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Clearing the Air: Disincentivizing Driving and Encouraging the Use of Public Transportation to Combat Vehicle Pollution at a State Level

*Michelle Castaline**

Abstract

Potential litigation and policy challenges at the federal level are a threat to existing regulation over pollution from vehicle emissions. This article will illustrate the immense threat against current vehicle emissions regulation and the need for state involvement. This article proposes that states charge an additional fee when automobile owners register or renew their registration based upon the footprint of the car and use this fee to invest in public infrastructure. In advancing this proposal, this article will begin with an overview of the federal regulatory framework and the California Waiver. Part II discusses the litigation and policy challenges that threaten the current federal regulations and the California Waiver. Part III discusses the construction of the proposed fee to be charged to drivers and the benefits of disincentivizing driving while encouraging the use of public transportation. I argue that even when federal vehicle emission standards become stable, state involvement is still necessary and can be achieved through disincentivizing driving and improving public infrastructure.

Introduction

Take a deep breath. Particulate matter, hydrocarbons, nitrogen oxides, carbon monoxide, sulfur dioxide, toxics, and greenhouse gases are some of the air pollutants you likely just inhaled.¹ The United States has been coined the land of opportunity, where parents drop their 2.4 kids off at school, commute to their office

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1. Cars, Trucks, and Air Pollution, Union of Concerned Scientists (Dec. 5, 2014), <https://perma.cc/RKU3-RJB6>.

buildings, and enjoy family picnics in the park on the weekends.² The world has not recognized that everyday people introduce substances into the atmosphere that negatively impact the environment, with consequences that the human population has long ignored.³ Approximately 150 million Americans' homes are located in areas that do not meet federal air quality standards.⁴ In 2017, the New England Journal of Medicine reported a strong correlation between air pollution and premature death.⁵ The World Health Organization ("WHO") reports that every year, three million deaths are attributable to outdoor air pollution.⁶ For the 133.9 million Americans living in areas that do not meet federal air quality standards, simple family picnics could knock years off their lives.⁷

The recognition of pollution and the understanding that pollution has negative effects on human health and the environment is a recent development.⁸ In the mid 19th century, new pollutants were introduced to the atmosphere as a result of the industrial revolution. It was not until the 20th century that we gave a name to the effects of these pollutants.⁹ "Smog" was coined to describe the mixture of smoke and fog, a physical consequence of air pollution.¹⁰ In the early 1940s, it became clear that smog was an issue in Los Angeles, but local regulation over air pollution did not begin until the 1950s.¹¹

The first clean air regulations did not mention regulating vehicle emissions. Today, scientific evidence shows that vehicle emissions play a large part in the

2. Harold O. Levy, *America is the land of opportunity, and should be proud of it*, FOX NEWS (Oct. 8, 2017), <https://perma.cc/5LK2-D9VR>; Gretchen Livingston, *Family Size Among Mothers*, PEW RESEARCH CENTER (May 7, 2015), <https://perma.cc/7V8S-Q4DU>.

3. *Air Pollution*, NATIONAL GEOGRAPHIC, <https://perma.cc/DYZ9-9F3X> (last visited Nov. 15, 2017).

4. *Vehicles, Air Pollution, and Human Health: Dirty Cars, Dirty Air*, UNION OF CONCERNED SCIENTISTS, <https://perma.cc/84GR-5T6C> (last visited Nov. 18, 2017).

5. Qian Di et al., *Air Pollution and Mortality in the Medicare Population*, 376 NEW ENG. J. MED. 2513, 2513 (2017).

6. *Air Pollution: WHO's Agenda on Air Pollution and Health*, WORLD HEALTH ORGANIZATION, <http://perma.cc/Z8BW-9H5H> (last visited Feb. 28, 2018).

7. Michelle Chen, *133.9 Million Americans Live in Areas With Unhealthy Levels of Air Pollution*, THE NATION (May 3, 2018), <https://perma.cc/CF2S-GLZ8>.

8. Brian Vastag, *The Long Fight Against Air Pollution*, SMITHSONIAN.COM (Apr. 18, 2010), <https://perma.cc/9263-SCDQ>.

9. *Water and Air Pollution*, A&E TELEVISION NETWORKS: HISTORY, <https://perma.cc/J6LQ-RM57> (last visited Nov. 15, 2017).

10. *Smog*, NATIONAL GEOGRAPHIC, <https://perma.cc/T3MY-JLPM> (last visited Nov. 15, 2017).

11. Gary D. Libecap, *Open-Access Losses and Delay in the Assignment of Property Rights*, 50 ARIZ. L. REV. 379, 398 (2008).

existence of smog.¹² Regulating vehicle emissions is important for two reasons: first, pollution from vehicle emissions diminishes air quality in the form of ground level ozone,¹³ and second, vehicles emit carbon dioxide which plays a large role in global climate change.¹⁴ The Department of Transportation's ("DOT") Federal Highway Administration ("FHWA") reported in 2009 there were approximately 210 million licensed drivers.¹⁵ FHWA also reported in 2014 driving increased by 3.5 percent and Americans drove more than 3.15 trillion miles in 2015 alone.¹⁶ The Environmental Protection Agency ("EPA") also reported emissions from transportation between 1990 and 2013 increased 16 percent.¹⁷

Currently, the regulation of new automobiles and vehicle emissions is conducted at the federal level, but potential litigation and policy challenges by the Trump administration are a threat to the existing federal regulations.¹⁸ On August 2, 2018, the current administration announced they would freeze existing federal vehicle emission standards.¹⁹ The DOT and the EPA have since proposed Safer Affordable Fuel-Efficient ("SAFE") Vehicle Rules that would amend the existing standards.²⁰ If instituted, the SAFE Vehicle Rule will weaken the vehicle emission standard and will greatly impact states' abilities to comply with environmental air and climate standards.²¹ With current federal regulation over vehicle emissions in jeopardy, it is clear that states need to play a role in combating vehicle emissions. As the federal laws are currently constructed, Article 6, clause 2 of the Constitution, commonly referred to as the Supremacy Clause, prevents states from combating vehicle emissions from new automobiles and regulating fuel economy.²² However, States can directly impact vehicle emissions by disincentivizing driving with an additional registration fee that is based on a

12. *Smog, Soot, and Other Air Pollution from Transportation*, EPA, <https://perma.cc/SZ6E-HTVA> (last visited Jan. 23, 2018).

13. *Ozone Pollution*, EPA, <https://perma.cc/G72T-Z9RB> (last visited Sept. 20, 2018).

14. *Ozone Pollution*, EPA, <https://perma.cc/G72T-Z9RB> (last visited Sept. 20, 2018).

15. *Highway Finance Data Collection*, DEP'T OF TRANSP., <https://perma.cc/WU6X-B7B9> (last visited Jan. 23, 2018).

16. Camille Von Kaenel, *Americans Are Driving More Than Ever*, SCIENTIFIC AMERICAN (Feb. 22, 2016), <https://perma.cc/S9GP-GES9>.

17. *Id.*

18. 42 U.S.C. § 7543(a) (2012).

19. Daniel Sperling, *By Freezing Vehicle Standards, The Trump Administration Will Grind Auto Innovation To A Halt*, FORBES (Aug. 20, 2018, 4:19 PM), <https://perma.cc/7Z6N-NTEV>.

20. *SAFE: The Safer Affordable Fuel-Efficient 'SAFE' Vehicle*, NHTSA, <https://perma.cc/EBR8-HE3D> (last visited Sept. 23, 2018).

21. *Id.*

22. U.S. CONST. art. VI, cl. 2.

vehicle's carbon footprint. This extra fee can be used to improve public infrastructure and encourage the use of public transportation.

I. Factual Background

Known as the “Great Smog of 1952,” the city of London experienced five days of a heavy smog that reduced visibility to a few feet.²³ The event has been viewed as “the worst air pollution crisis in European history” and resulted in the deaths of 8,000 to 12,000 people.²⁴ More than 60 years later, the world is still struggling with air pollution.²⁵ Section A briefly describes the physical effect of air pollution on the United States, focusing on pollution from vehicles. Section B expands on the effects of vehicle emissions on air pollution around the world.

A. What Does Air Pollution Look Like?

Researchers have found that air pollution is responsible for twice the amount of deaths as “those linked to AIDS, tuberculosis and malaria combined.”²⁶ In 2010, Clean Air Act (“CAA”) regulations saved more than 164,000 lives, 13 million days of lost work, and 3.2 million days of missed school.²⁷ Vehicle emissions, the “gases emitted by the tailpipes of vehicles that use internal combustion engines,” are the main source of the pollution in the areas of the United States that do not meet National Ambient Air Quality Standards (“NAAQS”).²⁸ Gases emitted by vehicles include carbon dioxide, carbon monoxide, nitrogen oxides, hydrocarbons, and ozone pollutants.²⁹

Passenger vehicles and heavy duty trucks are the major contributors to air pollution, accounting for “more than half the carbon monoxide and nitrogen oxides

23. Christopher Klein, *The Great Smog of 1952*, A&E TELEVISION NETWORKS: HISTORY (Dec. 6, 2012), <https://perma.cc/GXT6-MNTA>.

24. *Id.*

25. Doyle Rice, *90% of people breathe polluted air; New Delhi is world's most polluted big city*, USA TODAY (May 2, 2018, 1:53 PM), <https://perma.cc/A2E8-GKJ4>.

