

ELI Western Boot Camp on Environmental Law

Clean Air Act – Title II (Mobile Sources)



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What is a Mobile Source?

On-road vehicles and engines

- Passenger cars and light trucks
- Commercial trucks
- Buses and transit vehicles
- Motorcycles
- Vans, RVs, etc.

Non-road vehicles and engines

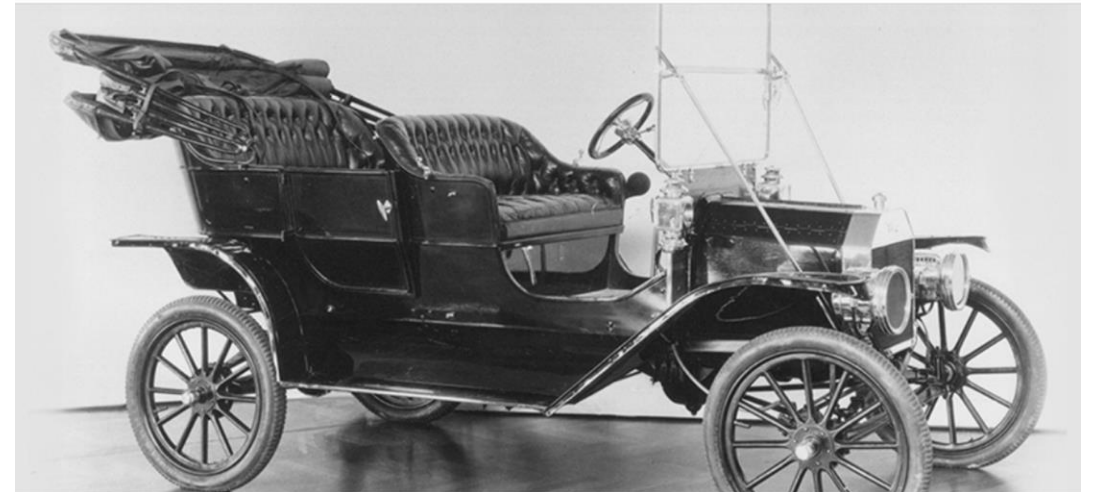
- Specialty equipment (agricultural, construction, snow removal, etc.)
- Locomotives
- Marine vessels
- Aircraft
- Recreational vehicles
- Small engines and tools (lawnmowers, etc.)



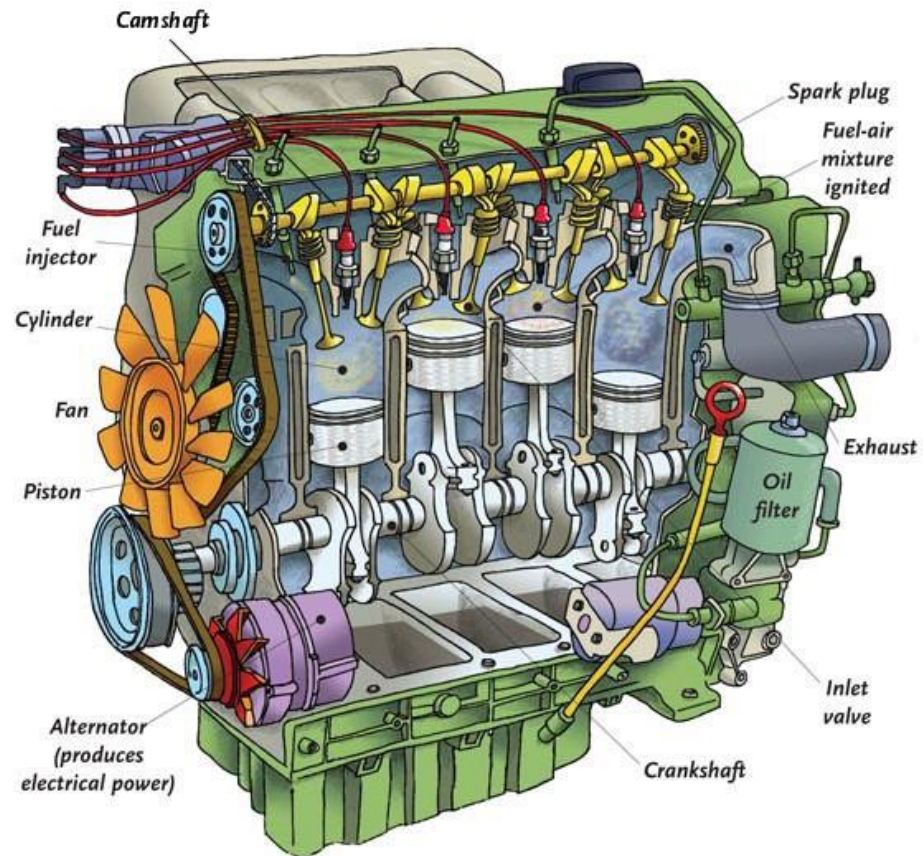
A bit of history

1908: First Model T produced by the Ford Motor Company.

