THE DEVASTATING IMPACTS OF THE TRUMP PROPOSAL TO ROLL BACK GREENHOUSE GAS VEHICLE EMISSIONS STANDARDS

"THE UNTOLD STORY"

WRITTEN BY

S. WILLIAM BECKER AND MARY D. BECKER

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"The Untold Story"

I. EXECUTIVE SUMMARY

In August 2018, the Trump Administration proposed the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks, which significantly weakens the existing federal motor vehicle fuel economy and greenhouse gas (GHG) emissions standards in two substantial ways: 1) it rolls back the progressively more stringent existing federal vehicle emissions standards, freezing them at the Model Year 2020 level; and 2) it proposes to revoke California's waiver of federal preemption that has allowed California (and other states that opt into California's program) to adopt and enforce the more stringent emissions standards they deem essential for healthy air quality.

Weakening the existing GHG emissions standards and revoking California's waiver of federal preemption will cause huge adverse impacts on society. In particular, it will create disturbing consequences for 1) public health, including increased mortality and morbidity; 2) states' compliance with the Clean Air Act; and 3) industrial operations, such as limiting the ability of businesses to build new facilities or expand existing ones.

While many stakeholders have analyzed the adverse effects the proposed rule will have on climate change and GHG emissions, we focus, instead, on the "untold story" of the devastating

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* Written by S. William Becker and Mary D. Becker. Bill is President of Becker Environmental Consulting. He has worked on environmental issues since 1972 and retired in June 2017 after serving as the Executive Director of the National Association of Clean Air Agencies for 37 years. Mary is an environmental attorney who has worked on environmental law and policy issues for the past 38 years in private practice, at the Environmental Law Institute, and as president of her own consulting company.

impacts from substantial increases in *non-GHG emissions*, including smog-forming emissions, fine particles, sulfur oxides and toxic air pollution.

In our report, we highlight the Trump Administration's flawed assessments, inaccurate technical and economic assumptions, modeling errors and incomplete analysis. We conclude that after correcting these key errors, the following devastating impacts will occur if the SAFE Vehicles rule is adopted:

- Millions of people throughout the United States will either die prematurely or develop preventable serious illnesses.
    - Up to 32,000 people nationwide will die prematurely just from the anticipated increases in fine particles.
    - Millions of others are expected to develop serious illnesses, including, but not limited to, respiratory illness, asthma exacerbation, heart attacks, and minor restricted activity days.
    - These harmful health effects will be felt in every state in the country. In some states, including California, Florida, New York, Ohio, Pennsylvania, and Texas, the expected impacts are especially disturbing. In the Appendix we have tables quantifying the mortality and morbidity impacts nationwide and for each of the 48 contiguous states and Washington, D.C.
- States' compliance with the Clean Air Act will be severely undermined in several important ways.
    - State and local regulatory agencies have developed State Implementation Plans that rely on emissions reductions from the existing motor vehicle control program. To the extent the existing program is weakened by rolling back and freezing the federal emissions standards and revoking California's waiver authority, state strategies may no longer be able to demonstrate they are on a path toward clean air.
    - States not able to comply with the CAA as a result of the weakened vehicle standards could face mandatory economic sanctions, such as the loss of millions of dollars in federal grants for building highways and a penalty (2:1 offset requirement) that is akin to a construction ban.
    - Regulatory agencies will be required to search for alternative and less cost-effective strategies to make up for lost vehicle emissions reductions from the weakened proposal.

- Attainment of the health-based air quality standards could be delayed in over a dozen areas within reach of the standards, including Baltimore, MD, Cleveland, Cincinnati, and Columbus, OH, Detroit, MI, Louisville, KY, Milwaukee, WI, San Antonio, TX, San Francisco, CA, Yuma, AZ, and Washington, DC.

- Over 200 counties in 40 states that are currently meeting one or more of the health-based air quality standards could be in jeopardy of violating the standards, triggering an array of stringent measures for their communities and businesses.

- Businesses will face serious impacts as a result of the expected increases in emissions.

  - To make up for the loss of emissions reductions expected from the existing vehicle emissions standards, sources that have already installed pollution controls may be required to retrofit with *additional* controls, which are often costlier and less efficient. Seeking additional reductions from these sources creates equity issues and undermines those businesses that have acted in good faith.

  - Small "mom and pop" sources, such as bakeries, dry cleaners, and auto body shops, may be required to install pollution controls for the first time and be required to obtain emissions "offsets."

  - Companies may be loath to locate in areas if there is uncertainty as to what controls they will have to employ to meet their air quality permitting requirements.

In conclusion, we have determined that the Safe Vehicles rule is so severely flawed that it must be rescinded. Even with the potential modest improvements that have been reported in the trade press, we can still expect the proposal to have deeply troubling impacts on public health, states' compliance with the Clean Air Act, and business operations.

II. BACKGROUND AND HISTORY

A. *The Role of the Federal Government*

The federal government has imposed fuel economy standards on vehicle manufacturers since the mid-1970s. During the OPEC oil embargo of 1973-1974 crude oil prices tripled, fuel prices skyrocketed and fuel shortages produced long, frustrating lines at the pump. Congress recognized that passenger cars and trucks had to become more fuel efficient to begin to cut back on America's dependence on foreign oil.

In 1975, Congress passed the Energy Policy and Conservation Act (EPCA), which authorized the National Highway Traffic Safety Administration (NHTSA) to promulgate regulations for and enforce Corporate Average Fuel Economy (CAFE) standards for passenger cars and light trucks.[1] The CAFE standards set a "miles-per-gallon" (mpg) target that each automaker had to achieve for its entire fleet of vehicles for each model year. NHTSA raised the targets over time, although the standards remained fairly stagnant for passenger cars from the mid-1980s until 2011, when Congress required a gradual tightening of the standards pursuant to the Energy Independence and Security Act of 2007 (EISA).[2] EISA set a target of 35 mpg for cars and light trucks for Model Year 2020, with interim standards set to begin in Model Year 2011. The legislation brought medium- and heavy-duty trucks into the fuel economy program for the first time. EISA provided flexibility for the automakers, who could earn credits for over-compliance that could be applied to another vehicle class not meeting the standard or bought and sold between manufacturers.

The major impetus for NHTSA's CAFE fuel economy targets under EPCA was to reduce America's dependence on foreign oil. The Environmental Protection Agency's (EPA's) focus, however, was to protect air quality.

The CAA of 1970 directed EPA to establish health-based air quality standards -- National Ambient Air Quality Standards (NAAQS)—for six relatively common air pollutants known as "criteria pollutants," including those emitted from vehicles: nitrogen dioxide (NO_2), ozone (formed from precursor pollutants such as nitrogen oxides (NO_x) and volatile organic compounds (VOCs)), sulfur dioxide (SO_2), lead, and particulate matter (PM).[3] The primary, or health-based, standards had to be set at levels necessary "to protect the public health" with an "adequate margin of safety."[4] If an area of the country exceeds the NAAQS for at least one pollutant, it is considered to be in "nonattainment," which triggers mandatory requirements for regulatory agencies and communities, including businesses. New facilities are required to

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[1] Energy Policy and Conservation Act (EPCA) (P.L. 94-163).

[2] Energy Independence and Security Act of 2007 (EISA) (P.L. 110-140). EISA was a broad energy law that amended EPCA and also set standards for appliance and lighting energy efficiency and renewable fuels.

[3] Clean Air Act of 1970, as amended, 42 U.S.C. §7409.

[4] 42 U.S.C. §7409(b). Secondary standards are set at levels necessary to protect public welfare from "any known or anticipated effects associated with the pollutant," including effects on vegetation, crops, wildlife, buildings and national monuments, and visibility.

install the most stringent pollution control equipment and abide by operational limits. Existing sources may be required to retrofit, take limits on production, or find offsets to expand their production. The CAA requires states with areas in nonattainment to develop plans (called State Implementation Plans (SIPs)) that include all the strategies they will use to achieve compliance with the NAAQS by statutory deadlines.

Congress recognized that motor vehicle emissions were a major source of air pollutants and authorized EPA to establish national vehicle emissions standards for new motor vehicles that "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."[5] Vehicle emission standards and their projected reductions are important components of SIPs. Thus, motor vehicle tailpipe emission standards have played a critical role in state efforts to achieve and maintain the health-based NAAQS for nearly half a century.

B. *The Role of California*

Another major player in the establishment of motor vehicle standards is the state of California, which has long been recognized as the preeminent leader in the research and development of vehicle emissions regulations. California established the first tailpipe emissions standards in the United States in 1966, even before the passage of the 1967 federal Air Quality Act.[6] When Congress authorized EPA to regulate motor vehicle emissions in the CAA of 1970, it preempted the states from imposing their own requirements, with one notable exception.[7] Recognizing and acknowledging California's unique expertise and technical experience in developing vehicle emissions standards, Congress allowed any state that had established its own state-level emissions standards prior to March 30, 1966 (i.e., California) to ask EPA for a waiver from preemption as long as its standards are as protective as those of the federal government.[8] California has filed over 100 waiver applications requesting either confirmation of its authority to impose new emissions standards or a determination that regulatory changes fall within the scope of an existing waiver.[9] Since 1976, all but one of those waiver requests have been granted by both Republican and Democratic administrations.

Under the CAA's preemption provision, California was the only state that could write its own vehicle emissions standards. In 1977, however, Congress recognized the success of the California vehicle emissions control program, and allowed, under Section 177 of the CAA, other

[5] Clean Air Act §202(a), 42 U.S.C. §7521(a).
[6] The 1966 California regulations adopted standards for carbon monoxide (CO) and hydrocarbon (HC) emissions.
[7] Clean Air Act §209(b), 42 U.S.C. §7543(b).
[8] Pursuant to changes in the CAA of 1977, the EPA Administrator *must* grant any request by California for a waiver of federal preemption for state standards unless he/she makes a finding that 1) California's determination of protectiveness is arbitrary or capricious; 2) the regulations are inconsistent with federal standards and enforcement procedures; or 3) that California does not need more stringent standards to meet "compelling and extraordinary conditions." 42 U.S.C. §7543(b). Thus, the burden is on those opposing the waiver to demonstrate that the three criteria for denial have been met.
[9] The U.S. Department of Health, Education and Welfare approved California's first waiver in July 1968 for emission standards beginning in Model Year 1969.

states to "opt in" to and adopt approved California standards.[10] These states, known as Section 177 states, can adopt California's more stringent standards (without changes) and can do so without explicit EPA approval. The Act specifies that only states with nonattainment areas can adopt and enforce California's standards. Congress recognized that these states may need the more stringent emissions standards to achieve compliance. This "opt-in" provision has allowed other states the ability to use California's innovative and more protective vehicle emissions control strategies to help meet the federal health-based NAAQS.

