

Gas mileage up a gallon since early '90s

March 2 2017, by Bernie Degroat



Credit: Scott Meltzer/public domain

Despite advancements in fuel-saving technologies over the last 25 years, on-road fuel economy for all vehicles is up only one mile per gallon during that time.

In an update to research conducted two years ago, Michael Sivak and

Brandon Schoettle of the University of Michigan Transportation Research Institute say that actual, on-road fuel economy for the entire fleet of vehicles (including cars, trucks, buses and motorcycles) has improved from 16.9 mpg in 1991 to 17.9 mpg in 2015.

"One fundamental problem with improving the average fuel economy of the on-road fleet is that improvements in fuel economy for new vehicles take a long time to substantially influence fuel economy of the entire on-road fleet," said Sivak, a research professor at UMTRI. "This is the case because it takes many years to turn over the fleet."

The study documented and analyzed the annual changes in actual fuel economy of vehicles on U.S. roads from 1923 to 2015 by using information about distances driven and fuel consumed to calculate fuel economy of the overall fleet and of different classes of vehicles.

The researchers found that fuel economy of the entire fleet actually decreased from 14 mpg in 1923 to 11.9 mpg in 1973, but then rapidly increased starting in 1974.

"After the 1973 oil embargo, [vehicle](#) manufacturers achieved major improvements in fuel economy," Sivak said. "However, the slope of the improvement has decreased substantially since 1991."

Fuel economy of all light-duty vehicles (cars, pickup trucks, vans, SUVs) improved 52 percent from 1973 to 1991 (from 12.9 mpg to 19.6 mpg), but only 12 percent since (to 22 mpg), Sivak and Schoettle say.

According to the study, fuel economy for cars improved from 13.4 mpg in 1973 to 21.2 mpg in 1991, but reached only 23.9 mpg by 2015. For light trucks (pickups, vans, SUVs), the numbers were 9.7 mpg in 1966, 17 mpg in 1991 and 17.3 mpg in 2015. Medium- and heavy-duty trucks showed modest improvement from 5.6 mpg in 1966 to 6.4 mpg in 2015.

The researchers say the focus should not necessarily be on classes of vehicles with the lowest [fuel economy](#), such as medium- and heavy-duty trucks and buses, which have alternative societal measures that are relevant (e.g., ton-miles per gallon and passenger-miles per gallon, respectively).

"Instead, the focus should be on the least-efficient vehicles within each class," Sivak said.

For example, an improvement from 40 mpg to 41 mpg for a vehicle driven 12,000 miles per year saves 7 gallons of fuel a year. However, an improvement from 15 mpg to 16 mpg for a vehicle driven the same amount of miles saves 50 gallons of fuel a year.

More information: Study abstract: On-Road Fuel Economy of Vehicles in the United States: 1923-2015,
[www.umich.edu/~umtriswt/PDF/SW ... Abstract_English.pdf](http://www.umich.edu/~umtriswt/PDF/SW...Abstract_English.pdf)

Provided by University of Michigan

Citation: Gas mileage up a gallon since early '90s (2017, March 2) retrieved 27 April 2024 from <https://phys.org/news/2017-03-gas-mileage-gallon-early-90s.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.