26. Philip J. Landrigan et al., *The Lancet Commissions on Pollution and Health: Executive Summary*, 391 THE LANCET 462, 462 (2018).

27. *Legislative Hearing on S. 1857, S. 203, S. 839 and S. 1934: Hearing Before the S. Comm. On Clean Air and Nuclear Safety of the Comm. On Env't and Public Works*, 115th Cong. 50 (2017) (statement of Emily Hammond, Glen Earl Weston Research Professor of Law the George Washington University Law School).

28. *Vehicles, Air Pollution, and Human Health*, *supra* note 4 (last visited Feb. 28, 2018); Vehicle Emission Basics, DEP'T OF ENERGY, <https://perma.cc/29B7-447N> (last visited, Nov. 16, 2017).

29. Vincent Summers, *The Effects of Air Pollution from Motor Vehicles*, DECODED SCIENCE (Dec. 5, 2013), <https://perma.cc/4RF5-CYTM>.

and almost a quarter of the hydrocarbons emitted into our air” in 2013.³⁰ In 2016, approximately 17.5 million light duty vehicles (passenger cars) were purchased in the United States.³¹ That is 17.5 million additional minivans, trucks, SUVs, etc., driving around and emitting pollutants into the air. The carbon dioxide emitted from vehicles traps heat and contributes to global warming.³² Carbon dioxide from vehicle emissions accounts for approximately one-third of the United States’ greenhouse gas emissions.³³

Epidemiological studies, evaluations of proposed vehicle emission standards, and environmental impact assessments for specific road projects show that vehicle “emissions contribute to risks of morbidity and mortality for drivers, commuters, and individuals living near roadways.”³⁴ Additional vehicle emission standards can save lives by reducing the negative health risks associated with air pollution.

In the 1940s and 1950s, parts of the United States struggled with air pollution similar in severity to what was seen in China in early 2017.³⁵ Smog described as “choking” and “deadly” plagued Pennsylvania in the 1940s, leaving twenty dead and more than 7,000 ill, many of them hospitalized.³⁶ Most Americans live in areas where the effects of vehicle pollution are not physically visible, making the issue easier to ignore.³⁷ There are occasionally bouts of smog, but it is not a common occurrence in most cities in the United States.³⁸ Thanks to air pollution regulations, the United States is no longer in the position it was in the 1940s and 1950s.³⁹ There has not been a need for a public health emergency such as in India or China, but studies have shown that the air in the United States is still not safe enough.⁴⁰

30. *Vehicles, Air Pollution, and Human Health*, *supra* note 4.

31. Steven Overly, *Americans bought more cars than ever last year*, WASH. POST (Jan. 4, 2017), <https://perma.cc/5ZKZ-QM8X>; *Basic Information About the Emission Standards Reference Guide for On-Road and Non-road Vehicles and Engines*, *Emission Standards Reference Guide*, EPA, <https://perma.cc/MMQ3-6V2D> (last visited Mar. 23, 2018).

32. *A Blanket Around the Earth, Facts*, NASA, <https://perma.cc/6QTL-BEKQ> (last visited Nov. 18, 2017).

33. *Vehicle Emission Basics*, *supra* note 28.

34. Kai Zhang & Stuart Batterman, *Air Pollution and Health Risks Due to Vehicle Traffic*, 450–451 *SCI. OF THE TOTAL ENV’T* 307, 308 (2013).

35. Jack Williams, *U.S. once had air pollution to match China’s today*, WASH. POST (Oct. 25, 2013), <https://perma.cc/8NAR-RSD7>; *see discussion infra* Section I.B.

36. *Id.*

37. *Air Pollution: Current and Future Challenges*, EPA, <https://perma.cc/ZD9Q-TWP2> (last visited, Oct. 21, 2018).

38. *Id.*

39. *History of Reducing Air Pollution from Transportation in the United States*, EPA, <https://perma.cc/4BGE-KTW6> (last visited, Oct. 21, 2018).

40. Justin Worland, *Air Pollution is Still Killing People in the United States*, TIME (June 28, 2017), <https://perma.cc/TNF5-ZP3K>.

Despite today's technologies and the increased awareness of air pollution, the United States continues to experience air pollution-related deaths and the danger of additional deaths will remain if the proposal to weaken CAA regulations is realized.⁴¹

B. Air Pollution Around the World

In December of 2016, Chinese authorities closed schools and factories in Beijing and prohibited half of the city's cars from being driven in response to severe air pollution that produced a visible smog.⁴² In January of 2017, China's Ministry of Environmental Protection announced that twenty-four cities in China were under red alert as air pollution levels reached record highs.⁴³ Part of the problem was caused by the approximately six million vehicles sitting on congested roadways in Beijing.⁴⁴ CNN reported that China's Ministry of Environmental Protection cited approximately 10,000 car owners for environmental violations during the red alerts in January of 2017.⁴⁵ Despite efforts in China to enact pollution control initiatives, including restrictions on vehicle ownership and usage, the country still struggles with air pollution.⁴⁶

In May of 2014, the WHO found Delhi, India to be the most polluted city in the world and it seems the situation has only increased in severity.⁴⁷ A study published by *Lancet Medical Journal* recorded that India had 2.5 million deaths attributable to pollution, the highest number of in the world and the majority of these deaths stemmed from air pollution.⁴⁸ In November of 2017 the Indian Medical Association declared a public health emergency as pollution levels

41. Worland, *supra* note 40; Richard E. Peltier, *How air pollution contributes to 8 million deaths each year*, CBS NEWS (May 7, 2018, 11:50 AM), <https://perma.cc/HS9E-XRNY>.

42. Chris Nielsen & Mun Ho, *The Real Reasons China is Struggling to Control Its Pollution Problems*, FORTUNE (Jan. 10, 2017), <https://perma.cc/P393-9YZY>.

43. Lonnie Shekhtmann, *Stifling smog shows China's struggle to balance economic needs with public health*, THE CHRISTIAN SCIENCE MONITOR (Jan. 3, 2017), <https://perma.cc/7S5X-8EJH>.

44. Nielsen & Ho, *supra* note 39.

45. Joshua Berlinger, *China gets tough on smog offenders*, CNN (Jan. 3, 2017, 5:16 AM), <https://perma.cc/3ZVD-JNDF>.

46. Leeza Mangaldas, *India and China Both Struggle With Deadly Pollution—But Only One Fights It*, FORBES (Oct. 25, 2017, 1:15 PM), <https://perma.cc/8VZ5-T6QX>.

47. Rishi Iyengar, *New Delhi, the World's Most Polluted City, Is Even More Polluted Than We Realized*, TIME (Nov. 27, 2014), <https://perma.cc/W76Z-MMRT>.

48. Landrigan, *supra* note 26, at 462.

soared.⁴⁹ Like China, the severity of the air pollution presented itself as thick gray clouds of smog.⁵⁰ The air pollution in Delhi, India was extensive enough to prompt “[t]he Chief Minister of Delhi [to call] the city a gas chamber.”⁵¹

Europe has specifically attributed a large portion of its air pollution struggles to vehicle emissions.⁵² The European Environment Agency reported in 2014 that more than 500,000 people died premature deaths as a result of air pollution.⁵³ The British Lung Foundation has remarked that “Londoners are more likely to be killed by the air they breathe than a car accident.”⁵⁴ Many blame “dieselgate,” after a study found that of the air pollution deaths in the European Union, 38,000 alone are attributable to cheating on emissions tests by vehicle manufacturers.⁵⁵

Air pollution is not an environmental problem that we can ignore; it is causing health problems and deaths throughout the United States. Vehicle emissions are a significant contributor to the United States’ air pollution problems. If we weaken the standards, the issue is only going to get worse. If we leave the standards as they are, there will still be environmental problems, there will still be health issues, and there will still be deaths. The United States must pursue change if it expects to see meaningful decreases in health impacts from air pollution.

49. Vidhi Doshi, *New Delhi is a ‘gas chamber’: Schools close and people stay home as pollution chokes India’s capital*, WASH. POST (Nov. 7, 2017), <https://perma.cc/HZ27-2Y6T>.

50. Vidhi Doshi, *New Delhi is a ‘gas chamber’: Schools close and people stay home as pollution chokes India’s capital*, WASH. POST (Nov. 7, 2017), <https://perma.cc/HZ27-2Y6T>.

51. *Id.*

52. *Air pollution, Health and sustainable development*, WORLD HEALTH ORGANIZATION, <https://perma.cc/WVL3-4ULC> (last visited Sept. 20, 2018).

53. *Air Quality in Europe – 2017 Report No 13/2017*, EUROPEAN ENV’T AGENCY (Aug. 25, 2017), <https://perma.cc/S5XA-XBV2>; Sonya A. Diehn, *Air Quality: Air pollution kills half a million people in Europe, EU agency reports*, DEUTSCHE WELLE (Dec. 10, 2017), <https://perma.cc/FH7C-8ACM>.