It is impossible to overestimate the importance of the California waiver provision in the Clean Air Act to the states. California's ability to set its own vehicle emissions standards—and the right of other states to follow when needed—is the insurance policy, the "tool in the tool box," the states need in the event the federal government is unable or unwilling to set national standards that adequately address the states' air pollution control needs. While some stakeholders advocate for a uniform, 50-state vehicle emissions control program, it is paramount that California retain its statutory authority under Section 209 of the CAA to set and enforce its own standards where the state deems it necessary and that other states retain their statutory authority under Section 177 of the Act to follow suit to protect air quality and public health.

C. *Regulation of Greenhouse Gas Emissions*

While EPA clearly has authority over air pollutants directly contributing to smog and dirty air harmful to health and welfare, its authority to regulate carbon dioxide (CO_2) and other GHG emissions under the CAA was less clear and contested for many years. This changed beginning in 2007, when the Supreme Court ruled that GHGs fit within the definition of "air pollutant" under the CAA[11] and could be regulated if EPA determined that GHGs "caused or contributed" to air pollution endangering public health and welfare, as required by the Act. In 2009, EPA found that GHGs do indeed threaten public health and welfare and that GHGs from new motor vehicle emissions contribute to that pollution.[12] This "endangerment finding" meant that GHG emissions leading to climate change could be regulated for the first time by the federal government under the CAA. Following this finding, in May 2009, President Obama directed NHTSA and EPA to work together to harmonize and streamline the federal CAFE standards and the GHG tailpipe standards[13] and negotiations with vehicle manufacturers, California and other states, and unions, as well as other major stakeholders began.

Meanwhile, California had been moving ahead with research and development of GHG vehicle emission regulations since 2002.[14] In 2004 California promulgated regulations requiring GHG

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[10] 42 U.S.C. §7507.

[11] *Massachusetts v. EPA*, 549 U.S 497, 528-29 (2007).

[12] EPA, "Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act; Final Rule," 74 *Federal Register* 66496, December 15, 2009.

[13] "President Obama Announces National Fuel Efficiency Policy," The White House, May 19, 2009.

[14] The California legislature mandated the California Air Resources Board (CARB) in 2002 to develop regulations reducing GHG emissions in noncommercial vehicles (Assembly Bill 1493). CARB promulgated those regulations

emissions reductions for vehicles manufactured in Model Year 2009 and after. The state's request for a waiver of federal preemption was initially denied by EPA under the Bush Administration, which determined that climate change impacts did not produce "compelling and extraordinary conditions" specific to California.[15] When President Obama came into office, however, EPA reversed the decision and granted California its waiver in 2009.[16]

The EPA Administrator found that the CAA gives California broad leeway to determine what emissions standards are appropriate for its motor vehicle program to protect its residents from pollution problems.[17] EPA found that the opponents of the waiver had not rebutted California's analysis that climate change impacts were creating compelling and extraordinary conditions in California, as was their burden to do.[18] Significantly, the California Air Resources Board (CARB) had also shown that its GHG standards would reduce upstream emissions of criteria and toxic air pollutants (i.e., emissions generated by the production and transport of fuel) due to reduced fuel usage.[19] This reduction produces an important co-benefit to air quality and health and welfare in local communities. Currently, the California GHG standards have been adopted by 14 states and the District of Columbia, through the CAA Section 177 opt-in provision.[20]

D. *National Program for Fuel Economy and GHG Emission Standards*

Once the waiver was granted to California in 2009, CARB joined NHTSA and EPA in negotiations to align the federal fuel economy and GHG tailpipe emission standards with California's. On May 7, 2010, NHTSA and EPA finalized a joint rule establishing a National Program consisting of new standards for light-duty motor vehicles for Model Years 2012 through 2016.[21] This national program, also known as the Phase 1 standards, was in large part based on the California GHG tailpipe emissions standards.

Almost immediately following the adoption of the Phase 1 GHG-CAFE standards in 2010, work began on developing standards for Model Year 2017 and beyond. A multi-stakeholder

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(sometimes called the Pavely standards after the Congresswoman who introduced the legislation) two years later, in 2004.

[15] The Bush Administration denial was based on its determination that the waiver should only be allowed for state standards addressing regional or local air pollution problems. Since it considered climate change a "global" issue, the Administration found there were no "compelling or extraordinary conditions" specific to California. EPA, "California State Motor Vehicle Pollution Control Standards; Notice of Decision Denying a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emissions," 73 *Federal Register* 12156, 12161, March 6, 2008.

[16] EPA, "California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles," 74 *Federal Register* 32744, July 8, 2009.

[17] *Ibid*. at 32748.

[18] *Ibid*. at 32750

[19] *Ibid*.

[20] Those states are Colorado, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington. New Mexico adopted the California standards in 2007 but has not implemented them.

[21] 75 *Federal Register* 25323, May 7, 2010.

agreement resulted in the promulgation of Phase 2 standards in 2012, with support from California, 13 automakers, states and localities, the United Autoworkers Union, auto suppliers, NGOs, and national security experts.[22] The new emission standards for Model Years 2017 through 2025 would cut GHG emissions from vehicles by about 50% by 2025 from their 2010 levels. More stringent fuel economy standards were to be implemented in two phases. For Model Years 2017-2021, the rule required an increase to about 41 mpg on average, while it was anticipated that a later rulemaking would increase fuel efficiency to almost 50 mpg by 2025.[23]

Importantly, CARB agreed that the federal standards "harmonized" with California's and that compliance with the federal standards would be deemed sufficient to show compliance with its program for the 2017-2025 Model Years. On January 9, 2013, EPA confirmed its grant of a preemption waiver to California for the State's Advanced Clean Car (ACC) regulations, which combined "the control of smog and soot causing pollutants and GHG emissions into a single coordinated package" and included revisions to its low emissions vehicle (LEV) and ZEV programs.[24]

While the Phase 2 standards increased fuel economy and tightened GHG tailpipe emissions, it also provided flexibilities for automakers to better enable compliance. Generally, the standards were based on a fleet-wide performance and on the size or "footprint" of the vehicle; thus, larger vehicles such as trucks and SUVs would have a less stringent target, whereas smaller cars had to achieve greater reductions.[25] Moreover, automakers could generate and accumulate credits by over-complying with the standards. These credits could be banked and used to carry forward to apply to a future year if needed, carried backward to cover noncompliance in past years, transferred between a manufacturer's fleet sizes (e.g., from cars to trucks), or sold and transferred to other manufacturers.[26]

Because of the long-term application of the CAFE standards, the Phase 2 rulemaking required EPA to conduct a Mid-Term Evaluation (MTE) no later than April 1, 2018, to determine the appropriateness of the standards for Model Years 2022-2025. As part of the evaluation, EPA, NHTSA, and CARB issued a joint draft Technical Assessment Report (TAR) in July 2016 that reviewed the technologies and marketplace and economic issues to determine the feasibility of

[22] EPA and NHTSA, "2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards; Final Rule," 77 *Federal Register* 62624, October 15, 2012.
[23] *Ibid*. at 62639.
[24] EPA, California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's Advanced Clean Car Program and a Within the Scope Confirmation for California's Zero Emission Vehicle Amendments for 2017 and Earlier Model Years, 78 *Federal Register* 2111 (January 9, 2013).
[25] A vehicle's "footprint" technically is "the area defined by the points where the tires contact the ground." *Ibid*. at 62631.
[26] NHTSA, "Fact Sheet: NHTSA and EPA Propose to Extend the National Program to Improve Fuel Economy and Greenhouse Gases for Passenger Cars and Light Trucks," p. 9.

meeting the future standards.[27] In the final months of the Obama Administration, EPA, basing its findings on the TAR, proposed and finalized its MTE determination that the 2012 standards remained "feasible, practical, and appropriate"[28] and should not be strengthened or weakened.

E. *The Trump Proposal to Weaken the Federal Standards and Revoke California's Waiver*

Shortly after President Trump took office in 2017, he announced his Administration was re-examining and reconsidering EPA's Final Determination that the 2012 standards were appropriate.[29] In April 2018, the Administration withdrew the prior MTE Final Determination, and four months later EPA and NHTSA ("the Agencies") issued proposed amendments.[30] The proposed Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks significantly weakens the existing GHG emissions and CAFE rules. The Agencies' "preferred alternative" will keep the existing Model Year 2017-2020 CAFE and GHG standards and then freeze them at the Model Year 2020 levels through Model Year 2026.[31] Thus, the progress in emissions reductions required by the existing standards from Model Year 2021 through 2025 will be stopped dead in its tracks. No additional emissions reductions will be required after the 2020 Model Year.[32] The Administration justifies the changes by claiming that the rollback, compared to the existing standards, will "save over 500 billion dollars in societal costs and reduce highway fatalities by 12,700 lives," yet admits that "U.S. fuel consumption would increase by about half a million barrels per day (2-3 percent of total daily consumption)."[33]

To exacerbate the weakening of the federal emissions standards, EPA proposes to revoke California's waiver of preemption for its package of light-duty vehicle GHG emissions standards and ZEV regulations.[34] This not only takes away California's ability to use its statutory

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[27] EPA, NHTSA, and CARB, "Draft Technical Assessment Report: Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025," EPA-420-D-16-900, July 2016.

[28] EPA, "Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation," 81 *Federal Register* 87928, December 6, 2016; EPA, "Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation," EPA-420-R-17-001, Jan. 2017.

[29] National Public Radio, August 14, 2017, https://www.npr.org/2017/08/14/543474251/trump-administration-takes-key-step-to-rolling-back-auto-fuel-standards.

