy values.

raci coonomy values.	Transmission Type	MPG City/Hwy	Transmission MPG Type City/Hwy	
TWO-SEATER CARS			MIDSIZE STATION WAGONS	
Honda Insight (hybrid)			Ford Focus Station Wagon	
MINICOMPACT CARS			STANDARD PICKUPTRUCKS	
Mini Cooper			Ford Ranger Pickup 2WDmanual24/29	
	automatic	26/34		
SUBCOMPACT CARS				
Volkswagen New Beetle (diesel)			Toyota Tacoma 2WD automatic	
			<u>CARGO VANS</u>	
COMPACT CARS Honda Civic Hybrid Volkswagen Golf (diesel)			Chevrolet G1500/2500 Chevy Express 2WD automatic	
voikswageri Goii (diesei)	manuar	37/44	PASSENGER VANS	
MIDSIZE CARS Toyota Prius (hybrid)			Chevrolet G1500/2500 Chevy 2WD         automatic         15/19           GMC G1500/2500 Savana 2WD         automatic         15/19	
riyandar Elantia		27704	MINIVANS	
LARGE CARS			Honda Odyssey 2WDautomatic	
Hyundai Sonata			SPORT UTILITY VEHICLES Ford Escape Hybrid FWD	
SMALL STATION WAGONS Pontiac Vibe	manual	30/36	Ford Escape FWDmanual	

# FUEL ECONOMY & ANNUAL FUEL COST RANGES FOR VEHICLE CLASSES

The graph below provides the fuel economy and annual fuel cost ranges for the vehicles in each class so you can see where a given vehicle's fuel economy and cost fall within its class. Combined city and highway MPG estimates are used; these assume you will drive 55% in the city and 45% on the highway. Annual fuel costs assume you travel 15,000 miles each year and fuel costs \$2.20/ gallon for regular unleaded gasoline and \$2.40/gallon for premium. Visit <a href="https://www.fueleconomy.gov">www.fueleconomy.gov</a> to calculate annual fuel cost for a specific vehicle based on your own driving conditions and per-gallon fuel costs.