54. Pilita Clark, *Diesel Fumes Play Part in Premature Deaths of Londoners*, FINANCIAL TIMES, July 15, 2015.

55. Dieselgate, also known as the Volkswagen scandal, was an incident involving 11 million diesel cars, implanted with defeat devices to cheat emissions testing; Danny Hakim, Aaron M. Kessler & Jack Ewing, *As Volkswagen Pushed to be No. 1, Ambitions Fueled a Scandal*, N.Y. TIMES (Sept. 26, 2015), <https://perma.cc/8RAQ-L6JG>; Kalina Oroschakoff, *Europe’s Big Emissions Problem is Parked in the Garage*, POLITICO (June 6, 2017, 8:07 PM), <https://perma.cc/FRW2-RZ58>.

II. Legal Background

A. Clean Air Act

In 1959, California became the first State to work towards establishing motor vehicle emission standards when it directed the California Department of Public Health to establish California Ambient Air Quality Standards.⁵⁶ While the first federal legislation involving air pollution was passed in 1955 (Air Pollution Control Act), it was not until 1963 that federal legislation pertaining to air pollution control was established in the form of the CAA.⁵⁷

At the height of the national environmental movement, Congress passed the CAA in response to the smog and other side effects of air pollution such as acid rain and damage to stratospheric ozone.⁵⁸ The purpose of the CAA is to use standards to protect human health and welfare from air pollutants.⁵⁹ The 1970 amendments to the CAA set the stage for comprehensive federal standards and state regulations, limiting air pollution from stationary and mobile sources.⁶⁰ The 1970 amendments included the creation of NAAQS.⁶¹ Prior to the 1970 amendments to the CAA were made, the National Environmental Policy Act (“NEPA”) was enacted, creating the EPA.⁶²

Under the CAA, the EPA was tasked with setting and reviewing the NAAQS for pollutants considered harmful to public health every five years.⁶³ In response to NAAQS set by the EPA, states are required to establish implementation plans to show how they will meet the federal standards.⁶⁴ Section 107A of the CAA requires state implementation include “enforceable emission limitations and other control measures, means, or techniques . . . provide for establishment and operation of

56. *California Ambient Air Quality Standards (CAAQS)*, CALIFORNIA AIR RESOURCES BOARD (Aug. 10, 2017), <https://perma.cc/BSJ7-YSLJ>.

57. 42 U.S.C. § 7401 (2012).

58. *Clean Air Act Requirements and History*, *Clean Air Act Overview*, EPA, <https://perma.cc/D33C-MNMM> (last visited Nov. 16, 2017).

59. JOSEPH P. TOMAIN & RICHARD D. CUDAHY, *ENERGY LAW IN A NUTSHELL* 348 (3d ed. 2017).

60. *Evolution of the Clean Air Act*, *Clean Air Act Overview*, EPA, <https://perma.cc/8CMD-XHS6> (last visited Nov. 18, 2017).

61. 42 U.S.C. § 7401 (2012).

62. 42 U.S.C. § 4321 (2012).

63. 40 C.F.R. § 50 (2016); *Air Quality Designations 101: Initial Area Designations for the National Ambient Air Quality Standards*, EPA (July 25, 2017), <https://perma.cc/D63H-Y8W7>.

64. TOMAIN & CUDAHY, *supra* note 57 at 348.

appropriate . . . procedures necessary to monitor . . . data on ambient air quality.”⁶⁵ The CAA gives the EPA the power to reject state implementation plans and create federal implementation plans in their place.⁶⁶ Under the CAA, you either fall into an area of nonattainment or attainment (also known as an unclassifiable area).⁶⁷ Areas of attainment are areas in compliance with NAAQS.⁶⁸ Areas designated as nonattainment are either in violation of a NAAQS or are contributing to a nearby area that is in violation of a NAAQS.⁶⁹

Pursuant to the 1970 amendments of the CAA, the EPA was also given the ability to set standards controlling emissions from new motor vehicles or new motor vehicle engines.⁷⁰ During the Bush administration in 2007, the EPA experienced pushback over their lack of regulation of greenhouse gas emissions. In response to the complaints, the EPA stated that they did not have the power under the CAA to regulate greenhouse gas emissions, and even if they did, they would refuse to regulate.⁷¹ In *Massachusetts v. EPA* the Supreme Court clarified that the EPA’s power to regulate pollutants under the CAA includes the power to regulate greenhouse gases, such as carbon dioxide, as a major pollutant from automobiles.⁷² The Supreme Court also found the EPA had yet to pose a valid argument against regulating greenhouse gas emissions.⁷³ The CAA requires the EPA to either show that greenhouse gases do not contribute to climate change or provide a reasonable explanation for why they are not regulating greenhouse gases if the EPA wants to avoid establishing regulations.⁷⁴

The CAA outlines the EPA’s power to regulate air pollutants from new motor vehicles and new motor vehicle engines.⁷⁵ The EPA is responsible for setting emissions limits for manufacturers to follow, including setting forth certification test procedures that measure engine and vehicle emission levels.⁷⁶ The EPA uses

65. 42 U.S.C. §7401 (2012).

66. TOMAIN & CUDAHY, *supra* note 57 at 348.

67. *Ozone Designation and Classification Information, Green Book*, EPA, <https://perma.cc/PJL2-XDNE> (last visited Feb. 28, 2018).

68. *Ozone Designation and Classification Information, Green Book*, EPA, <https://perma.cc/PJL2-XDNE> (last visited Feb. 28, 2018).

69. *Air Quality Designations 101: Initial Area Designations for the National Ambient Air Quality Standards*, *supra* note 61.

70. 42 U.S.C. § 7543(a) (2012).

71. *Massachusetts v. EPA*, 549 U.S. 497, 534 (2007).

72. *Id.*

73. *Id.*

74. *Id.*

75. 42 U.S.C § 7521 (2012).

76. 42 U.S.C. § 7401 et seq. (2012); *Overview of Certification and Compliance for Vehicles and Engines*, ENV’T PROT. AGENCY, <https://perma.cc/4DHB-RY2V> (last visited Jan. 23, 2018).

these test results to determine if manufacturers have complied with any applicable emission standards.⁷⁷ Before vehicles can be sold to consumers, the CAA requires that the vehicle have a certificate of conformity which certifies it meets all emission requirements.⁷⁸ The CAA expressly prohibits states from setting their own standards or regulations in an effort to control emission from new motor vehicles or new motor vehicle engines.⁷⁹

B. California Waiver

Despite the CAA's express prohibition of state involvement in setting their own vehicle emission standards, there is one exception granted to California.⁸⁰ Due to California's long history of regulating vehicle emissions, the CAA contains an exception in section 209 that allows California to set their own regulations upon approval from the EPA.⁸¹ Section 177 of the CAA allows others states to adopt approved California Waiver standards.⁸² As a result of federal preemption this means that states only options are to adopt the federal regulations or adopt California's regulations. As a result, States rely on EPA's regulation of vehicles and the California Waiver to meet federally mandated environmental standards.⁸³

Prior to the CAA, there were few air pollution and vehicle emission regulations, with the exception of California. California, unlike other states, "has a record of establishing its own environmental standards, including a RPS [Renewable Portfolio Standard], building and appliance efficiency codes, and vehicle emissions standards."⁸⁴ California's long history of setting its own emission standards was a result of severe air pollution in California.⁸⁵ In recognition of California's preexisting regulations, section 7543(b) of the CAA set an exception to the state preemption clause.⁸⁶

77. *Id.*; See generally United States v. Volkswagen, No. 2:16-cv-10006-LJM-MJH, 2016 WL 25162, at *8, *9 (E.D. Mich. Jan. 4, 2016) (violation of the Clean Air Act by manufacturers who cheated the emissions tests to gain certificates of conformity).

78. 42 U.S.C. § 7525 (2012).

79. 42 U.S.C. § 7543(a) (2012).

80. 42 U.S.C. § 7543(b) (2012).

81. 42 U.S.C. § 7543(e)(2) (2012).

82. 42 U.S.C. § 7507 (2012).

83. Martin Suuberg, *Column: EPA shouldn't undermine states' right to restrict auto emissions*, THE SALEM NEWS (Apr. 9, 2018), <http://perma.cc/7E7K-6QBW>.

84. TOMAIN & CUDAHY, *supra* note 57 at 157.

85. NATIONAL RESEARCH COUNCIL, STATE AND FEDERAL STANDARDS FOR MOBILE-SOURCE EMISSIONS 17 (2006).

86. 42 U.S.C. § 7543(e)(2)(B) (2012).

The EPA is able to waive application of section 7543(a) if states meet certain criteria.⁸⁷ The exception was created with California in mind and California is the only state that qualifies for the exemption.⁸⁸ Pursuant to the exemption, the California's standards cannot take effect until the EPA grants a waiver.⁸⁹ Since the creation of this exemption, California has accumulated forty-five years' worth of waiver history.⁹⁰ California has only been denied a waiver once, in 2008, but the request was subsequently approved in 2009 after a shift in administrations.⁹¹ Thirteen states and the District of Columbia have taken advantage of the provisions under section 177 and adopted California's standards.⁹²

C. Fuel Economy

Before the EPA began regulating vehicle emissions under the CAA, the NHTSA took steps towards regulating the auto industry.⁹³ In 1975, the Energy Policy and Conservation Act ("EPCA") was enacted.⁹⁴ The EPCA gives the NHTSA the power to establish Corporate Average Fuel Economy Standards ("CAFE").⁹⁵ CAFE's purpose is to "reduce energy consumption by increasing the fuel economy of cars and light trucks."⁹⁶

Under the EPCA, states are prohibited from creating and applying fuel economy standards or average fuel economy standards to vehicles covered by Federal Fuel Economy Standards.⁹⁷ Fuel economy is defined as "the average number of miles traveled by an automobile for each gallon of gasoline . . . used, as

87. 42 U.S.C. § 7543(b) (2012).