[30] EPA, "Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022–2025 Light-Duty Vehicles: Notice; Withdrawal," 83 *Federal Register* 16077, April 13, 2018; EPA, "The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks," 83 *Federal Register* 42986, August 24, 2018.

[31] EPA's eight proposed regulatory alternatives ranged from freezing the standards at the 2020 levels to making slight per-year increases (0.5-2% for cars and 0.5-3%) through 2026. The "preferred alternative," and the one we will examine herein, proposes a 0% increase in stringency for Model Years 2021 through 2026.

[32] 83 *Federal Register* at 42993.

[33] *Ibid*. at 42986.

[34] *Ibid*. at 43240. For a discussion of the legality of EPA's proposed revocation of California's preemption waiver, see Institute for Policy Integrity, "No Turning Back," Oct. 2018, https://policyintegrity.org/publications/detail/no-turning-back.

authorities to require emissions reductions from the transportation sector, but also eliminates that tool for the Section 177 states and the District of Columbia, which have determined those reductions are necessary to achieve healthy air quality.[35]

III. THE SAFE VEHICLES PROPOSAL'S FAULTY ANALYSIS

In its analysis, NHTSA employs an alternative methodology—different computer modeling, inputs, and basic underlying assumptions—from the proven protocols on which EPA typically relies. Scientists, economists, and transportation experts have analyzed this methodology, revealing its flawed assessments, inaccurate technical and economic assumptions, modeling errors, and incomplete analysis.[36] The flawed methodology severely underestimates the increase in vehicle emissions from the SAFE Vehicles proposal, while it severely overestimates the proposal's purported cost savings and safety improvements. As described below, each departure from the typical modeling and assumptions appears to be for the sole purpose of justifying the weakened standards.

A. *Faulty Assumption #1: Americans Would Drive 1.8 Trillion Miles Less with Weakened Standards*

There are many overlapping false assumptions that corrupt the conclusions of the Administration related to the behavior of consumers and of automakers. Most of the so-called safety and environmental benefits asserted by the SAFE Vehicles proposal are based on the

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[35] *Ibid*. The Agencies state that, "EPA proposes to conclude that States may not adopt California's GHG standards pursuant to section 177 because the text, context, and purpose of section 177 support the conclusion that this provision is limited to providing States the ability, under certain circumstances and with certain conditions, to adopt and enforce standards designed to control criteria pollutants to address NAAQS nonattainment."

[36] Many of the comments submitted to EPA during the regulatory comment period and subsequent articles analyze the flawed assumptions used to justify the SAFE Vehicles proposal. See, e.g., Comment of Antonio Bento, Professor of Public Policy and Economics at the University of Southern California, Oct. 26, 2018, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-4024; Comment of Wendy B. Jacobs, Esq., Environmental Law & Policy Clinic at Harvard Law School, Oct. 26, 2018, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-5486; Comments of Environmental Defense Fund on the SAFE Vehicles proposal and Draft EIS and technical appendices, including in Appendix B, a report by EDF consultant, Richard Rykowski, *Review of the Agencies' Technical Analysis Supporting the SAFE Vehicle NPRM*, ("EDF Comments") Oct. 26, 2018, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-5764 ("EDF Comments on Draft EIS"), https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-5775 (Comment and Appendices on SAFE Vehicles Proposal); Union of Concerned Scientists, Comments and Technical Appendix, Oct. 26, 2018, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-5840 ("UCS Comments"), Oct. 26, 2018; California Air Resources Board Comments and Technical Appendix ("CARB Comments"), https://ww2.arb.ca.gov/sites/default/files/2018-10/2018-10-26%20FINAL%20CARB%20Detailed%20Comments%20on%20SAFE%20NPRM.pdf. See also, Bento, A.M., K. Gillingham, et al. Dec. 7, 2018. "Flawed analyses of U.S. auto fuel economy standards," *Science*, vol. 362, pp. 1119-1121; "Trump Administration Analysis: Freezing Clean Car Standards Would Cause Hundreds of Fatalities Per Year and Sicken Thousands: Omitted Analysis Contradicts Justification for Freezing Standards," *Public Citizen*, Aug. 27, 2018, https://www.citizen.org/sites/default/files/fatalities-from-rolling-back-clean-cars-standard.pdf; "Clean Cars Rollback: The Absurdity of the Trump Administration's Safety Claims," *Public Citizen* (Aug. 16, 2018), http://bit.ly/2MJvcDX.

assumption that if the standards were rolled back and frozen, Americans would drive 1.8 trillion miles *less* than under the current stronger standards,[37] which would result in fewer highway fatalities and lessen the impact of a weaker fuel economy requirement on emissions compared to the existing standards. To simplify the Administration's thinking, if people get fewer miles to the gallon they'll drive a lot less and, therefore, will reduce their odds of dying in a traffic accident, and their less-driven cars won't spew as many emissions

This is not only dubious on its face, but the methods used to come up with this conclusion have been shown to be contrary to standard economic theory.[38] For example, when a car gets better fuel economy, drivers will sometimes drive more because their fuel costs are less. Experts account for this "rebound" effect when estimating the number of vehicle miles that will be traveled if fuel economy standards are more stringent. Placing its thumb on the modeling scales, however, the SAFE Vehicles proposal *doubled* the magnitude of what experts say is the outer limit of this effect, thus producing a scenario under which many more miles will be driven under the current standards, thereby increasing the projected effects on both traffic fatalities and emissions.[39] Moreover, the Agencies claim that under the current standards the cost of a new car will dramatically rise, so instead of scrapping their old vehicles, people will keep them, resulting in 6 million more cars on the road (all driven the same number of miles), which will increase traffic fatalities and emissions, thus making the SAFE Vehicles proposal look better by comparison.[40]

A closer look at the passenger safety benefits of the SAFE Vehicles proposal reveals that "97-99 percent of NHTSA's projected fatality reductions are simply due to flawed assumptions about how people will change their driving habits under the proposed rollback—driving new cars less based on an exaggerated rebound effect and driving used cars less as well due to a new and deeply flawed scrappage model."[41]

B. *Faulty Assumption #2: Automakers' Over-compliance*

Another questionable assumption used to lower the emissions levels projected to result from the weakened standards was that auto manufacturers would voluntarily over-comply with the Model Year 2020 standards under the SAFE Vehicles proposal, thereby reducing GHG and criteria pollutants emissions.[42] This assumption is not based on historical performance nor

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[37] 83 *Federal Register* at 43,351.

[38] See, e.g., EDF Comments; UCS Comments. Moreover, using dubious assumptions about how Americans will scrap or keep their old cars, the SAFE Vehicles proposal also claims that weakening the standards will actually shrink the projected number of vehicles on the road by 6 million compared to the existing standards. Bento, A.M., K. Gillingham, et al.. "Flawed analyses of U.S. auto fuel economy standards," *Science,* Dec. 7, 2018.

[39] "[T]he agencies have arbitrarily doubled the effect of rebound, ignoring past precedent as well as the body of academic literature, often mischaracterizing the work cited in support of their erroneous value for rebound," UCS Comments, 6.

[40] Bento, A.M., "Flawed analyses of U.S. auto fuel economy standards," *Science,* Dec. 7, 2018.

[41] EDF Comments, 2.

[42] 83 *Federal Register* at 43283-85. EDF Comments, Appendix B, 29-32.

does it have any reasonable basis in fact.[43] Moreover, the SAFE Vehicles proposal completely ignores the ability of automakers to trade and sell compliance credits under the weakened standards, which could nullify some of the claimed overall decrease in emissions.[44] In fact, EPA's just-released 2018 Automotive Trends Report found that the industry retained a "large bank" of credits that can be used in future model years.[45]

C. *Faulty Assumption #3: Vast Overestimation of the Costs to Manufacturers of Meeting the Existing, Stronger Standards*

Again demonstrating the inconsistency in its comparisons between the two rules, the SAFE Vehicles proposal vastly overestimates the costs to manufacturers of meeting the existing standards, despite its claims that manufacturers will over-comply with the weaker standards.[46] The assumptions underlying this outcome do not take in to account automakers' ability to trade/sell compliance credits, which would lower costs for both compliers and those in noncompliance. Moreover, and inexplicably, this rationale completely omits future lower-cost technology options, assuming instead that more expensive technologies would be used.[47] As confirmed in EPA's 2018 Automotive Trends Report, manufacturers are quickly adopting some advanced technologies, such as cylinder deactivation, more rapidly than anticipated.[48]

D. *Faulty Assumption #4: Underestimation of Effects of Increased Fuel Consumption*

The SAFE proposal analysis admits that additional gasoline will be consumed by the less efficient vehicles under weakened standards. It downplays, however, the domestic environmental effects from the upstream emissions associated with production and transportation of the extra fuel, claiming that 90% of the increased gasoline consumption will come from imported crude sources and that half would be refined outside of the United States.[49] This assumption is inconsistent with the fact that almost all fuel in the United States is produced and refined domestically, and is even directly contradicted in another part of the

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[43] CARB Comments, 163-164; EDF Comments, Appendix B, 31, "[O]verall, manufacturers have historically just complied with the standards or even paid CAFE fines due to under-compliance, offering no assurance that such over-compliance would indeed occur under the proposed standards."
[44] EDF Comments, 3, EDF Comments, Appendix B, 5; USC Comments, 4.
[45] EPA, 2018 Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975, Executive Report, pp.ES-11-ES-12, https://www.epa.gov/automotive-trends/highlights-automotive-trends-report. "2018 Trends Report."
[46] Bento, *Science*; UCS Comments, 4; EDF Comments, Appendix B, 9.
[47] *Ibid*; EDF Comments, Appendix B, 9, "[R]eviewers found severe problems with NHTSA's estimates of the costs and effectiveness of individual technologies. NHTSA also unreasonably restricted the use of several highly effective technologies from use. These deficiencies doubled NHTSA's projected compliance costs compared to its own analysis performed only two years ago for the Technical Analysis Review (TAR), which was still based on an inefficient application of technology."
[48] EPA, 2018 Trends Report, ES-7-ES-8.
[49] 83 *Federal Register* at 43335.

