



Report Announcement

Light-Duty Automotive Technology and Fuel Economy Trends Through 1999

The U.S. Environmental Protection Agency's (EPA) report summarizes the key trends related to the fuel economy of light vehicles sold in the United States for model years 1975 through 1999. "Light vehicles" include those vehicles that U.S. EPA and the U.S. Department of Transportation (DOT) classify as cars or light-duty trucks (sport utility vehicles, minivans, and pickup trucks with less than 8,500 pounds gross vehicle weight ratings). The report finds that fuel economy is declining, truck market share is increasing, and fuel economy is being traded for vehicle weight and performance.

Importance of Fuel Economy

Since the early 1970s, EPA has issued reports that summarize fuel economy data for new light vehicles. The fuel economy values in this report are laboratory data similar to those that DOT uses for compliance with the corporate average fuel economy standards. These laboratory values, however, are significantly higher than the estimated values used on new car labels and in the *Fuel Economy Guide*.

Fuel economy continues to be a major area of public and policy interest for several reasons, including:

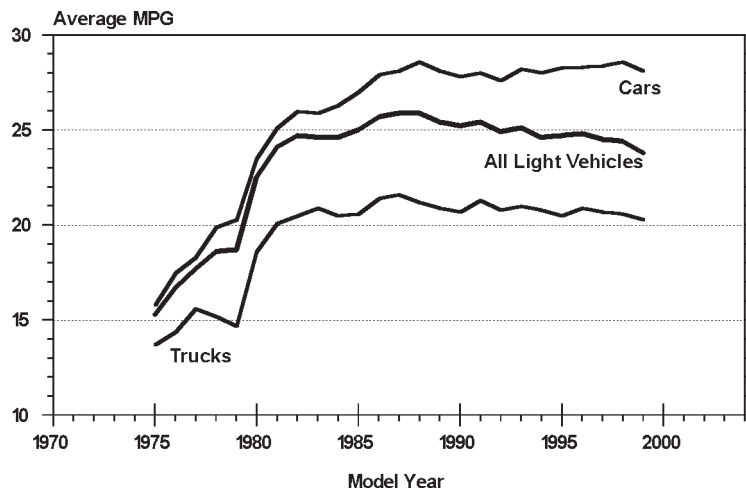
- (1) Fuel economy is directly related to carbon dioxide emissions, the most prevalent pollutant associated with global warming, and light vehicles contribute about 20 percent of all U.S. carbon dioxide emissions.
- (2) Light vehicles account for approximately 40 percent of all U.S. oil consumption. Crude oil, from which nearly all light vehicle fuels are made, is considered to be a finite natural resource.
- (3) Fuel economy is directly related to vehicle fueling cost.

Fuel Economy is Declining

The average fuel economy for all model year 1999 light vehicles is 23.8 miles per gallon (MPG). Within this category, average fuel economy is 28.1 MPG for passenger cars and 20.3 MPG for light-duty trucks. The 1999 fuel economy average is the lowest value since 1980 and is 2.1 MPG less than the peak value of 25.9 MPG achieved in both 1987 and 1988. Average fuel economy for new light vehicles has dropped 1.0 MPG since 1996.

All of the fleet-wide improvement in new light vehicle fuel economy occurred from the middle 1970s through the late 1980s, but it has been consistently falling since the late 1980s. Viewed separately, the average fuel economy for new cars has been essentially flat over the last 14 years, varying only from 27.6 MPG to 28.6 MPG. Similarly, the average fuel economy for new light trucks has been largely unchanged for the past 19 years, ranging from 20.1 MPG to 21.6 MPG. The increasing market share of light-duty trucks, which have lower average fuel economy than cars, is the primary reason for the decline in fuel economy of the overall new light vehicle fleet.

