



Advocacy

Summary for Policymakers

**"The Un-SAFE Rule: How a Fuel Economy Rollback
Costs Americans Billions in Fuel Savings and Does Not
Improve Safety"**

Authors:

Chris Harto and Shannon Baker-Branstetter - Consumer Reports
Jamie Hall - Synapse Energy Economics

Key Takeaways

Overall economic effects during the lifetime of Model Year 2021-2035 vehicles:

- The existing fuel economy standards, which affect vehicles from MY 2017-2025, would net Americans \$660B in savings relative to the standards in place for MY 2016.
- \$460B of that \$660B in consumer savings would be lost if DOT and EPA's preferred rollback is put in place for MY 2021-2026.
- Alternatively, strengthening standards through MY 2025 could save Americans an additional \$40B on top of existing benefits.

Effect on consumers:

- The DOT and EPA's preferred rollback would cost each MY 2026 vehicle buyer an average of \$3,300 over the life of the vehicle.
- Their preferred rollback would be the equivalent of a \$0.63/gallon gas tax on each MY2026 vehicle owner.
- The rollback would cost buyers who finance their vehicles more starting from the first month they own their vehicles.
- Over 70% of the costs of the rollback would fall on drivers of light trucks.¹⁴
- About 50% of the costs of the rollback would fall on used vehicle buyers.

Other economic and safety effects during the lifetime of Model Year 2021-2035 vehicles:

- The rollback would increase oil consumption by 320 billion gallons, the equivalent to 20% of the country's proven oil reserves.
- The rollback will increase greenhouse gas emissions by nearly 3 gigatonnes of CO₂, equivalent to almost 2 years of current emissions from the entire transportation sector.¹⁵
- The rollback would harm the auto industry, decreasing sales by more than 2 million vehicles between MY 2021 and 2035.
- Fuel savings of the existing rule are three times the technology investment costs needed to implement it.
- The rollback would not improve auto safety, and may have a small negative impact.

A rollback costs consumers

A projected
\$460 billion
in **additional** costs
for consumers



That's an average of
\$3300 MORE
per
vehicle.



70% of the **cost** of weaker
fuel economy standards will
**fall on pickup truck and
SUV owners.**



HOW CONSUMERS BENEFIT FROM FUEL-SAVING TECHNOLOGY:

\$1 tech investment = \$3 fuel savings

Fuel-saving innovations provide a terrific 3-to-1 return on investment.

America's choice on the "Fuel Economy Highway"