1913: Ford Motor Company introduced advanced moving assembling line, allowing Ford to lower the Model T's price by almost 50%, making it the first mass-affordable automobile.



The Internal Combustion Engine



Criteria Pollutants

Transportation Sector Accounts for the Following % of All U.S. Anthropogenic Emissions:

- 54% NO_x emissions
- 5% PM 2.5 emissions
- 19% VOC emissions

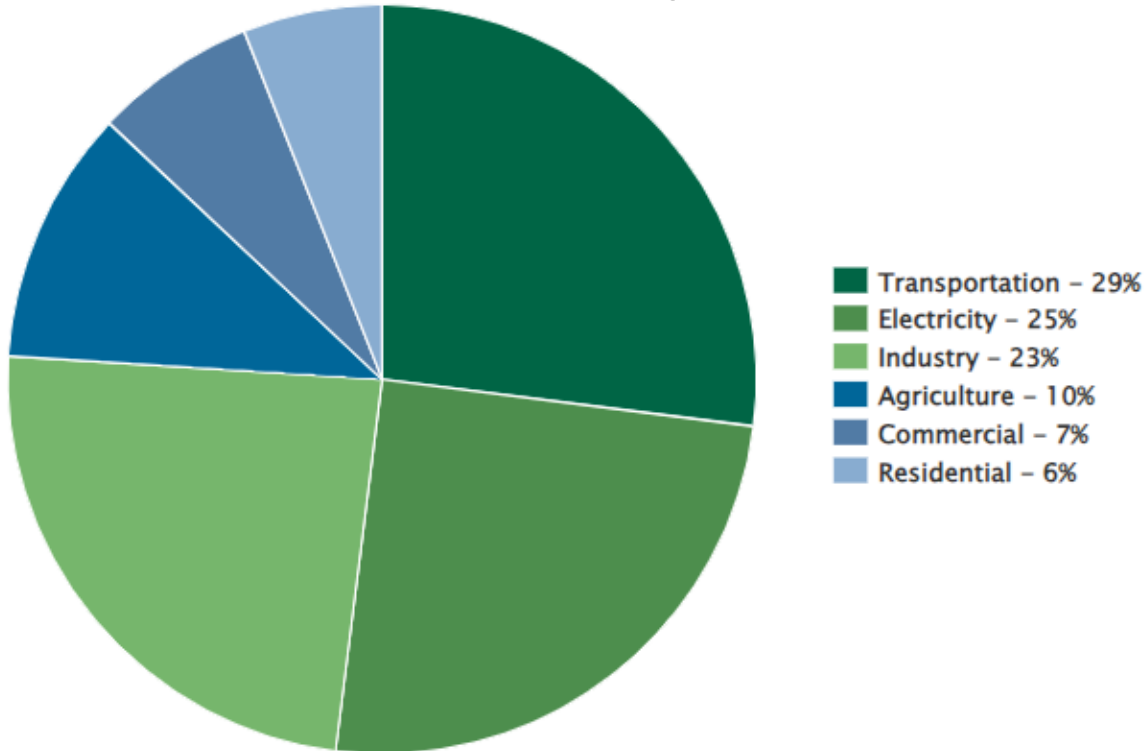


CAA Title II – What is the problem to be solved?