Fuel Economy by Vehicle Type

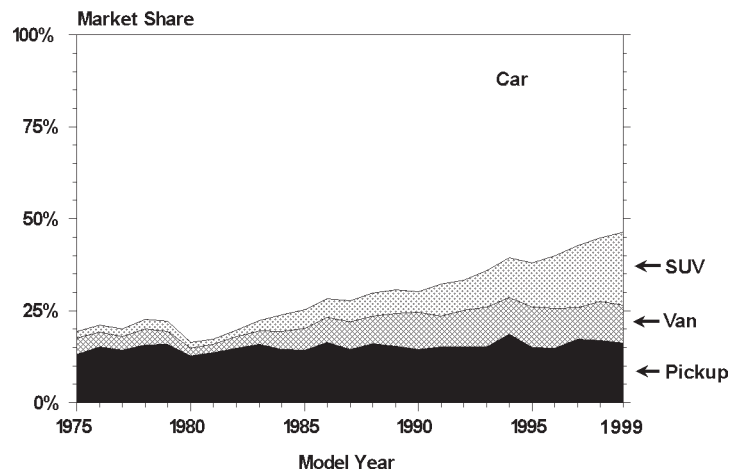


Truck Sales Continue to Increase

Sales of light-duty trucks, which include sport utility vehicles (SUVs), minivans, and pickup trucks, have risen steadily for 20 years and now make up 46 percent of the U.S. market—more than twice their market share as recently as 1983.

Growth in the light-duty truck market has been led recently by the explosive popularity of SUVs, which rose in sales from less than 200,000 in 1975 (less than 2 percent of the overall new light vehicle market) to almost 3 million in 1999 (20 percent of the market). Over the same period, market share for minivans and full-size vans doubled from 5 to 10 percent, and for pickup trucks grew from 13 to 16 percent. Between 1975 and 1999, market share for new passenger cars and wagons has fallen from 81 to 54 percent. Based on lower average fuel economies and projected longer useful lives, EPA estimates that the new light-duty trucks sold in 1999 will consume, over their lifetimes, almost 60 percent of the fuel used by all of the new light vehicles sold in 1999.

Market Share by Vehicle Type

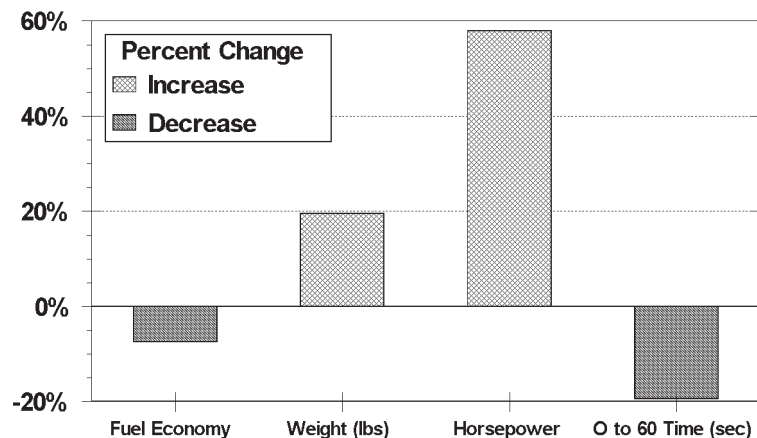


Fuel Economy is Being Traded for Weight and Performance

More efficient technologies have continued to enter the new light vehicle fleet and are being used to increase light vehicle weight and performance rather than fuel economy. Based on accepted engineering relationships, if the new 1999 light vehicle fleet had the same average weight and performance as in 1986, it could have achieved 5 MPG higher fuel economy.

More efficient technologies—such as engines with more valves and more sophisticated fuel injection systems, and transmissions with extra gears—have continued to penetrate the new light vehicle fleet. The trend has clearly been to apply these new technologies to increase average new vehicle weight, power, and performance while maintaining fuel economy. This is reflected by heavier average vehicle weight (up 20 percent for new light vehicles since 1986), rising average horsepower (up 58 percent for new light vehicles since 1986), and lower 0 to 60 mile-per-hour acceleration time (19 percent faster for new light vehicles since 1986). During this same time, average new light vehicle fuel economy fell by 7 percent.

Percent Change Since 1986 in Light Vehicle Characteristics



For More Information

Light-Duty Automotive Technology and Fuel Economy Trends Through 1999 (EPA420-R-99-018) is available on the Office of Mobile Sources web site at:

<http://www.epa.gov/oms/mpg.htm>

Printed copies are available from:

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