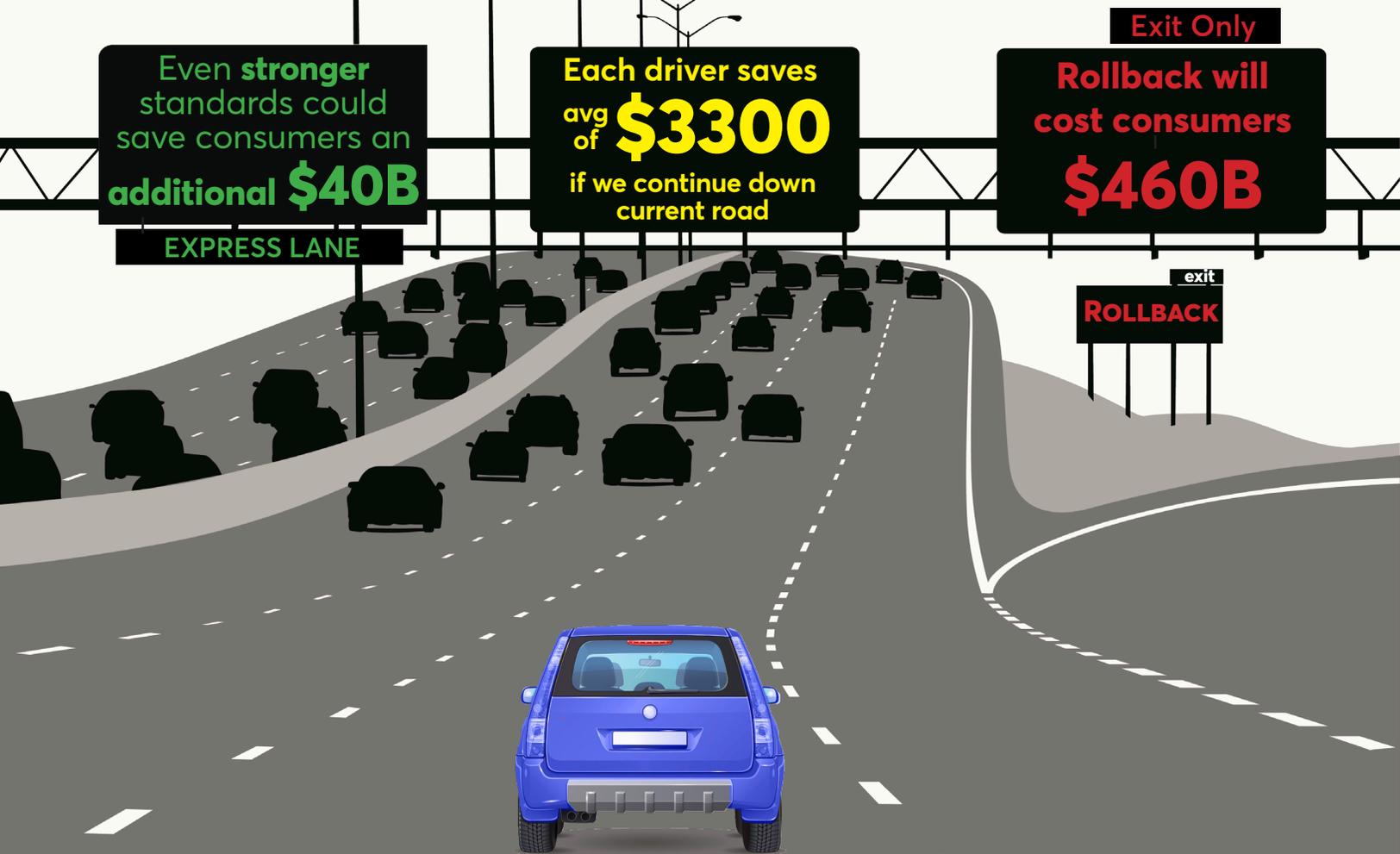


Table es1 - Change in Fuel Economy Standards Scenarios

Scenario Name	Annual Fuel Economy Increase 2021-2026	Estimated Real World Fleetwide Fuel Economy in 2026 ⁸	Net Cost to Consumers (\$2019) ⁹	Increase in Highway Fatalities ^{10 *}
Baseline	Cars: 4.9% Light Trucks: 5.6% ¹¹	37.5 mpg	N/A	N/A
Rollback 1 (NHTSA's preferred rollback in 2018 proposal)	Cars: 0% Light Trucks: 0%	29.1 mpg	\$460 billion	450 ¹²
Rollback 2	Cars: 0.5% Light Trucks: 0.5%	30.0 mpg	\$410 billion	400
Rollback 3	Cars: 1% Light Trucks: 1%	30.6 mpg	\$360 billion	350
Rollback 4	Cars: 2% Light Trucks: 3%	33.8 mpg	\$180 billion	150
Stronger ¹³	Cars: 5.5% Light Trucks: 6%	38.8 mpg	-\$40 billion	-35

*This effect is quite small and is likely to be difficult to discern from other, more significant factors affecting highway safety.

Proposed rollback

Automakers are currently complying with Phase II fuel economy and greenhouse gas standards.⁵ However, in 2018, the DOT and EPA proposed the “Safer Affordable Fuel-Efficient” (SAFE) Vehicles Rule to replace the current EPA standards for greenhouse gases and projected (or “augural”) DOT standards for fuel economy. The draft rule proposes to freeze the standards at 2020 levels through 2026. In addition, EPA has proposed a first-ever revocation of the waiver granted to California for its own emission standards. If the waiver revocation is upheld in court, this would block the Clean Car States from maintaining the current standards.⁶

Conclusions reached

All evaluated proposals to weaken fuel-economy standards would result in hundreds of billions of dollars in losses to consumers, substantial increases in fuel consumption, and decreases in new vehicle sales. Additionally, they would not decrease—and may slightly increase—traffic fatalities.