88. *Trump's assault on EPA fuel rules, California has no precedent*, SAN DIEGO UNION TRIBUNE (July 24, 2018), <https://perma.cc/PTF3-T5ZN>.

89. *Vehicle Emissions California Waivers and Authorizations*, EPA, <http://perma.cc/4M6D-J6FF> (last visited Oct. 2, 2017).

90. Robinson Meyer, *The Coming Clean-Air War Between Trump and California*, ATLANTIC MONTHLY (Mar. 6, 2017), <http://perma.cc/67KX-7BLA>.

91. 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 Fed. Reg. 32,744 (July 8, 2009).

92. 42 U.S.C. § 7507 (2012); Stephen Edelstein, *Which States Follow California's Emissions and Zero Emission Vehicle Rules*, GREEN CAR REPORTS (Mar. 7, 2017), <http://perma.cc/SE7C-4562>.

93. *Corporate Average Fuel Economy*, DEP'T OF TRANSP., <https://perma.cc/TD3D-3LUR> (last visited Nov. 18, 2017).

94. *Id.*

95. *Id.*

96. DEP'T OF TRANSP., *supra* note 95.

97. 49 U.S.C. § 32919 (2012).

determined by the administrator under section 32904(c) of this title.”⁹⁸ CAFE standards establish average fuel economy standards that must be met by manufacturers of non-passenger automobiles, as well as import and domestic passenger automobiles.⁹⁹ In 2007, the Energy Independence and Security Act reconfigured the original CAFE program established under EPCA.¹⁰⁰ Average fuel economy standards increased, separate standards were instituted for cars and trucks, and manufacturers could trade the credits that were established under the EPCA.¹⁰¹

D. One National Program

Prior to 2009, automobile manufacturers were expected to comply with NHTSA’s CAFE standards, EPA’s vehicle emission standards, and California’s standards as approved by the EPA. At the time, NHTSA and EPA were not consulting with each other in the creation of their fuel economy and vehicle emission standards.¹⁰² It was the pressure to meet three different standards that resulted in the creation of One National Program.¹⁰³ This program was proposed in 2009 by the Obama administration to increase fuel economy and reduce greenhouse gas emissions from passenger cars and light trucks.¹⁰⁴ The agreement takes place between EPA, NHTSA, California, and thirteen automakers for years 2017-2025.¹⁰⁵ The program became finalized in August of 2012.¹⁰⁶

The final rule was published in October of 2012 in the Federal Register and included an agreement to conduct a midterm review to appease the auto industry’s

98. 49 U.S.C. § 32901(a)(11) (2012).

99. 49 U.S.C. § 32919 (2012).

100. 42 U.S.C. § 17001 (2012).

101. *A Brief History of U.S. Fuel Efficiency Standards*, UNION OF CONCERNED SCIENTISTS, (Dec. 6, 2017) <https://perma.cc/5NMZ-FZSK>; Robinson Meyer, *How the Car Makers Trumped Themselves* (June 20, 2018), <https://perma.cc/9MLB-6YLG>; Benjamin Leard & Virginia McConnell, *New markets for Credit Trading under US Automobile Greenhouse Gas and Fuel Economy Standards* (May, 2017), <https://perma.cc/2NCF-2Q6F>.

102. Jody Freeman, *The Obama Administration’s National Auto Policy: Lessons from the “Car Deal,”* 35 HARV. ENVTL. L. REV. 343, 358–64 (2011).

103. *Id.*

104. 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62, 624 (Oct. 15, 2012).

105. *President Obama Announces Historic 54.5 mpg Fuel Efficiency Standard*, WHITE HOUSE (July 29, 2011), <https://perma.cc/L922-GW97>.

106. UNION OF CONCERNED SCIENTISTS, *supra* note 100.

concerns that the regulations are not plausible.¹⁰⁷ The final rule gives joint rule making power to the EPA and NHTSA.¹⁰⁸ During negotiations for the final rule, all participants agreed any pending EPCA preemption litigation challenging AB1493 would be dismissed and manufacturers would agree not to challenge the program through Model Year (“MY”) 2016.¹⁰⁹

Since the establishment of the One National Program, the midterm review for MY 2022-2025 was conducted.¹¹⁰ The California Air Resource Board (“CARB”) conducted its own midterm review of the MY 2022-2025 standards in conjunction with a review of its advanced clean cars program.¹¹¹ CARB ultimately concluded that the standards should be retained, but also recognized that if the stringency of the standards were to be reduced they may need to end their involvement in the One National Program.¹¹² The EPA conducted a separate midterm review and initially issued a final determination on January 12, 2017, that agreed there should be no change to the greenhouse gas standards for light duty vehicles for MY 2022-2025.¹¹³ On March 15, 2017, Scott Pruitt, the head of the EPA, and Elaine Chao from the DOT, announced that they would reconsider the final determination issued in January.¹¹⁴ NHTSA did not initially take part in the midterm review.¹¹⁵ On April 3, Scott Pruitt announced that after reconsideration, the determination made during the Obama administration was wrong and standards will be weakened.¹¹⁶ On August 2, 2018, the Trump administration announced that they will freeze existing federal vehicle emission standards.¹¹⁷ The DOT and EPA have

107. 40 CFR Pt. 85, 86 & 600 (2012); RICHARD K. LATTANZIO, CONG. RESEARCH SERV., IN10619, EPA’S MID-TERM EVALUATION OF VEHICLE GREENHOUSE GAS EMISSIONS STANDARDS 1, 1 (2017).

108. *Facts About One National Program*, AUTO ALLIANCE, <https://perma.cc/XB4Z-3SGT> (last visited, Jan. 26, 2017).

109. Freeman, *supra* note 101, at 345.

110. *Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards for Model Years 2022-2025*, EPA, <http://perma.cc/6PKL-FDLX> (last visited Jan. 23, 2017).

111. Michael Jacob Steel, *CARB Issues Midterm Review of Its Advance Clean Car Program and Invites Comments on the Program’s Future*, MORRISON FOERSTER (Feb. 7, 2017), <http://perma.cc/5788-EUYG>.

112. *Id.*

113. *Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards for Model Years 2022-2025*, *supra* note 103.

114. *Id.*

115. *Id.*

116. Kathryn Watson, *EPA’s Scott Pruitt Announces Revisions in Vehicle Fuel Emission Standards*, CBS NEWS (Apr. 3, 2018), <http://perma.cc/P8K5-MXWJ>.

117. Sperling, *supra* note 19.

since proposed SAFE Vehicle Rules that amend the existing standards.¹¹⁸ The public comment period regarding the proposed standards closed October 26, 2018.¹¹⁹ After the comment period closes, the EPA will be tasked with assessing the comments and determining if the proposed rule is accurately supported and will allow the EPA to meet its identified goals.¹²⁰

E. Measuring Vehicle Emissions

Vehicle emission standards can be set either by using the weight of the car or the “footprint” of the car.¹²¹ A vehicle’s footprint is determined by the “size of its wheelbase multiplied by its average track width.”¹²² Initially, California used weight to set their emission standards.¹²³ However, once NHTSA and EPA choose to use the footprint approach to create comprehensive standards via the One National Program, California switched to the footprint measurement for their 2017 standards.¹²⁴ This was part of their effort to help create comprehensive standards with EPA and NHTSA.¹²⁵ In the past, the EPA has also adopted universal standards to measure vehicle emissions.¹²⁶ Currently, the One National Program lays out footprint based emission standards, separating vehicles covered by these standards into three categories: passenger cars, light duty trucks, and medium duty passenger vehicles.¹²⁷ These categories account for the disparity in footprint values among the different types of vehicles.

118. *SAFE: The Safer Affordable Fuel-Efficient ‘SAFE’ Vehicle*, NHTSA, <http://perma.cc/3Z2G-5WDH> (last visited Sept. 23, 2018).

119. *Id.*

120. *A Guide to the Rulemaking Process*, <https://perma.cc/7GXS-YF3X> (last visited, Oct. 21, 2018).

121. Antonio Bento, Kenneth Gillingham & Kevin Roth, *The Effect of Fuel Economy Standards on Vehicle Weight Dispersion and Accident Fatalities* (Apr. 10, 2017), <http://perma.cc/3GHL-ZEW7>; *California: Light-Duty: GHG*, TRANSPORT POLICY, <http://perma.cc/3SW7-X49L> (last visited Jan. 27, 2018).

122. U.S. GOV’T ACCOUNTABILITY OFF., GAO-10-336, *VEHICLE FUEL ECONOMY: NHTSA AND EPA’S PARTNERSHIP FOR SETTING FUEL ECONOMY AND GREENHOUSE GAS EMISSIONS STANDARDS IMPROVED ANALYSIS AND SHOULD BE MAINTAINED 4* (2010).

123. Freeman, *supra* note 101 at 355.

124. U.S. GOV’T ACCOUNTABILITY OFF., *supra* note 120.

125. *California: Light-Duty: GHG*, *supra* note 119 at 8.

126. Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25, 324, (May 7, 2010).

127. “A passenger automobile is any automobile (other than an automobile capable of off-highway operation) manufactured primarily for use in the transportation of not more than 10 individuals.” 49 C.F.R. § 523.4 (2015); “Light-duty truck means any motor vehicle rated at 8,500 pounds GVWR or less which has a curb weight of 6,000 pounds or less and

III. The Problem

Automobiles contribute to the presence of four of the six criteria pollutants identified by the EPA under the CAA, specifically ozone, carbon monoxide, nitrogen dioxide, and particulate matter.¹²⁸ Under the CAA, states are responsible for meeting clean air standards set by the EPA, but because of the Supremacy Clause, states are federally preempted from regulating vehicle emissions from new motor vehicles, or fuel economy to reduce air pollution caused by automobiles.¹²⁹ As a result of potential litigation, policy challenges, political pressure, and the EPA's failures to meet deadlines, states cannot depend on federal standards and regulations to keep their counties from being designated as nonattainment areas.¹³⁰

A. State Responsibility

Pursuant to section 107a of the CAA, states are responsible for the air quality within their geographic boundaries, however maintaining an attainment status has proved to be difficult as a result of the necessity to work in tangent with the Federal Government.¹³¹ In addition to the requirement under section 107(a) that states submit implementation plans outlining how they will meet air quality control standards states must comply with the good neighbor provision. Section 110(a)(2)(D)(i)(1) of the CAA, the "good neighbor" provision, requires state implementation plans to address state air pollution that may affect neighboring downwind states' ability to meet NAAQS.¹³² As described in Section II, despite the fact that automobiles largely contribute to air pollution issues, states are unable to take many steps within their state implementation plans to reduce this

which has a basic vehicle frontal area of 45 square feet or less, which is:" used for transportation of property, transportation of more than 12 people or can be used for off road use. 40 C.F.R. § 86.1803-01; "Medium-duty passenger vehicle (MDPV) means any heavy-duty vehicle (as defined in this subpart) with a gross vehicle weight rating (GVWR) of less than 10,000 pounds that is designed primarily for the transportation of persons." 40 C.F.R. § 86.1803-01.

128. *Basic Information about Ozone*, EPA, <http://perma.cc/NCD4-GFN6> (last visited Jan. 25, 2018); *Basic Information about Carbon Monoxide (CO) Outdoor Air Pollution*, EPA, <http://perma.cc/CM7H-HTAL> (last visited Jan. 25, 2018); *Basic Information about NO2*, EPA, <http://perma.cc/PFK6-D6BV> (last visited Jan. 25, 2018); *Particulate Matter (PM) Basics*, EPA, <http://perma.cc/LP7W-A3DC> (last visited Jan. 25, 2017).

129. 42 U.S.C. § 7543(a) (2012); 49 U.S.C. § 32919 (2012).

130. Suuberg, *supra* note 83.

131. 42 U.S.C. § 7407 (2012).

132. 42 U.S.C. § 7410 (2012); *Interstate Air Pollution Transport*, EPA, <http://perma.cc/QCN7-D9TR> (last visited Jan. 25, 2017).

pollution.¹³³ Pursuant to the Supremacy Clause, any regulation of vehicle emissions from new motor vehicles or of fuel economy is preempted by federal law. Consequently, states heavily rely on federal standards and regulation in addition to their state implementation plans to reduce pollution within their boundaries and potential transportation of pollution to neighboring states.¹³⁴

As of September 30, 2018, thirty-six states and the District of Columbia had counties in nonattainment areas.¹³⁵ With approximately 17.5 million light vehicles purchased in the United States in 2016, states are facing a difficult battle in combating vehicle pollution.¹³⁶ However, the number of areas struggling to be designated as attainment areas may be bigger than is currently reported, because in 2015 NAAQS for ozone were made more strict.¹³⁷ The EPA was supposed to issue a final assessment on October 1, 2017, identifying which counties are in violation of these higher standards, but they missed the deadline.¹³⁸ In response, environmental and public health groups sued the EPA and the D.C. Circuit Court set a October 1, 2018, deadline for the EPA to determine how they will decide what counties are in violation of the new standards.¹³⁹ This extension was withdrawn on August 2, 2017, and as of November 6, 2017, the EPA had issued the majority of the attainment and unclassifiable designations pursuant to the 2015 ozone standards.¹⁴⁰ Thus far, the EPA has recorded thirty-two states and the District of Columbia as having counties in nonattainment areas, including the entire state of Washington¹⁴¹

As previously discussed in Section II,¹⁴² the federal government can step in if it determines that a state's implementation plan is ineffective, but twenty-four upwind states have been waiting for the EPA to issue federal implementation plans

133. See discussion *supra* Sections II.A, II.B.

134. Suuberg, *supra* note 83.

135. *Current Nonattainment Counties for All Criteria Pollutants*, EPA (Dec. 31, 2017), <http://perma.cc/A5D5-8PSH>.

136. Overly, *supra* note 31.

137. Extension of Deadline for Promulgating Designations for the 2015 Ozone National Ambient Air Quality Standards, 82 Fed. Reg. 29246-01 (June 28, 2017) (to be codified at 40 CFR pt. 81).

138. Jennifer Lu, *EPA's Overdue Ozone Decisions Coming by April*, ENV'T REP. (BNA) (Jan. 12, 2018), <http://perma.cc/98UT-TTGE>.

139. EPA, *supra* note 135.

140. EPA *supra* note 65.

141. *2015 Ozone Standards State Recommendations, EPA Responses, and Technical Support Documents*, EPA, <https://perma.cc/E5AX-D2AR> (last visited, Oct. 6, 2018); *Fact Sheet – Final Area Designations for the 2015 National Ambient Air Quality Standards for Ozone (Round 1)*, EPA, <https://perma.cc/2CR3-BMXK> (last visited, Oct. 6, 2018).

142. See discussion *supra* Section II.A.

for faulty ozone pollution control plans since August of 2015.¹⁴³ The EPA had until August of 2017 to provide plans, but failed to do so.¹⁴⁴ Subsequently, New York and Connecticut filed suit.¹⁴⁵ Despite the fact that states cannot regulate new motor vehicles' emissions or fuel economy in order to meet NAAQS, states should be able to depend on federal standards and regulations. Unfortunately, they cannot. The EPA's failure to meet deadlines left states at a standstill in their progress toward reducing air pollution. The purpose of these environmental standards is to protect public health, public welfare, animals, crops, vegetation, and buildings among other things. However, as a result of the EPA's failures to act and the restraints placed on actions available to states, federal regulations and standards are falling short.¹⁴⁶

B. Federal Regulations

1. Reopening Preemption Litigation

As it currently stands, regulators have placed an abundance of the pressure to reduce pollution from automobiles on the auto industry. Regulators have primarily held manufacturers responsible for alleviating pollution issue through better fuel economy and reduced vehicle emissions under the NHTSA and EPA standards. As discussed in Section II,¹⁴⁷ it was the pressure to meet three different standards that resulted in the creation of the One National Program, in light of manufacturers turning to litigation in efforts to solve the problem themselves.¹⁴⁸ In *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie (Green Mountain)*, plaintiffs argued that “[t]here is a direct chemical relationship between the amount of gasoline that a vehicle burns and the amount of carbon dioxide that it releases.”¹⁴⁹ The Court in *Green Mountain* found the EPA was not preempted by the NHTSA's regulation of fuel economy.¹⁵⁰ A large part of the court's decision was based on the Supreme Court's decision in *Massachusetts v. EPA*, where the Court held the EPA

143. Jennifer Lu, *Two Northeast States Sue EPA Over Upwind Air Pollution*, ENV'T REP. (BNA) (Jan. 19, 2018), <https://perma.cc/BG9E-DQ3E>.

144. *Id.*

145. *Id.*

146. *Air Quality Designations 101: Initial Area Designations for the National Ambient Air Quality Standards*, EPA (July 25, 2017), <https://perma.cc/2R8Y-XCPG>.

147. See discussion *supra* Section II.C.

148. Freeman, *supra* note 101, at 353–64.

149. Linder, *supra* note 147, at 360; Complaint at 5, *Green Mountain Chrysler Plymouth Dodge Jeep v. Torti*, No. 2:05-cv-302 (D. Vt. Nov. 18, 2005).

150. *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*, 508 F. Supp. 2d 295, 350 (D. Vt. 2007).

could regulate greenhouse gases from vehicle emissions and recognized there may be an overlap between the EPA standards and NHTSA's standards, but the EPA should be able to construct standards that are not in conflict with the NHTSA standards.¹⁵¹

Further litigation on this issue was brought to a standstill by the Obama administration's One National Program, because it gave auto manufacturers comprehensive standards to comply with for the first time.¹⁵² Under the One National Program, major manufacturers agreed to end all pending litigation—more than a dozen lawsuits—and abstain from opening future litigation surrounding the new standards.¹⁵³ As the current federal standards come into question, there is a possibility that manufacturers could attempt to reopen litigation on this matter. In *Ophir v. City of Boston*, the court examined the same EPCA provision from NHTSA over fuel economy and did not find the preemption provision to be as narrow as the court in *Green Mountain*.¹⁵⁴ There is a tangible possibility that a judge from a different district could readily hand down a conflicting opinion. This issue could potentially find its way to the floor of the Supreme Court.¹⁵⁵

2. Midterm Review

CARB, NHTSA, and the EPA developed standards that were set to run from MY 2012-2025, but as a result of concerns over the length of time and both NHTSA's and California's statutory requirements, they all agreed to conduct a midterm review.¹⁵⁶ The midterm review was to cover MY 2016-2025.¹⁵⁷ The question asked during the midterm review was whether or not to revise the standards finalized on October 15, 2012.¹⁵⁸

As discussed in the Section II,¹⁵⁹ in March, CARB released its decision to retain the MY 2022–2025 standards.¹⁶⁰ The EPA originally conducted an independent midterm review and concluded on January 12, 2017, that the current

151. *Massachusetts v. EPA*, 549 U.S. 497, 531-32 (2007).

