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16. Abstract <p>This study was designed to examine how using tires that are at the current extremes of rolling resistance affects fuel consumption by light-duty vehicles in the U.S. The analysis was based on rolling-resistance measurements for 63 tire models that were obtained under uniform test conditions by Consumers Union (the publisher of <i>Consumer Reports</i>). These tires represent a cross-section of the currently available T-, H-, and V-speed-rated tires for light-duty vehicles on the U.S. market. All 63 tire models were evaluated at the same load (1,033.9 lbs) and at the same inflation pressure (37.9 psi). The analysis was performed for each speed-rated subset of tires and for the combined set of all tires. The data are presented for the median, minimum, and maximum of the respective distributions of rolling resistance, and for four percentile levels (10th, 25th, 75th, and 90th).</p> <p>Rolling resistance (RRf) for the combined set of all examined tires ranged from 6.89 lbs to 12.50 lbs, with a median of 10.28 lbs. Given that the current average on-road fuel economy of light-duty vehicles is 21.4 mpg (assumed to be obtained at RRf of 10.28 lbs—the median of our tire sample), the obtained rolling resistance extremes translate into a maximum fuel economy of 22.4 mpg (at RRf = 6.89 lbs) and a minimum fuel economy of 20.7 mpg (at RRf = 12.50 lbs). Consequently, the obtained rolling resistance extremes yield a minimum and maximum annual fuel consumption of 505 gallons and 547 gallons, respectively. At the average 2013 price of regular gasoline, the obtained fuel-consumption results in a \$147 difference in the annual cost of gasoline per light-duty vehicle.</p>					
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