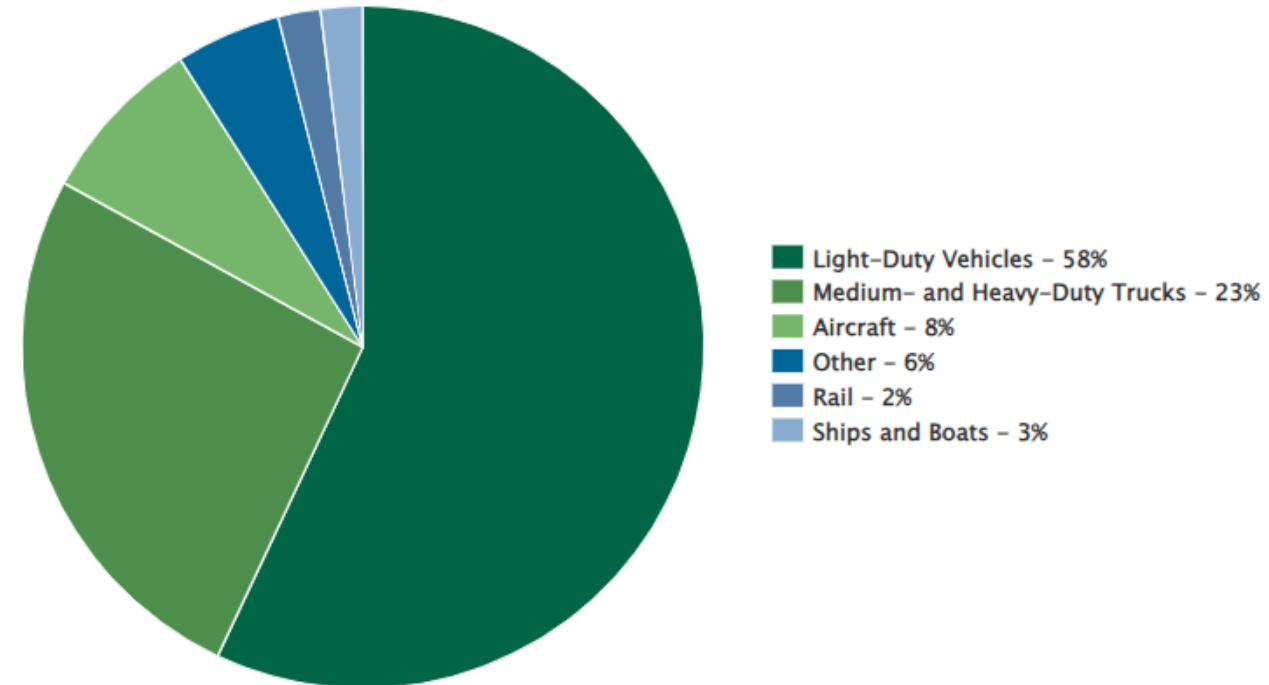
Greenhouse Gases

Transportation Sector Accounts for the Following % of All U.S. Anthropogenic GHG Emissions:

U.S. GHG Emissions by Sector



U.S. Transportation Sector GHG Emissions by Source



Source: U.S. EPA, "Fast Facts on Transportation Greenhouse Gas Emissions" (2021)

Unique problems in California (a bit more history)

The “Smog Attack” of 1943

First recorded photo of smog in
Los Angeles, 1943

(Photo courtesy of Los Angeles Times
Collection, Department of Special
Collections, UCLA Library)



Unique problems in California (a bit more history)



L.A. Civic Center masked by smog on January 6, 1948.
Courtesy of UCLA Library Special Collections - Los Angeles Times Photographic Archive.

Unique problems in California (a bit more history)

Highland Park Optimists Club - 1954
banquet (attendees wearing smog-gas
masks)

Courtesy of UCLA Library Special Collections - Los
Angeles Times Photographic Archive.



Unique problems in California (a bit more history)



A burgeoning number of cars in the LA Basin helped create the highest smog levels ever recorded in the 1950s.

Photo courtesy of South Coast Air Quality Management District & California Air Resources Board.