proposed rule that tries to claim that improvements in fuel economy are not necessary for national security because of the huge increases in domestic production.[50]

IV. THE SAFE VEHICLES PROPOSAL WILL LEAD TO SIGNIFICANT INCREASES IN GHG EMISSIONS

The Trump Administration's own analysis projects GHG emissions increasing under the weakened standards compared to the existing ones.[51] NHTSA's 2018 Draft Environmental Impact Statement (Draft EIS) supporting the proposed rule concludes that the "preferred alternative" will increase annual GHG emissions by 95 million metric tons in 2040 compared to the existing standards.[52] The Agencies estimate an increase in climate damages from added GHG emissions (domestic, not global) of between $2.7 and $4.7 billion.[53]

Modeling that corrects for the false assumptions and technical deficiencies highlighted above projects that GHG emissions will increase by nearly double the amounts estimated in the Draft EIS for each model year—including an *annual* emissions increase of 189 million metric tons by 2040 compared to the existing standards—with increased *annual* emissions of 200 million tons of CO_2 by 2050.[54] By 2040, if the standards are frozen at 2020 levels, an additional 2.2 billion metric tons of GHG emissions will have been added to the atmosphere that could have been avoided had the existing standards remained.[55]

The harmful impacts from increased GHG emissions, both globally and domestically, on the changing climate are well documented[56] and have been the subject of many analyses and criticisms of the proposed rule. Less well known and analyzed, however, are the many significant harmful impacts promulgation of the SAFE Vehicles proposal will have due to substantial increases in *non-GHG emissions*, including of smog-forming pollution, fine particles,

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[50] 83 *Federal Register* at 42993. "The U.S. is now the world's largest oil producer and expected to become a net petroleum exporter in the next decade."

[51] 83 *Federal Register* at 43066-43067. "Increased refining and consumption of petroleum-based fuel will increase emissions of carbon dioxide and other greenhouse gases that theoretically contribute to climate change, and some of the resulting (albeit uncertain) increase in economic damages from future changes in the global climate will be borne throughout the U.S. economy (line 13)." NHTSA and EPA, Preliminary Regulatory Impact Analysis: The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021 – 2026 Passenger Cars and Light Trucks, July 2018, https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ld_cafe_my2021-26_pria_0.pdf.

[52] Draft Environmental Impact Statement for The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021–2026 Passenger Cars and Light Trucks, July 2018, 5-28, Appendix D, Tables D-9 and D-10. See EDF Comments on DEIS, 6.

[53] 83 *Federal Register* at 43062-065.

[54] EDF used the Volpe model employed by NHTSA in its analysis, making alterations that "correct errors in the Volpe model and conform the analysis to NHTSA's historical approach and the underlying factual record." EDF Comments on DEIS, 3-4. EDF Comments, Appendix B, 9, 94-101 "We show that correcting only some of these biased assumptions changes the proposal from producing a net societal benefit to producing sizeable net societal costs. We also show that instead of saving thousands of lives by getting less safe vehicles off of the road, the proposal is likely to increase thousands of deaths from increased ambient levels of fine particulate matter (PM)."

[55] UCS Comments, Technical Appendix, 64.

[56] See, e.g., USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II: Report-in-Brief ("National Climate Assessment"), https://nca2018.globalchange.gov.

sulfur oxides, and air toxics. This paper shines a light on those impacts so that communities and decision makers will fully understand what is at stake if the Administration weakens the existing emission standards.

V. THE SAFE VEHICLES PROPOSAL WILL LEAD TO SIGNIFICANT INCREASES IN NON-GHG EMISSIONS

The Trump Administration admits that the SAFE proposal weakening the standards will increase non-GHG emissions of air pollution.[57] The proposal's Preliminary Regulatory Impact Statement concludes that the "added fuel production and use will increase emissions of more localized air pollutants (or their chemical precursors)," resulting in an increase in "the U.S. population's exposure to harmful levels of these pollutants" and "adverse effects on health."[58] The increase is derived primarily from increased fuel consumption under the proposed weakening of the standards. Higher fuel demand means more emissions from "petroleum extraction, refining and distribution of motor vehicle fuels."[59]

In addition, NHTSA estimates that for "NO_X (in 2050), $PM_{2.5}$, SO_2, and VOCs (in 2035 and 2050), emissions would generally increase across action alternatives (compared to the [current standards]), with the largest increases occurring under [the preferred alternative]."[60]

Even in the preamble to the proposed rule, the Agencies admit that "NO_x, VOC, SO_2, and $PM_{2.5}$ increase" in 2035, although they claim that "[f]or all criteria pollutants, the overall impact of the proposed program would be small compared to total U.S. inventories across all sectors."[61]

Referring to this impact as "small" is misleading and deceptive, however. First, even if one assumes the overall emissions increases are "small" on a national level, the localized impacts for communities at risk may be quite large. Second, when the flawed assumptions and other errors in the NHTSA modeling are corrected, projections show dramatic increases in criteria pollutant and toxic emissions from what would be expected if existing standards were left in place.[62] For example, while NHTSA estimates SO_x emissions would increase by 8,838 metric tons per year by 2035 if the standards were rolled back and frozen, a corrected analysis projects an increase of 30,238 metric tons per year.[63] Smog-forming emissions (VOCs and NOx) would increase by over 100,000 metric tons by 2035 compared to NHTSA's estimate of around

[57] 83 *Federal Register* at 43066-43067.
[58] NHTSA and EPA, Preliminary Regulatory Impact Analysis: The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021 – 2026 Passenger Cars and Light Trucks, July 2018, at 1091-1092, https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ld_cafe_my2021-26_pria_0.pdf.
[59] Comments of the National Association of Clean Air Agencies ("NACAA comments"), Oct. 26, 2018, 2-3, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-4185.
[60] Draft EIS, S-7.
[61] 83 *Federal Register* at 43330.
[62] EDF Comments on DEIS, 7.
[63] EDF Comments, Appendix A, 50.

13,000.[64] Particulate matter ($PM_{2.5}$) emissions would increase by 3,693 metric tons in 2035 compared to the NHTSA figure of 324 tons.[65]

The national impacts of the SAFE Vehicles proposal obviously will spill over to the states, which will have to deal with the local effects of these increases. For example, according to an analysis by CARB, the weakened standards will create "an additional 1.24 tons per day of NO_x emissions in the South Coast air basin, 90 percent of which is from upstream fuel activity increases."[66] This would require removing from the road "either an additional 1.3 million clean conventional vehicles or 1 million zero emission vehicles" to meet the region's air quality commitments.[67]

The proposal will also have a significant impact on hazardous air pollution in communities around the country. While NHTSA projects hazardous air pollutants will decrease under its proposal, correcting the flawed assumptions shows that emissions from at least two cancer-causing pollutants will actually increase. Revised analysis projects benzene emissions increasing by 134 metric tons in 2030 under the weakened standards and up to 268 tons in 2050, while formaldehyde emissions increase by 44 tons in 2030 and up to 80 tons per year by 2050.[68]

These numbers are significant, but what will these increases in non-GHG emissions mean for public health and welfare, states' compliance with air quality standards, and industry?

VI. THE SAFE VEHICLES PROPOSAL WILL LEAD TO SIGNIFICANT ADVERSE EFFECTS FROM INCREASED NON-GHG EMISSIONS

Clearly, non-GHG emissions will increase if the current federal standards are rolled back and frozen at 2020 levels and California's waiver is revoked. The full effects of those increases have not been widely publicized (i.e., the "untold story"), yet are far ranging. Increased non-GHG emissions under the SAFE Vehicles proposal will seriously affect public health and welfare, will interfere with the states' ability to comply with air quality standards, and will affect industries' plans for construction or expansion in many areas of the country.

A. *Significant Increase in Mortality and Morbidity: National Impacts*

Revised modeling correcting flawed assumptions and other key errors in NHTSA's analysis reveals a terribly disturbing picture of the health impacts of the SAFE Vehicles proposal.

Air quality experts project that the cumulative effects (by 2050) of the SAFE Vehicles proposal could cause the premature deaths of up to 32,000 people, and serious illnesses and other

[64] *Ibid*. at 51.
[65] *Ibid*. at 49.
[66] CARB Comments, 288.
[67] *Ibid*.
[68] EDF Comments, Appendix A, 49-50.

harmful effects to tens of millions of others, just from the anticipated increases in $PM_{2.5}$.[69] Health-related incidences include, among others, up to: 40,089 respiratory emergency room visits; 126,057 cases of acute bronchitis; 10.4 million work loss days; and 2.3 million cases of asthma exacerbation.[70] The monetary cost of these premature deaths and health-related impacts from the weakened standards could be anywhere from $4.4 to 9.8 billion in 2030.[71]

The Trump Administration's recent National Climate Assessment confirmed how harmful increases in $PM_{2.5}$ emissions can be, stating, "$PM_{2.5}$ accounts for most of the health impacts due to air pollution in the United States, and *small changes in average concentrations have large implications for public health* (emphasis added)."[72]

Moreover, increased GHG emissions will exacerbate local air pollution problems. The National Climate Assessment confirms the compounding health impacts from hotter temperatures and drought caused by increased GHG emissions, concluding, "Unless counteracting efforts to improve air quality are implemented, climate change will worsen existing air pollution levels. This worsened air pollution would increase the incidence of adverse respiratory and cardiovascular health effects, including premature death. Increased air pollution would also have other environmental consequences, including reduced visibility and damage to agricultural crops and forests."[73]

Even the Trump Administration acknowledges the harmful effects of its proposal from non-GHG emissions. The Administration asserts in the SAFE Vehicles preamble that increases in emissions will have "negligible environmental impacts on air quality,"[74] yet estimates the "societal costs" of those impacts will be up to $1.2 billion.[75] Only in NHTSA's Draft EIS is it explained what those "costs" are in terms of people dying and getting sick. NHTSA estimates that the proposal would cause as many as 299 premature deaths per year by 2050 and "would result in increased adverse health impacts (mortality, acute bronchitis, respiratory emergency room visits, and work-loss days [from 2025 through 2050]) nationwide compared to the [existing standards] as a result of increases in emissions of $PM_{2.5}$, [diesel particulate matter],

