

## Smart Driving to Protect You, Your Wallet, and the Planet\*

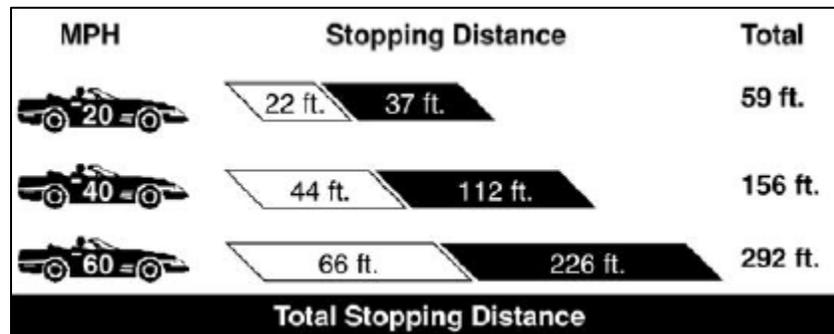
Safe driving does more than protect you: it saves you money and reduces air pollution. Operating a car involves many expenses, including gas, maintenance, and tires. Drivers and car owners can take a number of steps to minimize these expenses at no additional cost.

### Driving Habits to Adopt

1. **Slow down.** Fuel consumption increases about 5% for every five miles per hour driven above 60 mph. If you traveled a 20-mile highway commute at 60 mph instead of 70 mph, you would save approximately 1.3 gallons of gas each five-day work week.
2. **Ease up on the pedals.** Rapid starts and hard stops can increase fuel usage by 40% but reduce travel time by only 4%. The Environmental Protection Agency predicts that gentle acceleration and braking can save more than \$1 per gallon. To avoid unnecessary stress on the acceleration and gas pedals:
  - a. Accelerate gradually and avoid jackrabbit starts.
  - b. Anticipate your stops; when approaching a red light, let your foot off the gas pedal as early as possible.
  - c. Maintain a constant speed and coast when you can.
  - d. Make sure you have an E-ZPass to save time and fuel.
3. **Drive Cool.** In the summer, avoid driving during the hottest parts of the day. Cooler, denser air can boost power and mileage.
4. **Stay Cool.** Use your car's air conditioner when driving more than 40 mph. Today's air conditioners create less drag on the engine than driving with the windows open.
5. **But Drive to Warm Up.** Even on the coldest days, it only takes 30 seconds to get your vehicle ready to drive. Today's engines are designed to run most efficiently when warmed up, so warm up the vehicle by driving it.
6. **Keep Cruising.** Get a 7% average fuel savings by using cruise control while driving on flat highways. Using cruise control for 10,000 miles could save more than 60 gallons of fuel.
7. **Follow the Light.** When your vehicle's onboard diagnostics (OBD) light turns on, it is possible that fuel economy is decreasing and emissions are increasing. If the OBD light comes on, talk with your auto dealer for more information.
8. **Drive Safely.** Keep enough distance between you and other vehicles. Doing so not only protects you, it also prevents wear and tear on your vehicle. You should know:
  - a. **"Two-second" rule:** Pick an object in front of you, like a sign post or tree. When the vehicle in front of you reaches that object, count out "one-one thousand, two-one thousand..." If you reach the object before you count two, you are too close. Slow down until you've put enough distance between you and the other vehicle.

\* Prepared by the Emmett Environmental Law and Policy Clinic, Harvard Law School. This document includes information from the Massachusetts Registry of Motor Vehicle's driving manual and AAA publications. Cost savings may vary based on the price of gasoline.

- b. **React and Step:** It takes about three-quarters of a second to react to a situation and step on the brake pedal. At 50 mph, your vehicle will go another 55 feet in the three-quarters of a second it takes to react. Once you hit the brakes, you may go another 160 feet or more before you stop.