152. Freeman, *supra* note 101, at 345.

153. Freeman, *supra* note 101, at 345; *President Obama Announces Historic 54.5 mpg Fuel Efficiency Standard*, WHITE HOUSE (July 29, 2011), <https://perma.cc/L922-GW97>.

154. *Ophir v. City of Boston*, 647 F. Supp. 2d 86, 93 (D. Mass. 2009).

155. Linder, *supra* note 147, at 373.

156. LATTANZIO, *supra* note 106 at 1.

157. *Id.*

158. *Id.*

159. See discussion *supra* Section II.

160. California Air Resources Board, *CARB Finds Vehicle Standards Are Achievable and Cost Effective* (Mar. 24, 2017), <https://perma.cc/BW2B-G28M>.

greenhouse gas (GHG) emission standards should be maintained.¹⁶¹ NHTSA was initially silent on whether it believed the standards should be retained as originally promulgated.¹⁶² In March of 2017, the EPA and DOT made a joint announcement that they would reconsider the final determination that the standards should be retained as promulgated.¹⁶³ In August, the EPA and NHTSA published a notice in the Federal Register asking for public comment on its reconsideration of the (GHG) emissions standards for [MY] 2022-2025.¹⁶⁴ On April 3, Scott Pruitt announced that the EPA would rescind the January 2017 final determination.¹⁶⁵

Pursuant to *FCC v. Fox*, the EPA is permitted to make revisions to the currently issued standards.¹⁶⁶ The EPA is not required to show that a new policy is better than an old policy, but it is required to show there are valid reasons for the new policy.¹⁶⁷ It is enough to show that “the new policy is permissible under the statute, that there are good reasons for it, and that the agency *believes* it to be better, which the conscious change of course adequately indicates.”¹⁶⁸ However, the Court does specify that a more detailed justification for a policy change may be required when the policy change is supported by factual findings that contradict the factual findings that supported the previous policy.¹⁶⁹

Decisions that the Court finds “to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law” will be set aside.¹⁷⁰ Agencies are not held to their original policies or determinations, but if they choose to make a change, the agency must provide an explanation by demonstrating there is a rational connection between the choice the agency has made and the facts surrounding the issue.¹⁷¹ There is no requirement for a “more searching review.”¹⁷² In *Motor Vehicle Manufacturers Association of the United States Inc.*, the Court held that an agency’s decision is arbitrary and capricious when the agency

161. *Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emissions Standards for Model Years 2022-2025*, EPA, <https://perma.cc/6PKL-FDLX> (last visited, Sept. 30, 2018, 4:00 PM).

162. *Id.*

163. *Id.*

164. Granta Nakayama et al., *Why EPA’s Auto Emissions Review Could Be A Game-Changer*, L. 360 (Sept. 27, 2017), <https://perma.cc/J855-K5S7>.

165. Watson, *supra* note 15.

166. Fed. Comm’n Comm’n, v. Fox Television Stations, Inc., 556 U.S. 502, 515 (2009).

167. *Id.*

168. *Id.*

169. *Id.*

170. 5 U.S.C. §706(2)(A); *see also id.*

171. *Motor Vehicle Mfr. Ass’n of U.S.*, 463 U.S. at 43; *Chevron U.S.A. Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 863 (1984).

172. Fed. Comm’n Comm’n, 556 U.S. at 514.

supported its choice with factors not supported by congress, when the agency failed to analyze every issue, when the agency supported its decision with an explanation that contradicted the existing evidence, or when the agencies choice was simply implausible.¹⁷³

NHTSA and the EPA's decision to weaken the standards will likely result in lawsuits. Thirteen state attorneys general came forward when the redetermination was announced and promised legal action if the Trump administration moved to alter the standing vehicle emissions standards."¹⁷⁴ In order to refute years of research, NHTSA and EPA will have to conduct expensive studies to explain their decision to overturn the original final determination. The weakening of the federal standards not only hurts states that are struggling to meet attainment as is, but the lawsuits could potentially take years to resolve. This creates uncertainty in what steps states may need to take in light of the MY 2022-2025 standards.

Based upon Scott Pruitt's announcement, it sounds as if emission standards will simply be weakened, but the EPA could also attempt to reverse its endangerment finding all together.¹⁷⁵ Doing this, however, would be extremely difficult because of the holding in *Massachusetts v. EPA*. The EPA would either need to refute years of evidence and conclude that GHG's do not contribute to climate change, or "provide some reasonable explanation as to why it cannot, or will not exercise its discretion to determine whether they do."¹⁷⁶ The Supreme Court found that uncertainty surrounding the exact causes and effects of climate change is not enough.¹⁷⁷ The EPA at the time of *Massachusetts v. EPA* found no plausible reason to defend its decision to not regulate GHG emissions.¹⁷⁸ However, whether the EPA attempts to weaken the standards or remove its endangerment finding the lawsuits will result in state setbacks.¹⁷⁹

173. Motor Vehicle Mfr. Ass'n of U.S., 463 U.S. at 43.

174. Bridget Clerkin, TRUMP ADMINISTRATION FACES 13 MAJOR ROADBLOCKS TO WEAKENING EPA EMISSIONS STANDARDS (June 22, 2017), <https://perma.cc/83H7-S8BM>.

175. Watson, *supra* note 115.

176. *Massachusetts v. EPA*, 549 U.S. 497, 533 (2007).

177. *Id.* at 534.

178. *Id.*

179. In the event that litigation over this issue does come to fruition, a potential change in administration in the coming years could complicate this issue further.

C. California Waiver

The California Waiver has become a large focus of the Trump administration.¹⁸⁰ If the EPA is able to provide an acceptable reason as to why they are rescinding their original final determination, automobile manufacturers still have to contend with the California Waiver. While California is the only state that can create its own standards, other states may adopt California's standards once they have been approved by the EPA.¹⁸¹ If manufacturers want to sell cars in California and other states that adopt California's standards, then they have to create cars that meet California's emissions limits. Litigation prior to the One National Program was largely related to the struggle created by manufacturers having to comply with three different regulations.¹⁸² Manufacturers agreed to end all litigation in 2009, but that agreement was only made under the assumption that the One National Program would create comprehensive and cohesive standards.¹⁸³ If California decides to increase its standards to compensate for loosened federal restrictions, industry parties may initiate new litigation.

Whether the EPA could revoke waivers that states currently hold remains an open question. Any such attempt by the EPA would likely be challenged in court by states or other interested parties. The EPA has never rescinded a waiver.¹⁸⁴ Section 209 of the CAA, which gives California the ability to obtain a waiver, is silent on removal of waivers.¹⁸⁵ It is likely a court would find that the EPA would have to provide an explanation, a rational connection to the choice made as they do when changing any other previous decisions.¹⁸⁶ Essentially, the EPA would have to provide a rational explanation that contradicts the ample existing evidence

180. Mark Chediak, Dana Hull & John Lippert, *California Gears Up for Trump Battle on Car-Emissions Rules*, BLOOMBERG (Feb. 2, 2018, 2:03 PM), <https://perma.cc/V7L7-4RCS>.

181. See discussion *supra* Sections II.B.

182. Freeman, *supra* note 101, at 345.

183. Press Release, Office of the Press Secretary, President Obama Announces National Fuel Efficiency Policy, <https://perma.cc/Q8FP-GKLP> (May 19, 2009) (on file with the White House).

184. Meyer, *supra* note 89.

185. 42 U.S.C. § 7543 (2012); Meyer, *supra* note 89.

186. Motor Vehicle Mfr. Ass'n of U.S. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983); see also Fox Television Stations, Inc. v. Fed. Comm'n Comm'n, 489 F.3d 444 (2d Cir. 2007); Chevron U.S.A. Inc. v. NRDC, Inc., 467 U.S. 837, 863 (1984).

supporting California's current waiver.¹⁸⁷ As a result, it is unlikely the EPA will be able to produce an argument that will not be rejected in court.¹⁸⁸

As the state of the federal regulations remains uncertain, the EPA air chief, Bill Wehrum, has been meeting with California air officials to discuss the future of the California Waiver.¹⁸⁹ It is in California's best interest to stay in good favor with the federal government so that it can obtain EPA approval for future waiver requests. If the EPA and California can come to some kind of an agreement, it may help keep this issue out of court. If an agreement involving weakening standards is met this will hurt states who are struggling to reach or stay within attainment. Absent an agreement, states could still experience harm if the EPA attempts to revoke California's waivers.