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[69] EDF Comments, Appendix A, 55-56. See Table 1, below, which sets forth cumulative health effects from 2017 to 2050 from $PM_{2.5}$ under the SAFE Vehicles proposal.
[70] *Ibid*.
[71] *Ibid*. at 55-56.
[72] National Climate Assessment, https://nca2018.globalchange.gov/chapter/13/. See Public Citizen, Aug. 27, 2018, p.2.
[73] *Ibid*. The increases under the weakened standards from NO_x and VOCs are particularly troubling. "Unless offset by additional emissions reductions of ozone precursor emissions, there is high confidence that climate change will increase ozone levels over most of the United States, particularly over already polluted areas, thereby worsening the detrimental health and environmental effects due to ozone."
[74] 83 *Federal Register* at 42996. Later in the proposed rule the Agencies admit that they could not "accurately project" the emission changes under the new rule projections because there was not time to perform the air quality modeling for $PM_{2.5}$, ozone precursors and toxics emissions on future ambient concentrations that would be required for final promulgation.
[75] 83 *Federal Register* at 43062–067; NHTSA Draft Environmental Impact Statement, July 18, 2018. See Public Citizen, "Trump Administration Analysis: Freezing Clean Car Standards Would Cause Hundreds of Fatalities Per Year and Sicken Thousands: Omitted Analysis Contradicts Justification for Freezing Standards" Aug. 27, 2018, 2.

and SO_x."[76] What is terribly ironic is that the Trump Administration justifies the proposed rollback of the standards with erroneous claims that the proposal will save lives from traffic fatalities because of fewer vehicle miles traveled, yet downplays the huge and harmful mortality and morbidity impacts from increased non-GHG emissions.

B. *Significant Increase in Mortality and Morbidity: State and Local Impacts*

The mortality and morbidity figures from $PM_{2.5}$ alone are alarming when calculated on a national level. These health impacts of increased $PM_{2.5}$ emissions can be drilled down to the state level. In the Appendix we have quantified for each of the 48 contiguous states and Washington, D.C., the estimated incidences of the health and welfare effects that will occur if the SAFE Vehicles proposal is promulgated. The effects we examined include premature mortality; respiratory emergency room visits; acute bronchitis; lower respiratory symptoms; upper respiratory symptoms; minor restricted activity days; work loss days; asthma exacerbation; cardiovascular hospital admissions; respiratory hospital admissions; and non-fatal heart attacks.

What is clear from our analysis is that every state in the country will experience adverse health and welfare effects from the SAFE Vehicles proposal. Some states' impacts are especially alarming.

In Texas, for example, we estimate that over 3,700 people could die prematurely and over 7 million could face "restricted activity days" by 2050 as a result of the SAFE Vehicles rule. Pennsylvania and New York are expected to have similar impacts; Pennsylvania could see almost 2,000 premature deaths and about 3.7 million restricted activity days, while New York is estimated to have almost 1,900 premature deaths and over 3.5 million restricted activity days. We estimate that Ohio could face up to 1,430 premature deaths and more than 2.7 million restricted work activities, while Florida could see over 1,000 premature deaths and about 2 million restricted work days. No region of the country is immune.

Moreover, these health-related problems will be worse for those least able to afford them. The increase in upstream emissions from the SAFE Vehicles proposal will adversely affect pockets of the country that already are at risk because they are located near industrial or heavily trafficked areas. Connecticut's air pollution control agency points out that "[t]he insidious direct and irreparable effects of the SAFE rule victimize our most at risk citizens, as is conceded by EPA's own modeling. This proposal decreases jobs, increases both GHG's and criteria pollutants, and further threatens those who do not have the means to escape the worst effects of climate change."[77]

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[76] Draft EIS, S-9. The Draft EIS estimates that by 2050, the weakened standards would cause annually between 134 and 299 premature deaths; 199 extra cases of acute bronchitis; 16,819 cases of work-loss days; and 62 extra emergency room visits. Draft EIS, at 4-47.

[77] Comment submitted by Robert J. Klee, Commissioner, Connecticut Department of Energy and Environmental Protection (DEEP), October 26, 2018, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-4202

The Minnesota air pollution control agency reiterates in its comments opposing the SAFE Vehicles proposal: "States also rely on these [existing] standards to achieve criteria pollutant and toxic air pollution reductions. Vehicle emissions account for almost a quarter of Minnesota's overall emissions, are one of the primary sources of risk from outdoor air pollution, and disproportionately impact communities of color and lower income. The existing standards are therefore critical for states to attain and maintain the National Ambient Air Quality Standards to protect the health of their communities."[78]

Those most harmed by the increases in criteria pollutants and toxics under the SAFE Vehicles proposal will be those most at risk because of the locations of their communities closest to the source of pollution.[79]

C. *Significant Impact on States' Compliance with the Clean Air Act*

Increases in non-GHG emissions from the SAFE Vehicles proposal will jeopardize the ability of states and localities to comply with the NAAQS under the CAA. States with air quality violating the health-based standards (i.e., nonattainment areas) may not be able to comply as planned. States currently meeting the standards (i.e., attainment areas), but very close to exceeding them, may be pushed into nonattainment. As described below, both scenarios result in serious impacts on states and localities.

Areas Violating the NAAQS: Under the CAA, a state with an area exceeding the health-based NAAQS must develop a SIP that demonstrates to EPA's satisfaction all of the strategies the state will employ to achieve compliance by the statutory deadlines. Vehicle emissions typically account for a third of our nation's smog problems, although in some areas they may be the predominant source of emissions. It is therefore imperative that state strategies take full advantage of the significant and cost-effective emissions reductions available from the transportation sector. In fact, as the states' air quality association has indicated, the SIPS submitted by states and localities are counting on the reductions from the existing vehicle emissions rule to attain or maintain compliance with the NAAQS.[80] Many of these states have taken advantage of their right under CAA Section 177 to adopt California's emissions standards in their plans to achieve compliance. Revoking the California waiver and the states' right to opt in will dramatically affect those plans. The SAFE Vehicles proposal creates at least three problematic scenarios for these states and localities.

First, if the SAFE Vehicles proposal is promulgated, states will be responsible for finding other regulatory options to compensate for the emissions reductions they were expecting from the existing rule. These other options invariably will be costlier and less cost-effective than ones in

[78] Comment submitted by John Linc Stine, Jan K. Malcolm & Charles A. Zelle, Commissioner, Minnesota Pollution Control Agency (MPCA) et al., October 26, 2018, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-5459.
[79] CARB Comments, 294-301.
[80] National Association of Clean Air Agencies (NACAA) Comments, 2. See CARB comments, 288.

states' current SIPs, for they will have to come from existing sources that have already put on controls or smaller sources that did not require regulatory requirements in the past.

Air pollution control is a zero-sum venture—meaning if control measures states had planned for one sector of their economy, such as transportation, do not achieve the emissions reductions they are counting on, they will have to take reductions from another sector.[81] In some areas of the country, however, "there simply are no other sources; reaching or maintaining clean air goals relies entirely on adequately addressing mobile source emissions."[82] Metropolitan D.C., for example, with little industry to pull from, relies almost exclusively on vehicle emission reductions to plan for compliance with the ozone standard. As the Metropolitan D.C. air agency commented in its opposition to the SAFE Vehicles proposal, "While significant progress has been made in the Washington region to reduce emissions, addressing sources of NO_x, including those from on-road vehicles, is critical to continuing to deliver cleaner air for the residents of the region. We are concerned that any relaxation of the 2012 Greenhouse Gas and CAFE Final Rule will make it increasingly difficult for the region to realize the reductions in NO_x emissions needed to comply with the 2015 Ozone NAAQS."[83]

Second, if states are unable to make up for the increased emissions resulting from the SAFE Vehicles proposal, their SIPs could be deemed out of compliance with the CAA, triggering mandatory economic sanctions. These sanctions include 1) the withholding of tens of millions of dollars in federal highway funds for state transportation projects, as well as 2) stringent emissions offset requirements on new businesses that want to locate in an area or existing facilities that plan to expand their operations (i.e., they must reduce their emissions by two tons for every one ton they propose to emit). These offsets can be very expensive and difficult to obtain, acting in effect as a construction moratorium in those nonattainment areas.

Third, many nonattainment areas are close to attaining one or more of the NAAQS, but the SAFE Vehicles proposal could jeopardize compliance. For example, there are over a dozen ozone nonattainment areas throughout the country that are within 5 parts per billion (ppb) of attaining the 8-hour 70-ppb limit (i.e., their "ozone design values" are between 70-75 ppb). For these areas, compliance with the standard could be delayed if the SAFE Vehicles proposal is adopted. According to EPA's most recent air quality data, these areas include, among others, Baltimore, MD, Washington, D.C., St. Louis, MO, Cleveland, Columbus and Cincinnati, OH, Detroit, MI, Milwaukee, WI, Louisville, KY, San Antonio, TX, Dona Ana County, NM, San Francisco and San Luis Obispo, CA, Southern Wasatch Front, UT and Yuma, AZ.[84]

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[81] NACAA Comment, 2-3, 7. "A cleaner, low-emissions transportation sector is essential to achieve state and local climate goals and meet and sustain federal air quality standards. These states and localities will not accomplish this without increasingly more protective GHG vehicle emission standards and the ZEV program."

[82] NACAA Comments, 7.

[83] Comment submitted by Hans Riemer, Chair, Metropolitan Washington Air Quality Committee (MWAQC), Mary Lehman, Chair, Climate Energy and Environment Policy Committee (CEEPC), and Charles Allen, Chair, National Capital Region Transportation Planning Board (TPB), Metropolitan Washington Air Quality Committee (MWAQC), https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-3326.

[84] EPA Air Trends, https://www.epa.gov/air-trends/air-quality-design-values#map.

