



Driving Habits To Maximize Your Fuel Efficiency

**Andy Goodell – February 19, 2009
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My Inspiration: \$4/gal gas

- Reading about drivers getting over double the EPA fuel efficiency of their cars.
- Subaru Legacy 20 city, 27 highway, 23 comb.
- Chevy Venture 16 city, 23 highway, 18 comb.



Subaru:
35mpg average
40mpg best

- Chevy:
32mpg average
40mpg best





Fuel Efficiency of “The System”

- Walking, biking, using TCAT, carpooling, and combining trips will save more fuel than any other technique I will talk about.
- I'm going to assume that you know these options and are working towards doing them more often!



Find Your Route

- Where do you drive most often?
- Avoid stops, hills, and heavy traffic.
Work 8am-4pm to avoid rush hours
- Using state routes instead of interstates will easily save 10-20% of the mileage while driving at more efficient speeds.

Person MPG

- Single-occupancy commutes are the worst use of a car, but fill a van with 7 people and it's a much more efficient trip.
- 1 driver in a Prius: $45\text{mpg} * 1 \text{ person} = 45 \text{ person-miles per gallon}$
- 7 people in a van: $18\text{mpg} * 7 \text{ people} = 126 \text{ person-miles per gallon}$





Patience!

- Speeding is unsafe, illegal, wears your brakes quicker, causes more stress on the engine and other parts, causes unpredictable maneuvers, causes 40,000 fatal accidents each year.
- It's worth being patient!

Accelerate Moderately

- Not too fast, not too slow
Try staying under 2,500 RPM
Shift up as earlier as possible
- It may seem slow, but after a few seconds you will be going the same speed as every one else.

(Remember about that patience?)





The Most Efficient Speed

- On a flat stretch of road, get in the highest gear, and slow down until you find the slowest speed for that gear.
- The speed for highest efficiency is between 40-45mph, NOT 55 or 65.

Least Throttle Possible

- Throttle can be measured in percent:
0% = your foot is off the throttle
100% = pedal to the floor
- Most people drive with the throttle varying between 0-50%. Aim to keep a steady throttle under 25% instead.
- Only about 10% throttle is necessary to travel on flat ground at 40MPH to overcome friction and air resistance.





“Driving Without Brakes”

- Less acceleration + more coasting
= less braking + better fuel efficiency
- Let off the gas far before a place you want to stop and let your speed reduce instead of waiting until the last 100ft to step on the brakes.
- In city driving, you will inevitably stop several times, no matter how fast you got there!

Turn It Off

- If you aren't moving, you don't need gas! An idling car uses an ounce of gas per minute.

When to turn it off:

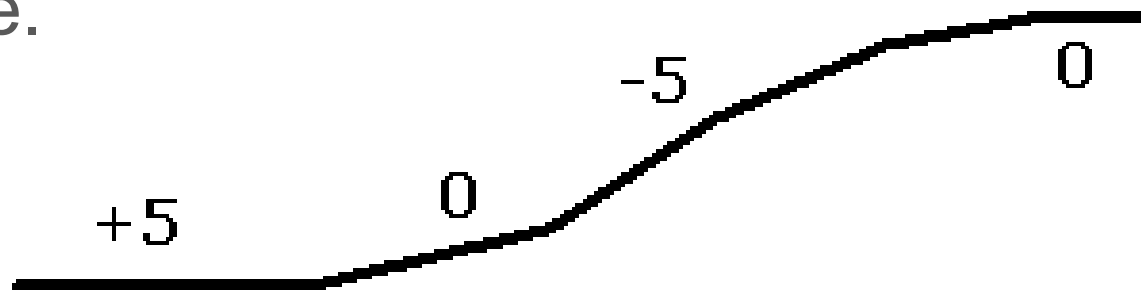
- Approaching a stop light as it turns red
- As soon as you park
- Any time when you expect stop for a minute
- For temporary stops, put the car in neutral. You can start quickly and shift into gear when you need to begin moving again.





Throttle Cruise Control

- Pretend that you have cruise control connected to the throttle.
- Find the right pressure on the gas pedal to keep your speed. When an incline comes up, keep the same throttle pressure and let your speed reduce.



Driving the Hills

- Keep a very steady throttle to avoid shifting down, if possible.
- Let your speed slow down as you reach the top because:
 - 1) Less energy to reach the top
 - 2) Less braking coming down



Coast When You Can

- Shift to neutral when coasting downhill to reduce friction from the engine.
- Especially around Ithaca, there are plenty of opportunities to coast. Just look well ahead, and be conscious of other cars around you.