In contrast, if fuel economy and greenhouse standards were strengthened, consumers would save an additional 33 billion gallons of fuel and save an additional \$40 billion on top of the already large benefits of the existing standards. Meanwhile, new vehicle sales would increase, and highway safety may slightly improve.¹

Key Findings

All rollbacks contemplated by DOT and EPA would result in significant setbacks compared to the current standard in three major categories: (1) increased overall oil consumption and fuel costs for consumers, (2) higher vehicle ownership costs (net present value) for consumers, especially SUV and pickup truck owners, and (3) lower auto sales for automakers and dealers. Further, a rollback could harm, but certainly would not improve, highway safety, contrary to the misleading “SAFE Rule” title used for the proposal.



“A rollback... certainly would not improve highway safety, contrary to the misleading ‘SAFE Rule’ title used for the proposal.”

History of Fuel Economy and Greenhouse Standards for Vehicles

Fuel economy: In response to the 1973 oil crisis, Congress passed the Energy Policy and Conservation Act (EPCA) of 1975, directing the Department of Transportation (DOT) to set fuel economy standards for passenger vehicles and light trucks.² Fleetwide average fuel economy improved for about a decade following implementation of the standards. However, the standards were mostly stagnant starting in 1990, until the nation faced another oil price shock, spurring passage of the Energy Independence and Security Act (EISA) of 2007. That law required automakers to reach a fleetwide average of at least 35 miles per gallon by 2020. Based on that law and developments regarding greenhouse gas pollution regulation (see below), final fuel economy standards were put in place through MY 2021 and augural standards were established through MY 2025.

Purpose of analysis

This report estimates effects from different fuel economy and greenhouse gas (GHG) emission standards on consumer spending on fuel, gasoline use, vehicle sales, and highway safety.

The effects associated with the current standards through Model Year (MY) 2026 vehicles are compared to the effects of the possible new, lower standards that are being finalized by the Department of Transportation (DOT) and Environmental Protection Agency (EPA), the agencies responsible for setting the corporate average fuel economy (or CAFE) and GHG emission standards for cars and light trucks. Those same effects are also evaluated for a scenario in which those standards are strengthened beyond current requirements.



"REDUCTIONS IN FUEL ECONOMY AND GREENHOUSE GAS STANDARDS RESULTS IN HUNDREDS OF BILLIONS IN LOSSES TO CONSUMERS"

Consumer Reports, 'The UnSAFE Rule'

This report expands upon a 2018 analysis also conducted by Consumer Reports and Synapse Energy Economics evaluating the impact of the proposed rollback of fuel economy standards.⁷ The new report evaluates effects for a range of scenarios including four different alternatives proposed by DOT and EPA, and one case of strengthened fuel economy/greenhouse gas standards, given the significant amount of technology still left untapped by current standards. The report also evaluates potential changes in vehicle safety due to the rollback.

History of Fuel Economy and Greenhouse Standards for Vehicles

Greenhouse gas pollution: In 2007 the Supreme Court held in *Massachusetts v. EPA* that the U.S. Environmental Protection Agency (EPA) has authority under the 1970 Clean Air Act to regulate greenhouse gases as "air pollutants."³ In 2009, EPA issued a science-based finding that greenhouse gases endanger public health and welfare and therefore would be regulated as pollutants.⁴ Subsequently, DOT and EPA jointly issued two new rules to strengthen fuel economy and establish new greenhouse gas emission standards for Model Year (MY) 2012-2016 (Phase I) and MY 2017-2025 (Phase II). These new standards were harmonized to allow manufacturers to comply with both simultaneously.