This is not just theoretical speculation. The U.S. Conference of Mayors and National League of Cities, in a letter signed by over 60 state and local leaders, warn of the impacts to the air quality in their communities if the SAFE Vehicles proposal is promulgated. "[V]ehicle emissions impact air quality and a community's ability to meet required ozone levels. Falling outside of required ozone levels can have negative impacts on cities, potentially disqualifying them from federal funding opportunities for highway and transit infrastructure. Robust vehicle emission standards are key to ensuring cities are able to meet ozone requirements."[85]

Areas Attaining the NAAQS: There are a number of areas throughout the country that are meeting the NAAQS now, but just barely. With increases in air pollutants projected from the SAFE Vehicles proposal, those areas on the cusp could be pushed into nonattainment, which will trigger a host of SIP requirements. These areas will be required to develop SIPs—many for the first time—and subject their sources to stringent air pollution measures, including state-of-the-art controls, offset requirements, and many others. For example, according to state/local monitoring data provided to EPA, there are over 200 counties in 40 states where ozone levels are within 5 parts per billion of the 8-hour 70-ppb NAAQS.[86] The increases in emissions from rolling back the current standards and revoking the California waiver and ZEV requirements could have a huge impact on many of those areas on the border between attainment and nonattainment.

Government officials understand the dramatic impact on their states and localities if the increases in emissions from the SAFE Vehicles proposal push their area into nonattainment including:

- North Carolina: "[R]elaxing the light-duty vehicle standards would increase ozone precursor emissions that would place our urban areas at risk for exceeding the current ozone NAAQS."[87]
- Kansas: "The Kansas City region has struggled to meet the National Ambient Air Quality Standards (NAAQS) for ozone pollution for many years. While the region is currently designated as attainment for the 2015 standard, monitored values indicate we are barely attaining this standard and must continue to work to reduce ozone precursor emissions from all sources to remain in compliance. National regulations such as fuel economy standards help the Kansas City region remain in compliance with the ozone NAAQS and reduce regulatory burden on all types of sources in the region as a result. With the anticipation of additional vehicles on the road and increased fuel consumption as outlined in this proposed

[85] Comment submitted by Tom Cochran, CEO and Executive Director, The U.S. Conference of Mayors and Clarence E. Anthony, CEO and Executive Director, National League of Cities, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-4154.
[86] EPA, Air Quality Statistics by County, 2017, https://www.epa.gov/sites/production/files/2018-07/ctyfactbook2017.xlsx.
[87] Comment submitted by Sheila C. Holman, Assistant Secretary for the Environment, North Carolina Department of Environmental Quality (NCDEQ), https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-4209.

rule, it would be more difficult for the Kansas City region to continue to meet the ozone NAAQS in the future."[88]

- Tucson, Arizona: "Freezing emission reductions for six years could put this region in jeopardy of being designated as non-attainment of the ozone standard and impact the health of many of our most vulnerable residents. The designation of Pima County as non-attainment for the ozone standard will likely necessitate the implementation of additional air quality-related regulations that will affect local businesses and transportation planning."[89]

D. *Significant Impact on Businesses*

Rolling back and freezing the standards will create regulatory and economic uncertainty and upheaval in the states and localities. As explained above, the projected emissions reductions that the states have relied upon from the existing standards will be eliminated and new reductions will need to be obtained. Accordingly, state officials have two options: 1) either return to businesses and manufacturers for additional emissions reductions; or 2) require emissions reductions from smaller "mom-and-pop" facilities, such as bakeries, dry cleaners and auto body shops, that can ill afford to retrofit their operations. Both of these options are unfair, create equity issues, and undermine those businesses that have acted in good faith.

Industry likes certainty for planning purposes and economic stability. Some companies will be loath to locate in areas if there is uncertainty as to what controls they will have to employ to meet their permitting requirements. If an area is close to the attainment level for the NAAQS, industry might be hesitant to move in to that area if projected emissions under the SAFE Vehicles proposal will trigger sanctions or onerous pollution control requirements.

Governors hopeful that a growing economy will draw new industry into their states will be stymied if they cannot predict the impact that the SAFE Vehicles proposal will have on their ability to meet air quality standards. The uncertainty and potential for stricter future pollution controls could deter new industry from building in these areas and existing businesses from expanding.

VII. WAIVER REVOCATION PROFOUNDLY INCREASES THE HARM FROM THE SAFE VEHICLES PROPOSAL

States rely on the reductions from the existing emissions standards to comply with state and federal ambient air quality standards. These reductions will be lost if the SAFE Vehicles proposal is promulgated. To add insult to injury, the SAFE Vehicles proposal seeks to revoke the California waiver and the state's GHG and ZEV programs on which many states and

[88] Comment submitted by Legislator Scott Burnett, Missouri Co-Chair, Air Quality Forum and Commissioner Angela Markley, Kansas Co-Chair, Air Quality Forum, Mid-America Regional Council (MARC), https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-4123.

[89] Comment submitted by Ursula Nelson, Director, Pima County Department of Environmental Quality (PDEQ), https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-6204.

localities rely. States are now facing a double whammy to their projected compliance goals—significantly weaker federal standards and revocation of the California waiver.[90] It would be extremely disturbing if the Trump Administration proceeds with weakening the existing federal motor vehicle emissions standards, thereby depriving states and localities of the anticipated additional and important air pollution emissions reductions necessary to provide a healthful environment. It would be unconscionable, however, if, on top of these roll-backs, the Administration also revokes California's waiver, depriving that state—as well as the additional Section 177 states—of the insurance policy needed to offset the weakening of the existing standards.

In the tables that follow in the Appendix, we quantify the health and welfare impacts of the Trump Administration's proposal to weaken the existing federal GHG motor vehicle emissions standards. Table 1 displays the nationwide cumulative non-GHG emissions effects—including estimated numbers of premature deaths—of rolling back the federal standards and revoking California's waiver. We break down these data by state in the subsequent tables.

VIII. CONCLUSION

In conclusion, we have determined that the Safe Vehicles rule is so severely flawed that it must be rescinded. We have shown that it will cause millions of people to die prematurely or get sick from the increases in non-GHG emissions. The proposed rule will also wreck havoc on the ability of states to comply with the national health-based air quality standards and constrain businesses that wish to expand their operations. It has been reported that the Administration will make some modest adjustments to its proposal. These changes are almost certainly to be minor and will not change our conclusions regarding the impacts of non-GHG emissions increases on society.

[90] CARB Comments, 336.

APPENDIX

TABLE 1

CUMULATIVE EFFECTS OF THE SAFE VEHICLES PROPOSAL ON $PM_{2.5}$-RELATED HEALTH IMPACTS FROM 2017-2050

NATIONWIDE IMPACTS (Number of Incidences) *

Premature Mortality	14,501-32,362
Respiratory Emergency Room Visits	40,089
Acute Bronchitis	126,057
Lower Respiratory Symptoms	1,623,910
Upper Respiratory Symptoms	2,299,464
Minor Restricted Activity Days	61,424,459
Work Loss Days	10,395,427
Asthma Exacerbation	2,358,166
Cardiovascular Hospital Admissions	30,418
Respiratory Hospital Admissions	24,887
Non-Fatal Heart Attacks	94,492

*Comments of Environmental Defense Fund on National Highway Traffic Safety Administration's and Environmental Protection Agency's Proposed Rule: The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks, 83 Fed. Reg. 42,986 (Aug. 24, 2018); Docket No. EPA-HQ-OAR-2018-0283; https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-5775.

TABLES OF
STATE-BY-STATE IMPACTS

THE HEALTH CONSEQUENCES OF PRESIDENT TRUMP'S SAFE VEHICLES PROPOSAL TO ROLL BACK FEDERAL GHG VEHICLE EMISSIONS STANDARDS*

* The methodology used to calculate the state-by-state impacts includes the following steps: 1) Use the Environmental Defense Fund analysis (Technical Analysis Review for EDF, Rykowski Report, p. 86) to calculate the *national* cumulative PM-related health impacts from 2017 to 2050 (see Table 1, above). EDF based its calculations on EPA's Technical Support Document, "Estimating the Benefit per Ton of Reducing $PM_{2.5}$ Precursors From 17 Sectors," EPA, OAQPS, 2/2018; 2) Use EPA's Co-Benefits Risk Assessment (COBRA) Screening Model to identify the state-by-state percentages that are applied to the national health impacts. (https://www.epa.gov/statelocalenergy/co-benefits-risk-assessment-cobra-health-impacts-screening-and-mapping-tool).

THE CUMULATIVE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Alabama

Premature Mortality	139-311
Respiratory Emergency Room Visits	385
Acute Bronchitis	1,210
Lower Respiratory Symptoms	15,590
Upper Respiratory Symptoms	22,075
Minor Restricted Activity Days	589,675
Work Loss Days	99,796
Asthma Exacerbation	22,638
Cardiovascular Hospital Admissions	292
Respiratory Hospital Admissions	239
Non-Fatal Heart Attacks	907

Arizona

Premature Mortality	189-421
Respiratory Emergency Room Visits	521
Acute Bronchitis	1,639
Lower Respiratory Symptoms	21,111
Upper Respiratory Symptoms	29,893
Minor Restricted Activity Days	798,518
Work Loss Days	135,141
Asthma Exacerbation	30,656
Cardiovascular Hospital Admissions	395
Respiratory Hospital Admissions	324
Non-Fatal Heart Attacks	1,228

THE CUMULATIVE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Arkansas

Premature Mortality	129-288
Respiratory Emergency Room Visits	357
Acute Bronchitis	1,122
Lower Respiratory Symptoms	14,453
Upper Respiratory Symptoms	20,465
Minor Restricted Activity Days	546,678
Work Loss Days	93,559
Asthma Exacerbation	20,988
Cardiovascular Hospital Admissions	271
Respiratory Hospital Admissions	221
Non-Fatal Heart Attacks	841

California

Premature Mortality	3,096-6,909
Respiratory Emergency Room Visits	8,559
Acute Bronchitis	26,913
Lower Respiratory Symptoms	133,205
Upper Respiratory Symptoms	490,936
Minor Restricted Activity Days	13,114,122
Work Loss Days	2,219,424
Asthma Exacerbation	503,468
Cardiovascular Hospital Admissions	649
Respiratory Hospital Admissions	5,313
Non-Fatal Heart Attacks	20,174

