

5

Making Better Use of Your Car

If you decide to keep your car, what changes can you make to use it less? Can you plan some days without meetings, or carpool even a few days a week?

Plan Your Trips

In order to analyze your car use, record a personal diary of all car trips for a week. Then see if you can reduce your need to travel, combine trips more effectively, or use your car less. Planning round trips with more than one stop often cuts the overall distance.

Use a Smaller, Less Expensive Vehicle

A smaller car is cheaper, handles better, is easier to park, and is less taxing on the environment. Conversely, an expensive new car would have such a high rate of depreciation that, once you own it, you would be tempted to drive it a lot to get your money's worth — even an average new domestic car depreciates about \$4,000 annually, according to AAA.¹ An inexpensive used car will have a much lower rate of depreciation, plus if you don't drive much you may be able to save on insurance costs with a mileage-based insurance policy.

What Type of Vehicle?

- What is the car for? What capacity? Try to meet your usual needs, rather than the exceptional journeys.
- Small, light cars are more fuel-efficient.
- For in-town use, have a look at the electric car sources listed in the Resources section.
- To get the best fuel economy, choose a smaller engine (three- or four-cylinder, rather than V6, or V6 rather than V8)
- FuelEconomy.gov, run by the US Department of Energy, allows you to compare the efficiency of different car models.
- Consider buying, renting or borrowing a detachable trailer or large vehicle occasionally, rather than purchasing a larger car or SUV for occasional big loads.



Car Purchase Criteria

ConsumerReports.org provides well-researched, independent analysis of new and used car models, but much of the information is inaccessible without a subscription.

Edmunds.com is a for-profit alternative, which also offers information on ownership and driving costs. *Edmunds' New Cars & Trucks Buyer's Guide* and *Edmunds' Used Cars & Trucks Buyer's Guide* are available in bookstores throughout the US and Canada.

Below is a list of things to consider if you do decide to buy a car:

- Look at whole-life costs, such as price, fuel efficiency, financing, maintenance, repairs, depreciation and taxes. Also, look at each mode's expected reliability.
- Vehicles with automatic transmission use more fuel than those with manual shifting.

Sport-utility vehicles, pickup trucks and minivans accounted for over 40% of all vehicles sold in the US during the first half of 1995. These vehicles reportedly achieve as little as 10 mpg in stop-and-go traffic.²

- Compare total annual costs for various models. The AAA pamphlet, "Your Driving Costs 2005," provides averages for new domestic cars, calculated for 10,000, 15,000 and 20,000 miles per year.
- Look at fuel consumption figures — similar models of cars vary by over 25%.³
- Investigate insurance costs.
- Beware of the EPA fuel-economy ratings stickered on new cars. *Consumer Reports* has found a large

discrepancy between claimed and actual fuel efficiency. On average, vehicles produced in 2003 had mpg overstated by 30 percent.

- Remember that a high-visibility paint color is safest for pedestrians and cyclists.
- Information on alternative vehicles and fuels is available from the Alternative Fuels Data Center (Eere.energy.gov/afdc/), as well as from other organizations listed in the Resources section.

40–55 mph is the most economical driving speed. At 75 mph you use up to 30% more fuel than at 50 mph.⁴

Be Safe — Slow Down

Avoid rush hour when possible. Gas consumption doubles when speed drops from 30 mph to 10 mph. Also, stop-and-go traffic uses more gas than traveling at a constant speed.⁵

The “time saved by speeding” calculator estimates that for every ten minutes of driving at 65 mph instead of 55 mph, you only save 1 minute 14 seconds.⁶ Is that worth the risk of accident or the possibility of getting a ticket?

- Avoid heavy acceleration and hard breaking.

- Lower speeds are crucial: excessive and inappropriate speed contributes to one third of all crashes. Every 1-mph drop in speed reduces crashes by 3% to 6%.⁷

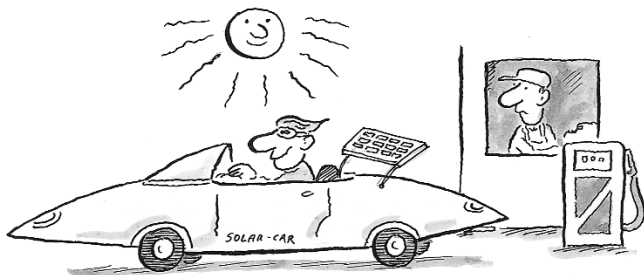
Survival and Speed^B

Vehicle Speed (mph)	<10	10–20	20–30	30–40	60
Pedestrian/Cyclist's	very	95%	55%	15%	almost
Survival Chances	good				no chance

Join the Right Auto Club

“A lot of people belong to AAA because they think it’s a nice place to get Triptiks and traveler’s checks,” says Daniel Becker, director of Sierra Club’s global warming and energy program. “What they don’t know is that AAA is a lobbyist for more roads, more pollution, and more gas guzzling.”