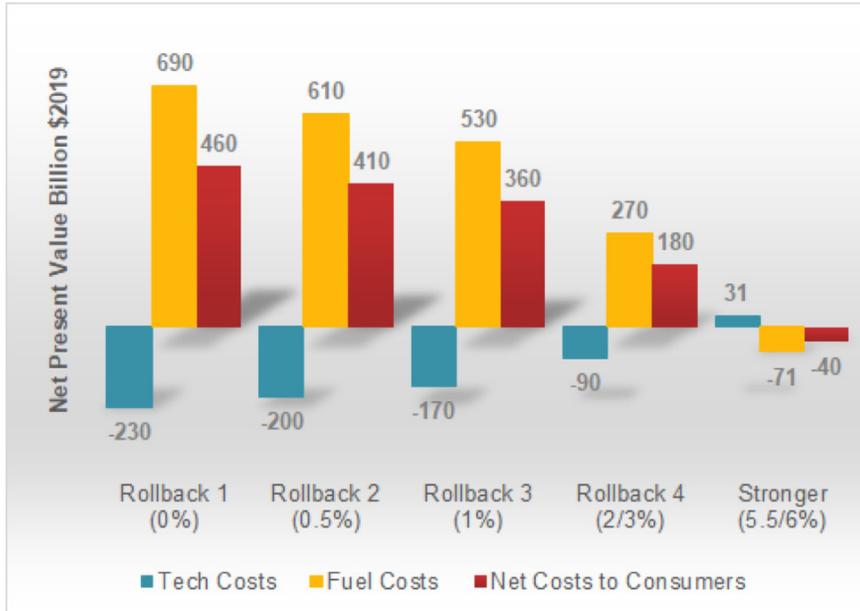
Mid-term review. Included as part of the Phase II rulemaking was a "mid-term review," in which EPA was to determine whether the standards were still "appropriate" or whether new standards were needed. Building off an extensive and meticulous record of technology costs and penetration, EPA issued in January 2017 its determination that the MY 2022-2025 standards remained appropriate under section 202 (a) (1) of the Clean Air Act. However, in April 2018, under a new administration and without a similar comprehensive process, EPA reversed its finding, indicating it would establish new standards.

Key Figures

1. DOT and EPA's Rollback Scenarios Result in Higher Costs (NPV) for Consumers.

Figure ES-1 summarizes the cost-benefit results for scenarios relative to the existing standards, which improve fuel economy by 29% between MY2021 and MY2025.

Figure ES-1 - Costs of Changes to Standards Relative to Existing Standards¹⁶



It illustrates that all reductions in fuel economy/GHG standards result in hundreds of billions in losses to consumers as the increased fuel spending from the less efficient vehicles overwhelms the small reductions in upfront technology costs.

However, the one scenario that looks at increasing fuel economy by 33% (5.5%/year for cars and 6%/year for light trucks from MY 2022-2025) cut vehicle owner costs by \$40B, indicating that more technology is still available to improve fuel economy with high positive returns on investment.

2. NHTSA and EPA's Preferred and Alternative Rollback Scenarios Result in Lower Auto Sales.

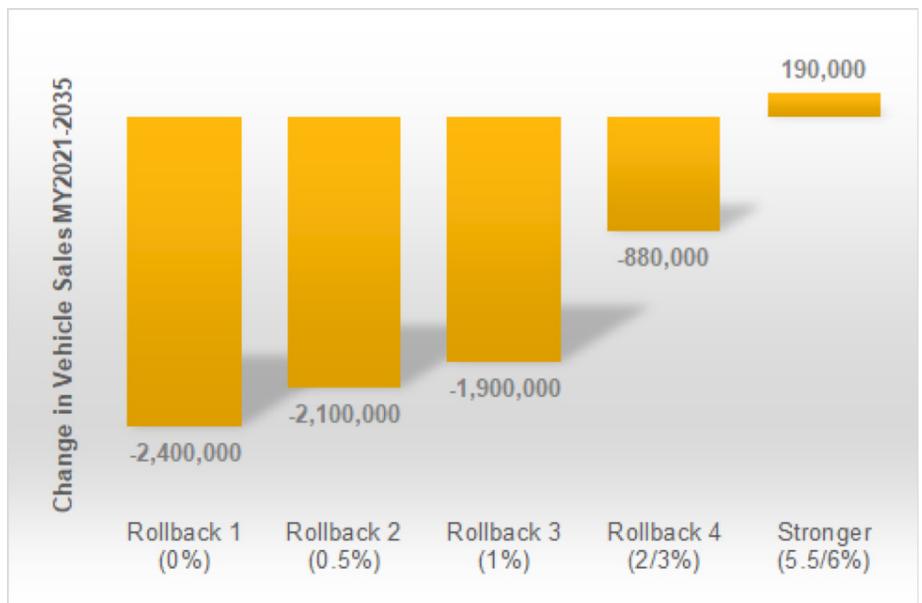
Vehicle sales are projected to decline by an average of around 1% for MY 2026-2035, or more than 2 million vehicles, as a result of the rollback of fuel economy.