THE CUMULATIVE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Colorado

Premature Mortality	136-304
Respiratory Emergency Room Visits	377
Acute Bronchitis	1,185
Lower Respiratory Symptoms	15,265
Upper Respiratory Symptoms	21,615
Minor Restricted Activity Days	577,390
Work Loss Days	97,717
Asthma Exacerbation	22,167
Cardiovascular Hospital Admissions	286
Respiratory Hospital Admissions	234
Non-Fatal Heart Attacks	888

Connecticut

Premature Mortality	138-307
Respiratory Emergency Room Visits	381
Acute Bronchitis	1,198
Lower Respiratory Symptoms	15,427
Upper Respiratory Symptoms	21,845
Minor Restricted Activity Days	583,532
Work Loss Days	98,757
Asthma Exacerbation	22,403
Cardiovascular Hospital Admissions	289
Respiratory Hospital Admissions	236
Non-Fatal Heart Attacks	898

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Delaware

Premature Mortality	46-104
Respiratory Emergency Room Visits	128
Acute Bronchitis	403
Lower Respiratory Symptoms	5,197
Upper Respiratory Symptoms	7,358
Minor Restricted Activity Days	196,558
Work Loss Days	33,265
Asthma Exacerbation	7,546
Cardiovascular Hospital Admissions	97
Respiratory Hospital Admissions	80
Non-Fatal Heart Attacks	302

District of Columbia

Premature Mortality	20-45
Respiratory Emergency Room Visits	56
Acute Bronchitis	176
Lower Respiratory Symptoms	2,273
Upper Respiratory Symptoms	3,219
Minor Restricted Activity Days	85,994
Work Loss Days	14,554
Asthma Exacerbation	3,301
Cardiovascular Hospital Admissions	43
Respiratory Hospital Admissions	35
Non-Fatal Heart Attacks	14

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Florida

Premature Mortality	460-1,026
Respiratory Emergency Room Visits	1,271
Acute Bronchitis	3,996
Lower Respiratory Symptoms	51,478
Upper Respiratory Symptoms	72,893
Minor Restricted Activity Days	1,947,155
Work Loss Days	329,535
Asthma Exacerbation	74,754
Cardiovascular Hospital Admissions	943
Respiratory Hospital Admissions	789
Non-Fatal Heart Attacks	2,995

Georgia

Premature Mortality	255-570
Respiratory Emergency Room Visits	706
Acute Bronchitis	2,219
Lower Respiratory Symptoms	28,581
Upper Respiratory Symptoms	40,471
Minor Restricted Activity Days	1,081,070
Work Loss Days	182,960
Asthma Exacerbation	41,504
Cardiovascular Hospital Admissions	535
Respiratory Hospital Admissions	438
Non-Fatal Heart Attacks	1,663

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Idaho

Premature Mortality	30-68
Respiratory Emergency Room Visits	84
Acute Bronchitis	265
Lower Respiratory Symptoms	3,410
Upper Respiratory Symptoms	4,829
Minor Restricted Activity Days	128,991
Work Loss Days	21,830
Asthma Exacerbation	4,952
Cardiovascular Hospital Admissions	64
Respiratory Hospital Admissions	52
Non-Fatal Heart Attacks	198

Illinois

Premature Mortality	735-1,641
Respiratory Emergency Room Visits	2,033
Acute Bronchitis	6,391
Lower Respiratory Symptoms	82,332
Upper Respiratory Symptoms	116,583
Minor Restricted Activity Days	3,114,220
Work Loss Days	527,048
Asthma Exacerbation	119,559
Cardiovascular Hospital Admissions	1,542
Respiratory Hospital Admissions	1,262
Non-Fatal Heart Attacks	4,791

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Indiana

Premature Mortality	273-608
Respiratory Emergency Room Visits	754
Acute Bronchitis	2,370
Lower Respiratory Symptoms	30,530
Upper Respiratory Symptoms	43,230
Minor Restricted Activity Days	1,154,780
Work Loss Days	195,434
Asthma Exacerbation	44,334
Cardiovascular Hospital Admissions	572
Respiratory Hospital Admissions	468
Non-Fatal Heart Attacks	1,776

Iowa

Premature Mortality	99-220
Respiratory Emergency Room Visits	273
Acute Bronchitis	857
Lower Respiratory Symptoms	11,043
Upper Respiratory Symptoms	15,636
Minor Restricted Activity Days	417,686
Work Loss Days	70,669
Asthma Exacerbation	16,036
Cardiovascular Hospital Admissions	207
Respiratory Hospital Admissions	169
Non-Fatal Heart Attacks	643

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Kansas

Premature Mortality	116-259
Respiratory Emergency Room Visits	321
Acute Bronchitis	1,008
Lower Respiratory Symptoms	12,991
Upper Respiratory Symptoms	18,396
Minor Restricted Activity Days	491,396
Work Loss Days	83,163
Asthma Exacerbation	18,865
Cardiovascular Hospital Admissions	243
Respiratory Hospital Admissions	124
Non-Fatal Heart Attacks	756

Kentucky

Premature Mortality	168-375
Respiratory Emergency Room Visits	465
Acute Bronchitis	1,462
Lower Respiratory Symptoms	18,837
Upper Respiratory Symptoms	26,674
Minor Restricted Activity Days	712,524
Work Loss Days	120,587
Asthma Exacerbation	27,355
Cardiovascular Hospital Admissions	353
Respiratory Hospital Admissions	289
Non-Fatal Heart Attacks	1,096

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Louisiana

Premature Mortality	302-673
Respiratory Emergency Room Visits	834
Acute Bronchitis	2,622
Lower Respiratory Symptoms	33,777
Upper Respiratory Symptoms	47,829
Minor Restricted Activity Days	1,277,629
Work Loss Days	216,225
Asthma Exacerbation	49,050
Cardiovascular Hospital Admissions	633
Respiratory Hospital Admissions	518
Non-Fatal Heart Attacks	1,965

Maine

Premature Mortality	45-103
Respiratory Emergency Room Visits	124
Acute Bronchitis	391
Lower Respiratory Symptoms	5,034
Upper Respiratory Symptoms	7,128
Minor Restricted Activity Days	190,416
Work Loss Days	32,226
Asthma Exacerbation	7,310
Cardiovascular Hospital Admissions	94
Respiratory Hospital Admissions	77
Non-Fatal Heart Attacks	293

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Maryland

Premature Mortality	268-599
Respiratory Emergency Room Visits	742
Acute Bronchitis	2,332
Lower Respiratory Symptoms	30,042
Upper Respiratory Symptoms	42,540
Minor Restricted Activity Days	1,136,352
Work Loss Days	192,315
Asthma Exacerbation	43,626
Cardiovascular Hospital Admissions	563
Respiratory Hospital Admissions	460
Non-Fatal Heart Attacks	1,748

Massachusetts

Premature Mortality	189-421
Respiratory Emergency Room Visits	521
Acute Bronchitis	1,639
Lower Respiratory Symptoms	21,111
Upper Respiratory Symptoms	29,893
Minor Restricted Activity Days	798,518
Work Loss Days	135,141
Asthma Exacerbation	30,656
Cardiovascular Hospital Admissions	395
Respiratory Hospital Admissions	324
Non-Fatal Heart Attacks	1,228

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Michigan

Premature Mortality	406-906
Respiratory Emergency Room Visits	1,122
Acute Bronchitis	3,530
Lower Respiratory Symptoms	45,469
Upper Respiratory Symptoms	64,385
Minor Restricted Activity Days	1,719,885
Work Loss Days	291,072
Asthma Exacerbation	66,029
Cardiovascular Hospital Admissions	852
Respiratory Hospital Admissions	697
Non-Fatal Heart Attacks	2,646

Minnesota

Premature Mortality	157-350
Respiratory Emergency Room Visits	433
Acute Bronchitis	1,361
Lower Respiratory Symptoms	17,538
Upper Respiratory Symptoms	24,834
Minor Restricted Activity Days	663,384
Work Loss Days	112,271
Asthma Exacerbation	25,468
Cardiovascular Hospital Admissions	329
Respiratory Hospital Admissions	269
Non-Fatal Heart Attacks	1,021

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Mississippi

Premature Mortality	93-207
Respiratory Emergency Room Visits	257
Acute Bronchitis	807
Lower Respiratory Symptoms	10,393
Upper Respiratory Symptoms	14,717
Minor Restricted Activity Days	393,117
Work Loss Days	66,531
Asthma Exacerbation	15,092
Cardiovascular Hospital Admissions	195
Respiratory Hospital Admissions	159
Non-Fatal Heart Attacks	605

Missouri

Premature Mortality	291-650
Respiratory Emergency Room Visits	806
Acute Bronchitis	2,534
Lower Respiratory Symptoms	32,641
Upper Respiratory Symptoms	46,219
Minor Restricted Activity Days	1,234,632
Work Loss Days	208,948
Asthma Exacerbation	47,399
Cardiovascular Hospital Admissions	611
Respiratory Hospital Admissions	500
Non-Fatal Heart Attacks	1,899

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Montana

Premature Mortality	33-74
Respiratory Emergency Room Visits	92
Acute Bronchitis	290
Lower Respiratory Symptoms	3,735
Upper Respiratory Symptoms	5,289
Minor Restricted Activity Days	141,276
Work Loss Days	23,909
Asthma Exacerbation	5,424
Cardiovascular Hospital Admissions	70
Respiratory Hospital Admissions	57
Non-Fatal Heart Attacks	217

Nebraska

Premature Mortality	51-113
Respiratory Emergency Room Visits	140
Acute Bronchitis	441
Lower Respiratory Symptoms	5,684
Upper Respiratory Symptoms	8,048
Minor Restricted Activity Days	214,986
Work Loss Days	36,384
Asthma Exacerbation	8,254
Cardiovascular Hospital Admissions	106
Respiratory Hospital Admissions	87
Non-Fatal Heart Attacks	331

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Nevada

Premature Mortality	100-223
Respiratory Emergency Room Visits	277
Acute Bronchitis	870
Lower Respiratory Symptoms	11,205
Upper Respiratory Symptoms	15,866
Minor Restricted Activity Days	423,829
Work Loss Days	71,728
Asthma Exacerbation	16,271
Cardiovascular Hospital Admissions	210
Respiratory Hospital Admissions	172
Non-Fatal Heart Attacks	652