IV. The Solution

Another way states can achieve the goals of protecting health and human welfare from vehicle emissions is by disincentivizing driving and encouraging the use of public transportation.¹⁹⁰ States can do this by charging an additional fee during vehicle registration or registration renewal. This additional fee could be based on the vehicles footprint and the fee could then be used to fund development and improvement upon public transportation infrastructure.¹⁹¹ Section A lays out proposed legislative language for adopting this fee. Section B will explain the chosen structure for the fee and Section C will explain how the proposed solution will help achieve the goal of reducing air pollution from vehicle emissions.

A. Legislative Language

States can disincentivize driving and encourage the use of public transportation by instituting a fee to be charged in conjunction with existing vehicle registration and vehicle registration renewal fees. The proposed legislation can be adopted as follows:

187. Irene Gutierrez & David Pettit, *Baseless Threats to California's Clean Car Waiver*, NRDC (Feb. 16, 2017), <https://perma.cc/6RST-BN79>.

188. *Id.*

189. Abby Smith, *Top EPA Air Official Will Return to California for Car Talks*, BLOOMBERG BNA (Jan. 12, 2018), <https://perma.cc/U5YS-ZMMF>.

190. 42 U.S.C. § 7521 (2012).

191. How this fee would be enacted varies from state to state. For instance, in California, Proposition 26 would likely categorize the fee proposed in this solution as a tax because the proposed fee exceeds the administrative costs of vehicle registration. As a result, a two-thirds supermajority in the California State Legislature is needed to adopt the proposed fee. CAL. CONST. art. XIII, A § 3; CAL. CONST. XIII C.

Section 1. Establishment of fee

(a)(1) A car owner, at the time of vehicle registration shall pay a fee based on the footprint of the vehicle as defined in 40 C.F.R. § 86.1803–01. Footprint values will be broken down into ranges to be determined by the Department of Motor Vehicles. There should be no less than 3 footprint ranges.

(i) Cars that are classified as electric vehicles should not be charged based on the footprint of the vehicle. They should be charged a de minimis fee based upon the average income of the cars title holder, multiplied by 0.0002.

(2) The fee shall be nominal, not to exceed 100 dollars for the highest footprint range.

(3) Car title holders whose average income falls below the poverty line are to be exempt from this fee.

(b)(1) The money collected from this fee shall be put into a fund to build new and improve upon existing public transportation as defined in 49 U.S.C. § 5302(14)(A).

(2) To assure that the money collected is going towards improving upon existing and building new public transportation, a plan must be published and include:

(i) a detailed explanation of how funds will be used, including expected time frames for completed improvements;

(ii) must show that at a minimum, 35% of the funds will be used to expand public transportation; and,

(iii) must identify priority cities where public transportation is most needed.

(3) These funds are not to be diverted to other programs.

B. Structure of the Fee

1. Footprint Approach

As discussed in Section II,¹⁹² the one national program currently lays out footprint-based emission standards, separating vehicles covered by these standards into three categories; passenger cars,¹⁹³ light duty trucks,¹⁹⁴ and medium duty

192. See discussion *supra* Section II.E.

193. “A passenger automobile is any automobile (other than an automobile capable of off-highway operation) manufactured primarily for use in the transportation of not more than 10 individuals.” 49 C.F.R. § 523.4 (2018).

194. “Light-duty truck means any motor vehicle rated at 8,500 pounds GVWR or less which has a curb weight of 6,000 pounds or less and which has a basic vehicle frontal area of 45 square feet or less, which is:” used for transportation of property, transportation of more than 12 people or can be used for off road use. 40 C.F.R. § 86.1803-01 (2018).

passenger vehicles.¹⁹⁵ States should have at least three levels of fees to reflect the footprint disparities between passenger cars, light duty trucks, and medium duty passenger vehicles. Whether states want to incorporate more fee levels should be made on an independent basis.

The proposed legislative language instructs the state not to charge one fee, but rather break the fee down into levels, corresponding to footprint ranges. This is to account for the unfairness that would arise in making all vehicle owners pay the same fee despite having vehicles with a wide disparity of footprints. Essentially, “the larger the vehicle footprint, the higher the corresponding vehicle CO₂ emissions target.”¹⁹⁶ Cars with larger footprints emit more pollution so registration of these cars should result in a higher fee.

2. Why Tack the Fee onto Vehicle Registration?

Registration fees are typically charged on an annual or biennial basis and the types of fees included in registration fees vary by state.¹⁹⁷ Essentially registration is where states charge fees and taxes associated with ownership of an automobile.¹⁹⁸ Since the proposed fee is a fee associated with ownership of an automobile it can easily be tacked on to the other registration fees.

3. Nominal Fee

The proposed legislation suggests instituting a nominal fee. Similar to not wanting to put manufacturers out of business, the aim of this fee is not to make it arduous for consumers to own cars by enacting exorbitant charges. A common struggle in solving environmental issues is finding the balance between environmental health and other competing interests. The goal of the nominal fee is to encourage drivers to think about the type of car they choose, while subsequently providing funding to expand public infrastructure so that we can reach a point where consumers can reasonably rely on public transportation rather than owning a car.

195. “Medium-duty passenger vehicle (MDPV) means any heavy-duty vehicle (as defined in this subpart) with a gross vehicle weight rating (GVWR) of less than 10,000 pounds that is designed primarily for the transportation of persons.” 40 C.F.R. § 86.1803-01.

196. *EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks*, EPA, <https://perma.cc/MUH7-V5YF> (last visited Sept. 30, 2018 8:00 PM).

197. *Vehicle Registration Fees by State*, NAT’L CONFERENCE OF STATE LEGISLATURES (June 15, 2017), <https://perma.cc/T86F-N9DH>.

198. *Id.*

4. Exceptions

The proposed legislation contains two exceptions to the footprint-based approach. The first singles out cars that are classified as electric vehicles. Electric vehicles do not produce nearly as many emissions as traditional vehicles.¹⁹⁹ Electric vehicles do not produce any direct emissions, so electric vehicles contribute very little to air quality issues in urban areas.²⁰⁰ They also produce fewer life cycle emissions than conventional automobiles.²⁰¹ Because the underlying purpose of the fee is to cut down on vehicle emissions, cars that produce minimal pollutants, such as electric cars or hydrogen fuel cell cars, should be charged a reduced fee, representative of the much smaller amount of pollutants that these vehicles emit.²⁰² The legislation suggests that one way to determine this de minimis fee is to base the charge upon the average income of the car's title holder, multiplied by 0.0002. Ultimately, it is up to the states to decide whether they want to use a formula like the one suggested to determine the fee, set a flat fee, or charge electric car owners no fee at all.

The second exception exempts car title holders whose average income falls below the poverty line from paying the fee. As previously stated, the goal is not to make it so that people who want to own cars cannot afford to. Alternatively, states could adopt a provision that gives title holders whose average income falls below the poverty line some sort of rate assistance. Either would further the goal of finding a balance between environmental regulation and competing public interests.

In the interest of preserving the goal of refraining from making cars unaffordable to the general public, states may also consider adding additional

199. *Reducing Pollution with Electric Vehicles*, DEP'T OF ENERGY, <https://perma.cc/K3ND-5Y22> (last visited, Sept. 30, 2018 8:11 PM).

200. *Id.*

201. There are two different types of emissions, direct emissions and life cycle emissions. "Direct emissions are emitted through the tailpipe, through evaporation from the fuel system, and during the fueling process." "Life cycle emissions include all emissions related to fuel and vehicle production, processing, distribution, use, and recycling/disposal." Both types of emissions contain GHG's and criteria pollutants. *Id.*

202. It is unlikely that owners of environmentally friendly cars such as electric cars will actually reap any benefit from a reduction in registration fee. Currently, some states have begun to charge electric vehicle fees to offset the projected loss in highway maintenance funds that traditionally come from the gas tax. Mark Kane, *These U.S. States Charge Electric Car Fees To Make Up For Lost Gas Tax Revenue*, INSIDEEVS (Dec. 12, 2015), <https://perma.cc/55VQ-RHHZ>; California is charging electric vehicle owners an annual fee of one hundred dollars, to be paid annually with other registration fees. Matt Pilgrim, *Even California Imposes New Fee on Electric Cars in Lieu of Gas Taxes*, GREEN CAR REPORTS (Apr. 10, 2017), <https://perma.cc/YJ7L-J4YL>.

exemptions or rate assistance programs for those who are low income, but not characterized as being below the poverty line, as they may nonetheless experience desperate impacts. A study, conducted by United Way Asset Limited, Income Constrained, Employed (“ALICE”) found that “more than 40% of American citizens who live above the official poverty line are still unable to afford middle-class basics including . . . transport[ation].”²⁰³ In the interest of maintaining the nominal nature of the proposed fee, especially in states such as California, Hawaii, and New Mexico where approximately half of households are living in poverty, rate assistance programs could be beneficial.²⁰⁴ For instance, California currently has a rate assistance program that helps low-income customers with their energy bills.²⁰⁵ Individuals falling below a specified income level, as determined by household size and potentially individuals enrolled in public assistance programs can apply for energy bill reductions.²⁰⁶ Families falling above the specified income level can still be eligible to receive some form of rate reduction.²⁰⁷ Adopting a similar format, states could provide the opportunity for car owners to apply for rate reductions to the proposed fee, dependent on income level, size of household, and enrollment in federal programs such as Medicare, food stamps and the Women, Infants and Children Program.