Timeline of Mobile Source Air Quality Regulation

California Developments	Federal Developments
<p><u>1943</u>: LA County Board of Supervisors appointed a Smoke and Fumes Commission to study air pollution issues & hired expert to make recommendations on how to solve them.</p>	<p><u>1955</u>: Air Pollution Control Act, funded federal research in air pollution.</p>
<p><u>1947</u>: Expert recommended that state legislature authorize unified air pollution control agency, which it did – making the LA County APCD the first air pollution control regulatory agency in the country.</p>	<p><u>1963</u>: Clean Air Act of 1963 was the first federal legislation regarding air pollution control. Established a federal program within the U.S. Public Health Service and authorized research into techniques for monitoring and controlling air pollution.</p>
<p><u>1966</u>: Bureau of Sanitation w/in the CA Dept of Public health established the first vehicle tailpipe emission standards in the U.S.</p>	<p><u>1965</u>: Motor Vehicle Air Pollution Control Act. Authorized federal standards for controlling the emission of pollutants from certain automobiles, beginning with the 1968 models.</p>
<p><u>1967</u>: LA County APCD became a model for other CA air districts. CA legislature passed a bill to create a uniform, statewide approach to air pollution control. California Air Resources Board (CARB) created.</p>	<p><u>1967</u>: Air Quality Act of 1967 expanded federal enforcement & investigative authority. Generally preempted state standards for motor vehicle emissions but authorized waiver of preemption for California to enact and enforce its own emission standards for new motor vehicles/engines that are at least as protective as the federal standards.</p>
	<p>1970: Clean Air Act of 1970 significantly expanded federal role in air pollution control, authorizing development of federal and state regulations to limit emissions from both stationary and mobile sources. EPA established on December 2, 1970, to implement CAA and other environmental statutes.</p>

CAA Title II Structure

- **Part A - Motor Vehicle Emission and Fuel Standards**
 - § 202. Emission Standards for New Motor Vehicles or New Motor Vehicle Engines
 - §§ 203 – 205. Prohibitions and Penalties.
 - § 206. Compliance Testing and Certification.
 - § 207. In-Use compliance.
 - § 209. State Standards.
 - § 211. Regulation of Fuels.
 - § 212. Renewable Fuels.
 - § 213. Nonroad Engines and Vehicles.
- **Part B – Aircraft Emission Standards**
- **Part C – Clean Fuel Vehicles**

On-Highway Vehicles and Engines

- **CAA 202(a) Authority**
 - EPA must establish emission standards for any class of new motor vehicles or new motor vehicle engines which, in the judgment of the Administrator, “causes or contributes to air pollution which may reasonably be anticipated to endanger public health or welfare.”
 - Standards must be applicable to new vehicles/engines for their useful life.
 - EPA regulations under CAA 202(a) “shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.”



On-Highway Vehicles and Engines

- **CAA 202(a)(3)(A) Standards for Heavy-Duty Vehicles or Engines**
 - EPA standards for traditional pollutants (HC, CO, NO_x, PM) must reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply, giving appropriate consideration to cost, energy, and safety factors.
 - ***Lead time and stability.*** EPA heavy-duty standards must apply for a period of no less than three (3) model years, beginning no earlier than the model year commencing four (4) years after the standard is promulgated.



On-Highway Vehicles and Engines

- How EPA Implements its CAA 202 Authority:
 - Emissions standards
 - Traditional pollutants
 - GHGs (2009 Endangerment Finding)
 - Emissions certification – test procedures and duty cycles
 - Assembling line testing
 - In-use testing and recall authority
 - Family emission limits and emission credits (ABT)



U.S. EPA, "Technical Capabilities of the National Vehicle and Fuel Emissions Laboratory"

Nonroad equipment, vehicles, and engines

- **CAA 213 Standards for Nonroad Engines and Vehicles**
 - EPA directed to establish emission standards for nonroad engines and vehicles, basically defined to include anything *that is not a motor vehicle*.
 - Motor vehicle is anything self-propelled and capable of transporting people, material, or affixed apparatus unless:
 - Cannot exceed 25 mph over level, paved surfaces
 - Lacks features customarily associated with safe and practical street or highway use (e.g., a reverse gear, safety features required by law, etc.)
 - Exhibits features which render street/highway use unsafe, impractical, or highly unlikely (e.g., tracked road contact, inordinate size, features ordinarily associated with military combat)
 - Most nonroad sources, EPA emission standards cover traditional pollutants such as PM, CO, NO_x, and NMHCs
 - 2016 EPA Endangerment finding for GHGs from aircraft engines



