

**Summary:**

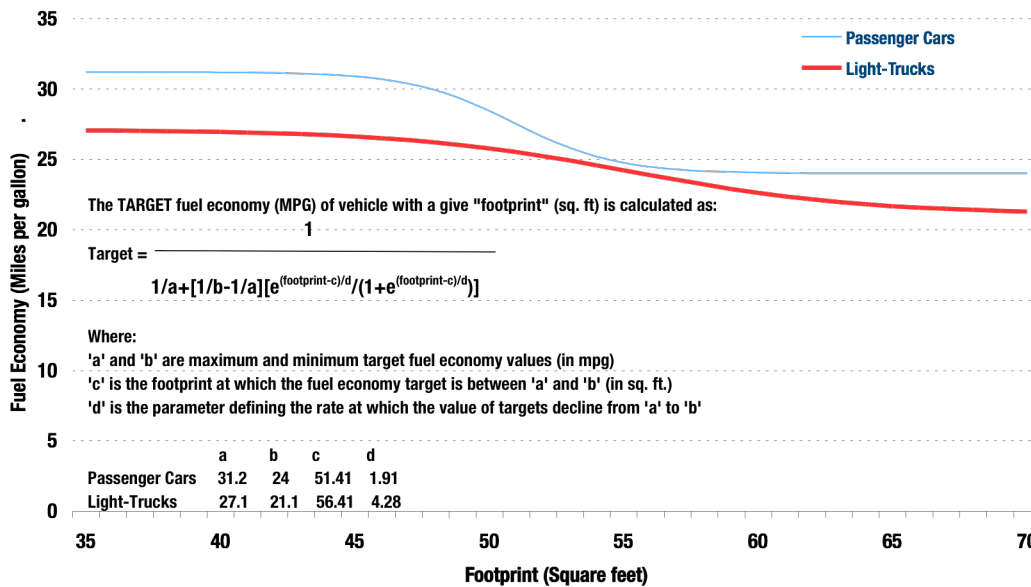
United States has issued the final rule regarding the light-duty vehicle fuel economy standards for model year 2011 at the following level:

	Fuel Economy (miles per gallon)	Fuel Consumption (l/100km)	CO <sub>2</sub> emissions (g/mile)	CO <sub>2</sub> emissions (g/km)
Passenger Cars	30.2	7.8	294	183
Light-Trucks	24.1	9.8	369	229
Combined Light-Duty	27.3	8.6	326	202

The standards are based on vehicle size, measured by “footprint”, or track width times wheelbase.

**Details:**

The National Highway Transportation and Safety Administration (NHTSA), an agency of the Department of Transport (DOT), established final corporate average fuel economy (CAFE) standards for model year 2011 light-duty vehicles on March 27, 2009. As expected and proposed in the notice, the new rule is based on vehicle size, measured by “footprint”, or track width times wheelbase. Footprint was used by NHTSA for the 2008 to 2010 light truck CAFE standards, but this is the first time the system has been applied to cars. The final standard for passenger cars and light-trucks is shown in the figure below.



Note that the steepness of the car curve is greater than the light-truck curve, which could lead to certain manufacturers artificially increasing the footprint of their car models to reduce their fuel economy target.

The size mix of vehicles actually sold will affect the average fuel economy of all model year 2011 vehicles. If manufacturers produce the mix of vehicles projected by NHTSA, the CAFE standards would produce the following results:

MY 2011 passenger cars: 30.2 mpg (294 g/mile of tailpipe emissions of CO<sub>2</sub>)  
MY 2011 light trucks: 24.1 mpg (369 g/mile of tailpipe emissions of CO<sub>2</sub>)  
All MY 2011 vehicles: 27.3 mpg (326 g/mile of tailpipe emissions of CO<sub>2</sub>)

The manufacturers must also meet an alternative minimum standard (not attribute-based) of 27.8 mpg (320 g/mile of tailpipe emissions of CO<sub>2</sub>) for 2011 domestic passenger cars.

The new 2011 CAFE target is 0.5 mpg lower than the 27.8 mpg originally proposed by NHTSA in mid-2008. NHTSA stated that the 0.5 overall mpg reduction for 2011 was due to correcting cost and benefit estimates and because "...the agency also revised its phase-in schedule of the technologies to account for lead time."

Sharp-eyed readers of the Final Rule may note that the final requirements for cars and light trucks are almost one mpg lower than the proposed values of 31.2 mpg for cars and 25.0 mpg for light trucks. Only half of this reduction is due to reduced stringency. The other half is due to reclassification of two-wheel drive (2wd) SUVs as cars instead of light trucks starting with 2011. The 2wd SUVs have lower mpg than most cars but higher mpg than most trucks, which has reduced the CAFE level of both cars and light trucks, while improving the combined standards by 0.3 mpg.

The final 2011 standards represent an increase of 8 percent from the 2010 standards. Much of this increase is artificial, as passenger cars have exceeded their fuel economy standards of 27.5 mpg by several percentage points for the past decade. The increase in the light truck CAFE standards is 4.3 percent. All that can be said for cars is that the projected average fuel economy with the 2011 car standards is 1.6 percent above the current manufacturer product plans.

Standards for 2012 to 2015 vehicles will be reevaluated by NHTSA. In developing standards for MY 2012 and beyond, NHTSA said that it would proceed after collecting new information, conducting a careful review of technical and economic inputs and assumptions, and standard setting methodology, and completing new analyses. The 2012 standards must be issued by March 31, 2010.

### **Implications:**

The size-based nature of the standard will do more to drive technology improvements in vehicles than to shift the 'mix' of vehicles sold by automakers towards smaller models. Consumers should not see much outward difference in the size of vehicles as a result of these standards, but may observe a smaller increase in vehicle performance. The primary impact will be to mandate higher levels of technology on every vehicle. This will increase the initial purchase price of the vehicle, but the future fuel savings will more than pay for the cost of the technology.

The reclassification of 2wd SUVs as cars instead of trucks is likely to have unintended consequences. As the four-wheel drive (4wd) versions of the same vehicles are still classified as light trucks, the 4wd versions will be subject to much lower CAFE requirements. This will likely lead to manufacturers dropping their 2wd versions in favor of 4wd versions. While such a strategy will make it easier for manufacturers to meet the CAFE requirements, real-world fuel economy will suffer as the 4wd versions have lower fuel economy. Classifying the minivans and SUVs as passenger cars can eliminate such an adverse impact, since in practice the usage patterns of minivans and SUVs are similar to that of passenger cars. In general, the ICCT recommends establishing one set of standards for vehicles that serve the same function.