There’s now an excellent alternative. Launched in 2002 by business-savvy progressives, Better World Club offers nationwide (US) roadside assistance and the other services that you’re used to getting from AAA. Membership includes eco-travel services, discounts on hybrid cars, insurance services, free maps, auto maintenance discounts and bicycle roadside assistance. The club offers mileage-based auto insurance, which is really a money saver for those who don’t drive a great deal. Membership prices start at \$54/year (2006), generally cheaper than AAA. See Betterworldclub.com/competition/aaa.htm. At the time of writing, the club does not serve Canada. Better World donates 1% of its revenues to environmental causes. The club is even endorsed by Tom and Ray Magliozzi (aka Click and Clack), hosts of the Car Talk radio talk show. For further information, contact them toll-free in the US at 1 (866) 238-1137, or online at Betterworldclub.com.



Use Energy Efficiently

With fuel prices at historic highs, you can use a number of strategies to save gasoline. The most effective, of course, is to choose a fuel-efficient car and drive less.

- Reduce the number of your short trips, as a cold car engine produces more emissions, uses more fuel, and suffers more wear than when warm.
- Use the smallest, lightest vehicle available for the job
- Reduce drag by removing a trailer or roof rack and shutting windows and the sunroof. Remove any excess weight.
- Plan your trips in advance. Start the engine only when ready to go, and set off immediately. Avoid revving up, and push in a manual choke as soon as possible.
- Drive lightly and smoothly — heavy feet wear out brake pads and tires. Remember that aggressive driving increases fuel consumption by over 25%, and that pulling away too fast uses 60% more fuel.

For every 1 mph driven over 55 mph, the average vehicle loses approximately 2% in fuel economy. If everyone observed a speed limit of 55 mph, the US would save 4 million gallons of gasoline each day.⁹

- Get in the right gear: higher gears are more energy-efficient.
- Avoid unnecessary idling (anything over 45 seconds).

Automatic transmission can add 10–15% to fuel use, and air conditioning uses an average 15% more fuel.¹⁰

Maintenance

- Check your tires monthly. A 7-psi under-inflation wastes half a gallon of gasoline per tank.¹¹
- Have your car serviced at least every year, or each 10,000 miles, to ensure the engine is properly tuned. Get the emissions and the catalytic converter checked at the same time.
- You should beware of devices that promise better fuel economy. *Consumer Reports* has repeatedly tested such products over the years and has not found any that actually work.¹²

- British motorists, however, report a savings of 5–20% on gasoline when using a Motoflow magnet (produced by Ecoflow, Simplymagnetic.com). They also recommend Ecotek's CB-26P fuel saver ([Ecotek plc.com](http://Ecotek.plc.com)). Ecotek also sells a de-coking foam called PowerBoost to make older engines cleaner and more efficient.¹³
- Streamlining kits and aerodynamic styling cut can also fuel bills.

Cleaner, Greener Cars

The auto manufacturers sometimes claim that for environmental reasons it is best to buy a new, cleaner car and discard your old one. This assumes your previous car is now off the road, when more likely it's been resold and is still being driven around by someone else. (That's two cars on the road instead of one!) Secondly, a large share of a car's environmental impact, over its lifetime "from cradle to grave," takes place in the mining of materials to make the car, the manufacture, and the disposal. The actual driving of the car is just 40–60% of the total impact.¹⁴ So car-caused pollution cannot be fully addressed by switching to alternative fuel sources or solar-charged car batteries; car ownership itself is an environmental problem.

Biofuels (ethanol, biodiesel, etc.) certainly have a role to play, but are not panaceas. They must go hand in hand with cutting our car use and our dependence on long-distance goods transport. According to one study we would need to convert a quarter of the planet's existing above-ground plant matter into biofuels — every year — to replace fossil fuels entirely.¹⁵ Environmentalists such as Lester Brown of Earth Policy Institute warn of a future in which supermarkets and service stations

compete for the same commodities. "If the food value of a commodity is less than the fuel value, it will be converted into fuel," he writes.¹⁶