Something that states may want to take into account when adopting this legislative language is adding some form of an exception for hybrid vehicles. Hybrid vehicles are vehicles that use two or more types of energy to operate, usually gasoline and some form of electricity.²⁰⁸ These vehicles should not be given outright exemptions because they do still use gasoline and therefore contribute to air pollution. However, hybrid cars do have decreased emission levels.²⁰⁹ As a result of the large variation between the various constructions of hybrid cars and the level of emissions they emit, an exception for these vehicles has been left out of the proposed language. States will be better equipped at determining what type of break is most appropriate for hybrid cars pursuant to their state’s needs.

203. *40% of US citizens above poverty line struggle to make ends meet – study*, RT (May 21, 2018), <https://perma.cc/3AST-ZBD2>.

204. *Id.*

205. *CARE/FERA Programs*, CAL. PUB. UTIL. COMM’N <https://perma.cc/85JJ-JWQN>, (last visited, Oct. 14, 2018).

206. *CARE/FERA Programs*, CAL. PUB. UTIL. COMM’N <https://perma.cc/85JJ-JWQN>, (last visited, Oct. 14, 2018).

207. *Id.*

208. *What Are Hybrid Cars and How Do They Work?*, EDMUNDS, <https://www.edmunds.com/fuel-economy/what-is-a-hybrid-car-how-do-hybrids-work.html> (last visited Sept. 30, 2018 8:30 PM).

209. *Id.*

5. Funding Public Transportation

The proposed legislation directs that the collected fees should go towards funding public transportation because the overall goal is to reduce vehicle emissions, but simply disincentivizing driving will not make much of an impact if car owners do not have any transportation alternatives. New York, San Francisco, and Boston, were named the top 3 major US Cities with the best public transportation according to research conducted by two non-profit research institutes.²¹⁰ Unfortunately, many cities in the United States are not in the same boat. Marietta, Georgia, Richmond, Virginia and Knoxville, Tennessee are three cities that have been noted as having poor public transportation systems.²¹¹

Although there are a multitude of issues that have caused the lack of public transportation throughout the United States, one of the primary issues is funding. Ultimately, state and federal governments have often felt that the budget is better spent elsewhere, leaving minimal funds for improving public transportation infrastructure. Taking a note from the gas tax, which is earmarked to fund highway maintenance, the vehicle emissions fee should be earmarked to fund public transportation infrastructure.²¹² By funding public transportation infrastructure rather than using the fees for something else, states' efforts to influence consumer behavior will likely have a better result. Charging nominal fees to influence consumer behavior is a tool that has been used in the past to meet environmental goals, such as promoting recycling, but the success of influencing consumer behavior is partly due to the availability of alternatives.²¹³ Whether the funds are used to improve upon existing public transportation or to fund new transportation should be determined on an individual basis dependent upon the needs of each state.

The legislation further instructs that a report should be constructed, detailing how funds will be used, when they will be used, what cities need the most help, and specifically that at least 35% of the funds will be used for expansion. The hope is that over time more pressure can be placed on disincentivizing driving, but that cannot be done unless there are alternative travel methods. It is important that states prevent improving public transportation from falling by the wayside if this solution

210. Leanna Garfield, *The Major US Cities with the Best Public Transportation*, BUS. INSIDER (Apr. 17, 2018), <https://perma.cc/H7BU-VEBW>.

211. *The 20 Best and Worst Cities for Public Transit*, TIME (May 12, 2011), <https://perma.cc/6HYJ-7FNQ>.

212. Joseph Thorndike, *The Gas Tax Doesn't Work Because Politicians Broke It*, FORBES (Oct. 24, 2013 12:09 PM), <https://perma.cc/Q669-LVUL>.

213. See, *Department of Energy & Environment: Bag Law FAQs*, D.C. GOV'T, <https://perma.cc/U2PK-RJ59> (last visited Sept. 30, 2018 8:42 PM).

is to be successful. The report will help the state to be more accountable for ensuring the success of the fee program because it ensures states sets clear expectations and the transparency allows for public feedback.²¹⁴

C. Why Burden Consumers

While states cannot regulate vehicle emissions from new motor vehicles or fuel economy, they can regulate vehicle emissions from any vehicle that does not fall under the characterization of new. A new motor vehicle is “a motor vehicle the equitable or legal title to which has never been transferred to an ultimate purchaser.”²¹⁵ This means states cannot employ regulations that effect the construction of the car. There is no way for states to effectively decrease the production and resulting sale of vehicles with high emission levels. What states can do is target consumers and encourage a decrease in the use of cars. It is unrealistic to set a goal to persuade drivers to stop driving completely, but encouraging people to drive less and take advantage of public transportation is attainable. Even a small decline in driving can have a visible effect.²¹⁶ On average, a light duty vehicle emits 4.6 tons of carbon dioxide yearly, a number that varies depending on things such as how many miles are driven.²¹⁷ “In 2008, the 3% decline in vehicle miles traveled led to a 30% decline in traffic congestion. As driving declined, carbon emissions declined.”²¹⁸

Although the automobile industry must be accountable for its contribution to air pollution, regulators must recognize that there is a limit to what manufacturers can do to mitigate the problem. Even with the improved standards used by the One National Program, many states are still struggling to meet standards necessary to be classified as within attainment.²¹⁹ As discussed above and in Section II,²²⁰ due to federal preemption, states do not have the option of looking to make restrictions on manufacturers stricter, but even if they did, there are already concerns about the feasibility of manufacturers being able to meet strengthened standards due to both

214. See Peter Bregman, *The Right Way to Hold People Accountable*, HARVARD BUS. REV. (Jan. 11, 2016), <https://perma.cc/AL5B-2TFB>.

215. 42 U.S.C. §7550(3) (2012).

216. Joe Cortright, *Don't Demonize Driving, Just Stop Subsidizing It*, CITYLAB (Feb. 16, 2017), <https://perma.cc/YNW4-EYT5>.

217. *Greenhouse Gas Emissions from a Typical Passenger Vehicle*, EPA, <https://perma.cc/CJS7-NF2Y> (last visited Sept. 30, 2018 8:55 PM).

218. Cortright, *supra* note 209.

219. *Current Nonattainment Counties for All Criteria Pollutants*, EPA (Sept. 30, 2018), <http://perma.cc/A5D5-8PSH>.

220. See discussion *supra* section II., IV.C.

the economic and technical burdens.²²¹ States do have the power to alternatively make manufacturers pay a fee for every car sold with emission levels above a certain threshold, but it is also important to keep in mind, we are not trying to run car manufacturers out of business. There is a limit to what manufacturers can reasonably do to decrease vehicle emissions. Whether the EPA successfully weakens the MY 2025 standards or the standards are left intact pursuant to litigation, others need to be pressured to decrease pollution due to vehicle emissions.

Placing the burden of reducing vehicle emissions on the individuals who are physically contributing to the issue is not a new concept. Many have recognized that this problem is bigger than manufacturers—it extends to consumers. For instance, in some countries drivers are charged for driving through certain urban areas or during peak traffic hours.²²² In Section I,²²³ this paper described how even with current air pollution standards, the United States still does not have clean air, the environment is still being hurt, people are still falling ill and deaths are still being attributed to air pollution. Part of the problem is that United States citizens, in particular, car owners lack understanding and recognition of the issues that vehicle emissions cause in the United States. Placing some of the burden of reducing air pollution in the United States on consumers is a step towards cleaner air.

Conclusion

As the federal regulations hang in the balance, states that are trying to reduce pollution and comply with NAAQS plus other environmental regulations are falling short. The success of the One National Program rides on the continued cooperation among the EPA, NHTSA and CARB to create comprehensive regulations. As a result of the Supremacy Clause, states have very few avenues to pursue for relief, as they are legally prohibited from directly regulating new vehicle emissions. As the United States waits for comments on the newly proposed CAFÉ standards to be assessed, it is unclear when the current federal regulations will be ironed out and as is the nature of politics, changing political atmospheres are a continuous threat to future federal regulations.²²⁴ If states want to meet their

221. Letter from Mitch Bainwol President and CEO, Alliance of Automobile Manufacturers, to Scott Pruitt, Adm'r of the EPA (Feb. 21, 2017), <https://perma.cc/3PVU-S8SE>.

222. Megan Barber, *15 Cities Tackling Pollution by Curbing Cars*, CURBED (Aug. 14, 2018), <https://perma.cc/8VXY-8QB7>.

223. See discussion *supra* Section I.

224. *Regulations for Emissions from Vehicles and Engines*, EPA, <https://perma.cc/4KX5-UNJE> (last visited Oct. 21, 2018).

responsibilities under the CAA, they need to find a way to take action against vehicle emissions.

States can take action against vehicle emissions by regulating vehicles after they are sold and are no longer considered new vehicles by charging auto owners increased fees during registration based on the footprint of the automobile. In turn this will help dis-incentivize driving and allow for improvements upon existing public transportation, as well as assist in creating new public infrastructure. Dis-incentivizing driving and creating an atmosphere that promotes a viable public infrastructure system not only helps states alleviate the legal boundaries that surround regulation of vehicles, so that states can do more to achieve attainment, but also helps reduce the threat that vehicle emissions pose to the health and human welfare of current and future generations.