These lower sales projections reflect two important factors:

1) that the fuel cost savings of new fuel-efficient technology exceeds the additional cost of the technology itself, thus lowering available discretionary resources and therefore a consumer's ability to purchase a new car, among other expenses; and

2) that lower fuel economy reduces the attractiveness and affordability of new vehicles.¹⁷

Figure ES-2 shows the effect of changes to the standards on new light duty vehicle sales.

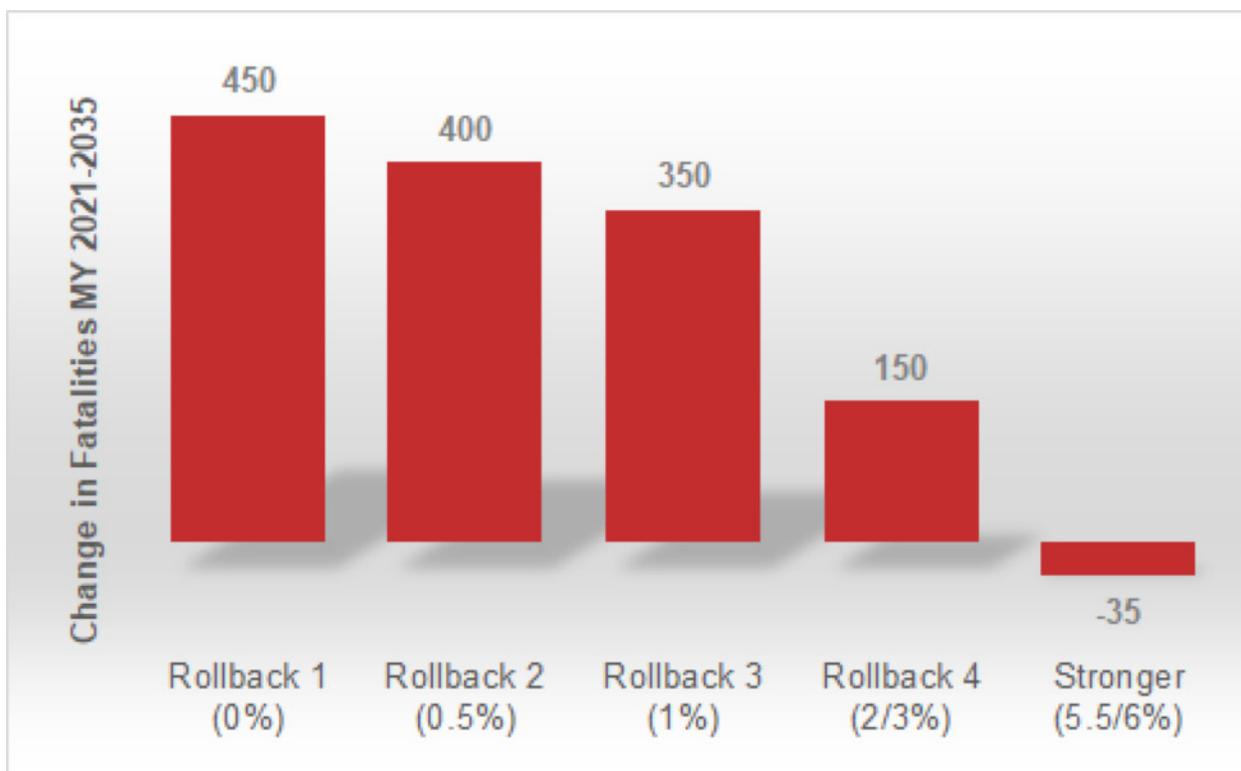


Key Figures

3. NHTSA and EPA's Preferred and Alternative Rollback Scenarios Do Not Improve and May Even Harm Highway Safety.

The projected effect on highway fatalities is shown in Figure ES-3. It shows that weakening fuel-economy standards does not improve highway safety and may in fact slightly diminish it. It should be noted, however, that the effects on safety from changes in fuel-economy standards are quite small and likely not statistically different from zero. When compared with the 37,133 motor-vehicle-related fatalities in 2017,¹⁹ the annual increase in fatalities is less than 0.1 percent in all years modeled.