New Hampshire

Premature Mortality	41-91
Respiratory Emergency Room Visits	112
Acute Bronchitis	353
Lower Respiratory Symptoms	4,547
Upper Respiratory Symptoms	6,438
Minor Restricted Activity Days	171,988
Work Loss Days	29,107
Asthma Exacerbation	6,603
Cardiovascular Hospital Admissions	85
Respiratory Hospital Admissions	70
Non-Fatal Heart Attacks	265

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

New Jersey

Premature Mortality	481-1,074
Respiratory Emergency Room Visits	1,331
Acute Bronchitis	4,185
Lower Respiratory Symptoms	53,914
Upper Respiratory Symptoms	76,342
Minor Restricted Activity Days	2,039,292
Work Loss Days	345,128
Asthma Exacerbation	78,291
Cardiovascular Hospital Admissions	1,010
Respiratory Hospital Admissions	826
Non-Fatal Heart Attacks	3,137

New Mexico

Premature Mortality	55-123
Respiratory Emergency Room Visits	152
Acute Bronchitis	479
Lower Respiratory Symptoms	6,171
Upper Respiratory Symptoms	8,738
Minor Restricted Activity Days	233,413
Work Loss Days	39,503
Asthma Exacerbation	8,961
Cardiovascular Hospital Admissions	116
Respiratory Hospital Admissions	95
Non-Fatal Heart Attacks	359

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

New York

Premature Mortality	840-1,874
Respiratory Emergency Room Visits	2,321
Acute Bronchitis	7,299
Lower Respiratory Symptoms	94,024
Upper Respiratory Symptoms	133,139
Minor Restricted Activity Days	3,556,476
Work Loss Days	601,895
Asthma Exacerbation	136,538
Cardiovascular Hospital Admissions	1,761
Respiratory Hospital Admissions	1,441
Non-Fatal Heart Attacks	5,471

North Carolina

Premature Mortality	290-647
Respiratory Emergency Room Visits	802
Acute Bronchitis	2,521
Lower Respiratory Symptoms	32,478
Upper Respiratory Symptoms	45,989
Minor Restricted Activity Days	1,228,489
Work Loss Days	207,909
Asthma Exacerbation	47,163
Cardiovascular Hospital Admissions	608
Respiratory Hospital Admissions	498
Non-Fatal Heart Attacks	1,890

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

North Dakota

Premature Mortality	20-45
Respiratory Emergency Room Visits	56
Acute Bronchitis	176
Lower Respiratory Symptoms	2,273
Upper Respiratory Symptoms	3,219
Minor Restricted Activity Days	85,994
Work Loss Days	14,554
Asthma Exacerbation	3,301
Cardiovascular Hospital Admissions	43
Respiratory Hospital Admissions	35
Non-Fatal Heart Attacks	132

Ohio

Premature Mortality	641-1,430
Respiratory Emergency Room Visits	1,772
Acute Bronchitis	5,572
Lower Respiratory Symptoms	71,777
Upper Respiratory Symptoms	101,636
Minor Restricted Activity Days	2,714,961
Work Loss Days	459,478
Asthma Exacerbation	104,231
Cardiovascular Hospital Admissions	1,344
Respiratory Hospital Admissions	1,100
Non-Fatal Heart Attacks	4,177

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Oklahoma

Premature Mortality	199-443
Respiratory Emergency Room Visits	549
Acute Bronchitis	1,727
Lower Respiratory Symptoms	22,248
Upper Respiratory Symptoms	31,503
Minor Restricted Activity Days	841,515
Work Loss Days	142,417
Asthma Exacerbation	32,307
Cardiovascular Hospital Admissions	417
Respiratory Hospital Admissions	341
Non-Fatal Heart Attacks	1,295

Oregon

Premature Mortality	55-123
Respiratory Emergency Room Visits	1,520
Acute Bronchitis	479
Lower Respiratory Symptoms	6,171
Upper Respiratory Symptoms	8,738
Minor Restricted Activity Days	233,413
Work Loss Days	39,503
Asthma Exacerbation	8,961
Cardiovascular Hospital Admissions	116
Respiratory Hospital Admissions	95
Non-Fatal Heart Attacks	359

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Pennsylvania

Premature Mortality	874-1,951
Respiratory Emergency Room Visits	2,417
Acute Bronchitis	7,601
Lower Respiratory Symptoms	97,922
Upper Respiratory Symptoms	138,658
Minor Restricted Activity Days	3,703,895
Work Loss Days	626,844
Asthma Exacerbation	142,197
Cardiovascular Hospital Admissions	1,834
Respiratory Hospital Admissions	1,501
Non-Fatal Heart Attacks	5,698

Rhode Island

Premature Mortality	36-81
Respiratory Emergency Room Visits	100
Acute Bronchitis	315
Lower Respiratory Symptoms	4,060
Upper Respiratory Symptoms	5,749
Minor Restricted Activity Days	153,561
Work Loss Days	25,989
Asthma Exacerbation	5,895
Cardiovascular Hospital Admissions	76
Respiratory Hospital Admissions	62
Non-Fatal Heart Attacks	236

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

South Carolina

Premature Mortality	132-294
Respiratory Emergency Room Visits	365
Acute Bronchitis	1,147
Lower Respiratory Symptoms	14,778
Upper Respiratory Symptoms	20,925
Minor Restricted Activity Days	558,963
Work Loss Days	12,698
Asthma Exacerbation	21,459
Cardiovascular Hospital Admissions	277
Respiratory Hospital Admissions	226
Non-Fatal Heart Attacks	860

South Dakota

Premature Mortality	20-45
Respiratory Emergency Room Visits	56
Acute Bronchitis	176
Lower Respiratory Symptoms	2,273
Upper Respiratory Symptoms	3,219
Minor Restricted Activity Days	85,994
Work Loss Days	14,554
Asthma Exacerbation	3,301
Cardiovascular Hospital Admissions	43
Respiratory Hospital Admissions	35
Non-Fatal Heart Attacks	132

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Tennessee

Premature Mortality	284-634
Respiratory Emergency Room Visits	786
Acute Bronchitis	2,471
Lower Respiratory Symptoms	30,854
Upper Respiratory Symptoms	45,069
Minor Restricted Activity Days	1,203,919
Work Loss Days	203,750
Asthma Exacerbation	46,220
Cardiovascular Hospital Admissions	596
Respiratory Hospital Admissions	488
Non-Fatal Heart Attacks	1,852

Texas

Premature Mortality	1,663-3,712
Respiratory Emergency Room Visits	4,598
Acute Bronchitis	14,459
Lower Respiratory Symptoms	186,262
Upper Respiratory Symptoms	263,749
Minor Restricted Activity Days	7,045,385
Work Loss Days	1,192,355
Asthma Exacerbation	270,482
Cardiovascular Hospital Admissions	3,489
Respiratory Hospital Admissions	2,855
Non-Fatal Heart Attacks	10,838

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Utah

Premature Mortality	55-123
Respiratory Emergency Room Visits	152
Acute Bronchitis	479
Lower Respiratory Symptoms	6,171
Upper Respiratory Symptoms	8,738
Minor Restricted Activity Days	233,413
Work Loss Days	39,503
Asthma Exacerbation	8,961
Cardiovascular Hospital Admissions	116
Respiratory Hospital Admissions	95
Non-Fatal Heart Attacks	359

Vermont

Premature Mortality	20-45
Respiratory Emergency Room Visits	56
Acute Bronchitis	176
Lower Respiratory Symptoms	2,273
Upper Respiratory Symptoms	3,219
Minor Restricted Activity Days	85,994
Work Loss Days	14,554
Asthma Exacerbation	3,301
Cardiovascular Hospital Admissions	43
Respiratory Hospital Admissions	35
Non-Fatal Heart Attacks	132

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Virginia

Premature Mortality	280-625
Respiratory Emergency Room Visits	774
Acute Bronchitis	2,433
Lower Respiratory Symptoms	31,341
Upper Respiratory Symptoms	44,380
Minor Restricted Activity Days	1,185,492
Work Loss Days	200,632
Asthma Exacerbation	45,513
Cardiovascular Hospital Admissions	587
Respiratory Hospital Admissions	480
Non-Fatal Heart Attacks	1,824

Washington

Premature Mortality	200-447
Respiratory Emergency Room Visits	553
Acute Bronchitis	1,740
Lower Respiratory Symptoms	22,410
Upper Respiratory Symptoms	31,739
Minor Restricted Activity Days	847,658
Work Loss Days	143,457
Asthma Exacerbation	32,543
Cardiovascular Hospital Admissions	420
Respiratory Hospital Admissions	343
Non-Fatal Heart Attacks	1,304

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

West Virginia

Premature Mortality	141-314
Respiratory Emergency Room Visits	389
Acute Bronchitis	1,223
Lower Respiratory Symptoms	15,752
Upper Respiratory Symptoms	22,305
Minor Restricted Activity Days	595,817
Work Loss Days	100,836
Asthma Exacerbation	22,874
Cardiovascular Hospital Admissions	295
Respiratory Hospital Admissions	241
Non-Fatal Heart Attacks	917

Wisconsin

Premature Mortality	190-424
Respiratory Emergency Room Visits	525
Acute Bronchitis	1,651
Lower Respiratory Symptoms	21,273
Upper Respiratory Symptoms	30,123
Minor Restricted Activity Days	804,660
Work Loss Days	136,180
Asthma Exacerbation	30,892
Cardiovascular Hospital Admissions	398
Respiratory Hospital Admissions	326
Non-Fatal Heart Attacks	1,238

THE HEALTH IMPACTS OF ADOPTING THE TRUMP ADMINISTRATION'S SAFE VEHICLES PROPOSAL (Number of Incidences)

Wyoming

Premature Mortality	16-36
Respiratory Emergency Room Visits	44
Acute Bronchitis	139
Lower Respiratory Symptoms	1,786
Upper Respiratory Symptoms	2,529
Minor Restricted Activity Days	67,567
Work Loss Days	11,435
Asthma Exacerbation	2,594
Cardiovascular Hospital Admissions	33
Respiratory Hospital Admissions	27
Non-Fatal Heart Attacks	104