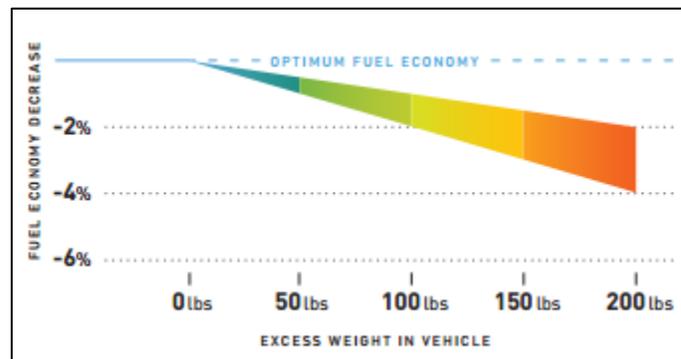
- c. **Be Alert:** Notice your surroundings, road conditions, and car features when driving. Make sure that you:
- i. Do not let your foot rest on the brake pedal (also called riding your brakes).
  - ii. Never pump the brakes if your vehicle has antilock brakes. As of 2010, 89% of new cars and 99% of new light trucks have antilock brakes.
  - iii. Always slow down near a curve or an area where you cannot see clearly ahead.
  - iv. Give yourself more distance from other vehicles when it is raining or snowing. When roads are wet or icy, it requires a longer distance for your vehicle to come to a complete stop.
9. **Utilize Your Car.** If your vehicle has an “ECO” setting, use it. It will smooth out your gas pedal inputs, optimize transmission shift points, and decrease the impact of air conditioners on the engine.
10. **Turn it Off.** Idling wastes fuel and may be prohibited. If you need to idle, shift to neutral so the engine is not working against your brake and consuming more fuel. As a rule of thumb, turn off your car for stops anticipated to be longer than 30-60 seconds.
11. **Drive less.** There are multiple ways to reduce costs and save money by driving less:
- a. Take public transportation, bicycle or walk, or carpool. These modes of transportation lower operating costs for your vehicle.
  - b. Combine errands to save time and gas. When you need to make multiple stops, go to your farthest destination first to warm up your engine more quickly for better fuel economy. If possible, park in a central place and walk to each destination.
12. **Stay on Your Couch.** Shop online and use online services for banking, paying bills, and other tasks that do not require leaving your home.
13. **Educate Yourself.** There are many resources available to get and stay educated about the best safe driving practices.

## Maintenance Practices to Follow

1. **Click the Cap.** Loose, damaged, or missing fuel tank caps cause 147 million gallons of fuel to evaporate each year. Make sure the cap is tight and you can save about \$120 per year.
2. **Check the Pressure.** In 2005, 1.2 billion gallons of fuel were wasted by driving on underinflated tires. Proper tire pressure is safer, extends tire life, and can provide up to 3% benefit per tank of fuel.

**DID YOU KNOW?** Tires must have at least 2/32 inches of tread depth. The distance between the edge of a penny and the top of Lincoln's head is about 2/32 of an inch. If you slide a penny into a tread groove and can see the top of Lincoln's head, your tires are worn out.

3. **Twist and Turn.** Rotate your tires. Proper rotation can add as much as 10,000 miles to the life of a set of tires.
4. **Travel Light.** Remove unneeded items from the trunk and avoid using the roof rack. Added weight and air resistance will cause more fuel to burn.



5. **Slim Down.** Wind resistance can reduce mileage, so remove luggage racks, roof-top carriers, and ski racks when not being used.
6. **Oil Up.** Make sure you use the type of motor oil recommended in your vehicle's owner's manual. You can improve your fuel economy 1-2% by using the manufacturer's recommended grade of motor oil. Remember to change the oil regularly because degraded motor oil will degrade fuel economy.
7. **Tune Up.** A tune up can improve gas mileage by an average of 4%. Visit your local dealership or auto shop on a regular schedule.
8. **Keep it Clean.** Keep the air filter clean to the point where light can be seen through it. Clogged filters reduce mileage by 10%.

## Stay Informed

The actions outlined in this plan can go a long way to producing meaningful savings for you, but it is important to remain informed. Keep records of your driving history to compare costs over time and make better decisions when purchasing new cars. There are a number of smartphone applications that make it easy to track your driving history and calculate fuel efficiency and cost savings. Check your smartphone's app store to see which app is the best fit for you.

As you shop for vehicles that are model year 2013 and later, be sure to review the [fuel economy and environment labels](#) designed by the Environmental Protection Agency and the National Highway Traffic Safety Administration. These labels are designed to give you, the buyer, information about how each car ranks in areas like fuel economy, fuel cost savings, and impact on the environment. Additionally, by scanning the QR Code with your smartphone, you are able to access online information about how various models compare on fuel economy and other environmental and energy factors.