Yet some biofuel crops show real promise. The jatropha tree, for example, can produce up to 15 kg of oil-rich seeds three times a year, can be grown on marginal land, produces seeds for up to 30 years, and its biodiesel fuel emits about 15% the CO₂ of petro-diesel. Jatropha (see Jatropha.de) is highly pest-resistant, helps to control erosion and provides a lucrative crop for former tobacco growers (thus not replacing a food crop). Sugarcane ethanol from Brazil can yield eight times the energy used to produce it, and can be made for \$0.60 per gallon. Since sugarcane plant waste is burned to provide the heat for distilling, fossil fuel inputs are minimised (except in transporting the fuel to the consumer). The energy content of the fuel is about 67% that of gasoline, while biodiesel provides 90% of the energy of petrodiesel.¹⁷

Other crops fare worse. Oil palm, for example, is extremely destructive but will nonetheless be widely exploited for biodiesel because it's by far the cheapest source. Oil palm yields 508 gallons per acre, more than twice the yield of its closest rival, the coconut. (Jatropha yields 202 gallons per acre.) Friends of the Earth estimates that oil palm is already responsible for 87% of the deforestation in Malaysia.¹⁸ Now that the European Union has decided that 5.75% of its transport fuel must come from plant sources by 2010, most of the remaining forest is threatened. To meet the projected European demand, 6 million hectares of forest are scheduled for clearance in Malaysia, and 16.5 million hectares in Indonesia. Oil palm biodiesel is even more destructive than crude oil from Nigeria, some critics claim.¹⁹

When making decisions about “greener” car purchase or alternative fuels, consider the following points:

- Buying a new car makes the buyer responsible for a greater part of its overall environmental impact than if he or she had bought the car later in its lifecycle. Also, buying a new car encourages more cars to be built, and enriches an industry that lobbies for more highways and car-based infrastructure. From an environmental and money-saving standpoint, it is generally better to buy a used car, even if its fuel efficiency is lower than that of a new car. You can make up the difference by driving the car less often, or by converting or modifying it to run more cleanly.
- Electricity use is not benign. The environmental impact depends on the fuel source of the power plant, whether natural gas, coal, nuclear, wind, hydro or solar. Electricity, however, tends to be much cheaper than gasoline.
- The impact of running cars on hydrogen would depend on the energy source used to separate water into pure hydrogen, as well as the impact of transporting it to the consumer. Hydrogen is more of a storage medium (like a battery) than an actual fuel. It would probably be more efficient to have cars run by natural gas than to burn natural gas to “produce” hydrogen and then burn the hydrogen in a car.
- If you’re set on buying a new car, consider a hybrid such as the Toyota Prius, which can be converted (by, among others, a nonprofit group called CalCars in Palo

Alto), to run on electricity alone. Ron Gremban of CalCars reports that before the conversion, his Prius got 40–45 mpg and now it gets 65–100 mpg.²⁰

- Americans who buy hybrid cars may be eligible for a tax credit of up to \$3,150.²¹
- However, in terms of gas mileage, an efficient non-hybrid car such as the Smart (50–60 mpg) or the VW Beetle (especially with a drag reducer)²² can easily rival a hybrid car, while having a lower sticker price.
- Whatever you do, don't start driving more once you have bought a "clean" car, justified by the eco-credentials or the savings at the pump. The extra driving will easily cancel out the difference.
- "Clean fuels" can be 50% more fuel efficient than standard gasoline.²³ Diesel is 30% more fuel-efficient than gasoline, but has a worse impact on human health.²⁴ Biodiesel is cleaner than ordinary diesel, but can be difficult to obtain. A map and list of US distributors are at Biodiesel.org/buyingbiodiesel/distributors/.
- For city driving, new compressed air engines are cleanest, and have a range of 120 miles. See the website Theaircar.com about the MDI City C.A.T. and for news of when it will be in production.
- There's enough used vegetable oil out there to fuel up perhaps 1/400th of our current vehicle fleet. Veggieavenger.com tells you how to take advantage of this underused resource.

SUCCESS STORY

For Rob Woodman, director of the Davis Pain Clinic in Davis, California, cars always represented wealth and masculinity, and his youth was spent repairing and driving cars. After high school, he always had a car, no matter how thin his finances got. Once establishing his psychology practice, he drove 35 minutes to his office in Sacramento every day for 15 years. But as increased traffic lengthened his commute and he became more conscious about pollution and oil dependence, he decided to move his practice closer to home. Though it took time to get re-established, the change has much improved his quality of life. His “commute” is now a relaxing four-minute walk. Rob now lives and works in Village Homes, a neighborhood of passive-solar homes, curving narrow lanes and open space. To emphasize public life and active transportation, homes are oriented toward common areas that include an extensive system of walking/cycling paths, as well as a variety of landscaped and garden areas, play structures, fruit and nut trees, vineyards and flowing creeks, all maintained by committees of residents. Rob and his patients greatly enjoy this beautiful setting and its community-minded atmosphere.