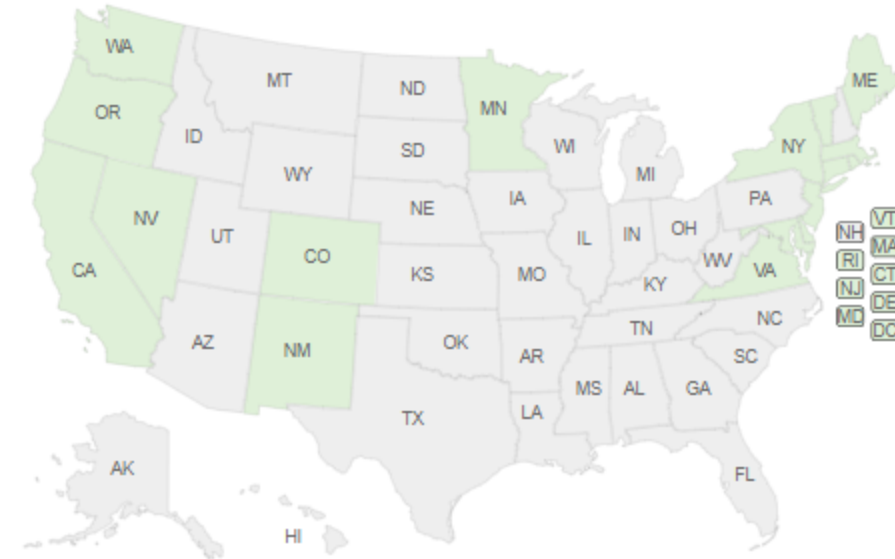
CAA Section 209 (42 U.S.C. § 7543): “State standards”

- ***Express Preemption of State Emission Standards for New Vehicles/Engines.*** States are prohibited from adopting or attempting to enforce any standard “relating to” the control of emissions from new motor vehicles/engines.
- ***Waiver (aka the “California waiver”).***
 - “Any State which has adopted standards . . . prior to March 30, 1966” = **California (only)**
 - California must demonstrate that its standards are “in the aggregate” at least as protective of public health and welfare as applicable federal standards.
 - EPA will not waive preemption if Administrator finds that:
 - California’s protectiveness determination is arbitrary & capricious
 - California does not need its state-specific standards to meet “compelling and extraordinary conditions.”
 - California’s standards (and enforcement procedures) must be consistent with CAA Section 202.

State Mobile Source Regulation

CAA Section 177 (42 U.S.C. § 7507) ("New motor vehicle emission standards in nonattainment areas")

- States with NAAQS non-attainment areas may adopt and enforce California standards, but must be identical and give two years' lead time.



Adopted

- [California](#)
- [Colorado](#)
- [Connecticut](#)
- [Delaware](#)
- [District of Columbia](#)
- [Maine](#)
- [Maryland](#)
- [Massachusetts](#)
- [Minnesota](#)
- [Nevada](#)
- [New Jersey](#)
- [New Mexico](#)
- [New York](#)
- [Oregon](#)
- [Rhode Island](#)
- [Vermont](#)
- [Virginia](#)
- [Washington](#)

Does California's Unique CAA Authority Allow It to Set Tailpipe GHG Emission Standards?

- California LEV & ZEV programs (“Advanced Clean Cars”)
- EPA waiver withdrawal – SAFE Vehicles Rule, Part 1 (2019)
 - “States do not have the authority to set GHG standards or establish ZEV mandates.”
- EPA Notice of Decision (2022)
 - EPA rescinds its actions in SAFE 1 regarding both the interpretation of section 209(b)(1)(B) and the findings regarding California's need for the GHG standards and ZEV sales mandate.”



- Emissions testing scandals
- Aftermarket parts and tampering
- EV mandates
 - Infrastructure
 - Sales quotas and fleet purchase requirements
 - Regulatory reach (e.g., battery quality requirements and warranties)
 - What is the role for air pollution control agencies when cars no longer emit pollutants?
- On highway vs. nonroad
- Indirect sources

- Emissions are dependent not just on the vehicle or engine, but also the fuel.
- EPA fuels regulations under CAA Section 211 :
 - Require the testing and registration of fuel and fuel additives prior to their introduction into commerce (CAA Section 211(a) & (b))
 - Implement controls or prohibitions on certain fuels and additives
 - Lead and sulfur content regulations/prohibitions (CAA Section 211(c), (i), (n))
 - Volatility, reformulation (CAA Section 211(h), (k))
 - Renewable Fuel Standard (CAA Section 211(o))
 - Energy Policy Act of 2005 & Energy Independence and Security Act of 2007 – national renewable fuels mandate
 - Require that annually increasing minimum volumes of renewable fuel be used to replace petroleum-based fuel sold in the U.S.
 - To achieve these goals, EPA must determine and publish the applicable renewable fuel obligation (RFO) for fuel refineries, blenders, and importers for each calendar year
 - RFO is expressed as a volume percentage of the transportation fuel sold or introduced into commerce in the U.S.

Discussion