Figure ES-3 - Safety Effect of Changes in Fuel Economy Relative to Existing Standards *



**This effect is quite small and is likely to be difficult to discern from other, more significant factors affecting highway safety*

More significant factors affecting highway safety include the deployment across the fleet of advanced safety technologies, such as forward collision warning with automatic emergency braking. Further, it should be noted that future safety improvements in new vehicles are not guaranteed to follow past trends and their magnitude will depend heavily on whether or not NHTSA issues any new safety regulations, which the agency has not done since 2016.

Footnotes

¹ NPV, 3%, \$2019

² Light trucks include pickup trucks, SUVs, minivans, and some crossover utility vehicles.

³ Massachusetts v. EPA, 549 U.S. 497 (2007).

⁴ 74 FR 66495 (December 15, 2009).

⁵ EPA-420-R-19-002, "The 2018 Automotive Trends Report", (March 2019), Available at <https://www.epa.gov/automotive-trends/download-automotive-trends-report>

⁶ Under the Clean Air Act, California has the right to set more stringent emission standards than the federal standards through a waiver process and other states may elect to follow California's standards. So far, 14 other states—often referred to as "Clean Car states" or "177 states" in reference to the section of the Clean Air Act that allows states the option of following California's standards—have chosen to follow California's standards.

⁷ Reference to previous Synapse/CR report.

⁸ The fuel economy standards are based upon test cycle fuel economy that does not reflect real world, on road fuel economy. These values were calculated from the fuel economy standards using the breakdown of vehicle sales in 2026 of 46% cars and 54% light trucks and the commonly used factor that onroad fuel economy averages 20% less than the test cycle fuel economy.

⁹ Net costs are calculated for the lifetime of MY 2021-2035 vehicles.

¹⁰ Fatalities are calculated based on the lifetime of MY 2021-2035 vehicles.

¹¹ The existing standards go through 2025 and do not have a flat annual percentage increase, these values are averages over the period of 2021-2025

¹² This works out to an average of 30 fatalities over the lifetime of each model year analyzed. When compared to the 37,133 motor vehicle related fatalities in 2017, the increase in fatalities is less than 0.1%.

The Insurance Institute for Highway Safety and The Highway Loss Data Institute, Fatality Facts 2017: State by State, (Posted December 2018). Available at

<https://www.iihs.org/iihs/topics/t/general-statistics/fatalityfacts/state-by-state-overview/2017>.

¹³ This scenario increases fuel economy from MY 2022-2025 at the rate of 5.5%/year for cars and 6%/year for light trucks.

¹⁴ Light trucks include pickup trucks, SUVs, minivans, and some crossover utility vehicles

¹⁵ Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks. Available at

<https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>

¹⁶ Lifetime effects for MY 2021-235 vehicles, NPV at 3% discount rate, \$2019.

¹⁷ Christine Kormos, Reuven Sussman, Auto Buyers' Valuation of Fuel Economy: A Randomized Stated Choice Experiment, (Submitted to Consumers Union June 12, 2018). Available at <https://advocacy.consumerreports.org/wp-content/uploads/2018/06/FINAL-Kormos-and-Sussman-2018-%E2%80%9393-Auto-buyers-valuation-of-fuel-economy-1.pdf> Consumer Reports, 2018 Automotive Fuel Economy Survey Report, (July 2018). Available at

<https://advocacy.consumerreports.org/wp-content/uploads/2018/07/2018-Fuel-Economy-Survey-Fact-Sheet-1-1.pdf>

¹⁸ Charles M. Farmer and Adrian K. Lund., The Effects of Vehicle Redesign on the Risk of Driver Death, (2015), Traffic Injury Prevention 16: 684-690.

Van Auken, R.M., Comments on the Preliminary Regulatory Impact Analysis of the Proposed Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021-2026 Passenger Cars and Light Trucks, Docket No. DRI-TR-18-07, (October 25, 2018).

¹⁹ The Insurance Institute for Highway Safety and The Highway Loss Data Institute, Fatality Facts 2017: State by State, (Posted December 2018). Available at <https://www.iihs.org/iihs/topics/t/general-statistics/fatalityfacts/state-by-state-overview/2017>.