Date of Hearing: June 26, 2024

ASSEMBLY COMMITTEE ON LOCAL GOVERNMENT
Juan Carrillo, Chair
SB 1193 (Menjivar) – As Amended June 19, 2024

SENATE VOTE: 29-8

SUBJECT: Airports: leaded aviation gasoline.

SUMMARY: Prohibits an airport operator or aviation retail establishment from selling, distributing, or otherwise making available leaded aviation gasoline (avgas) to consumers on or after January 1, 2031, in compliance with specified federal law. Specifically, **this bill**:

1) Provides that an airport operator or aviation retail establishment shall not sell, distribute, or otherwise make available leaded aviation gasoline to consumers on or after January 1, 2031, in compliance with Section 47107 of Title 49 of the United States Code.

2) Defines "aviation retail establishment" to mean any public or private entity that sells aviation gasoline, or offers or otherwise makes available aviation gasoline, to a customer, including other businesses or government entities, for use in this state.

3) Provides that no reimbursement is required by this bill pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

EXISTING LAW:

1) Establishes the Federal Aviation Administration (FAA) with powers to regulate all aspects of civil aviation. (49 U.S. Code § 106)

2) Establishes the Aeronautics Division within Caltrans which establishes statewide guidelines for airport land use. (Public Utilities Code 21241)

FISCAL EFFECT: This bill is keyed fiscal and contains a state-mandated local program. According to the Senate Appropriations Committee analysis of a prior version of this bill, "No state costs. The bill is keyed as a mandate because it creates a new crime for failure to comply with the prohibition against selling leaded aviation gasoline. Existing law specifies that the state is not responsible for reimbursement of any local costs associated with the creation of a new crime."

COMMENTS:

1) **Author's Statement**. According to the author, "SB 1193 takes a necessary step to mitigate lead exposure in our communities by phasing out the sale of leaded airplane fuel, known as avgas. In October 2023, the federal Environmental Protection Agency announced its final determination that emissions of lead from aircraft that use leaded fuel causes or contributes to

air pollution that endangers public health. Only small, piston-engine planes currently use avgas, and commercially available unleaded alternatives are already or imminently available.

"It is well-documented that exposure to lead causes irreversible and lifelong health effects in children, including reduced IQ, decreased academic performance, as well as increased risk for additional health concerns. Lower income communities with high populations of people of color are exposed to greater numbers and concentrations of environmental hazards already. A California based study found that children who lived less than a mile away from an airport had 21% higher lead levels in their blood compared to children who lived further away.

"My district, Senate District 20, is a Latino-majority district that has three airports within approximately 10 miles of each other. There is no safe level of lead exposure, and SB 1193 is a necessary step towards mitigating lead exposure in our most vulnerable communities."

2) **Lead in Gasoline**. Lead is a toxic metal that has been used in many products over time. Even in small amounts, lead can have harmful effects on the body. Infants and young children are especially sensitive to lead, and even low levels may contribute to behavioral problems, learning deficits and lowered IQ. While many leaded products have been phased out, lead may still be found in and around older homes and buildings, in certain occupations and hobbies, and some consumer products, remedies, and foods.

   Lead has been used as a gasoline additive since the early 1920s, when researchers at General Motors found that adding tetraethyl lead (hereafter referred to simply as "lead") to gasoline improved engine performance. In early 1973, the Environmental Protection Agency (EPA) adopted a series of regulations to phase out leaded gasoline and forced the oil industry to provide for the general availability of lead-free gasoline. By the 1980s, most gasoline used in the United States was unleaded. The state of California banned the sale of leaded gasoline in 1992, four years before the federal government, almost 20 years after the oil industry was forced to provide general availability of unleaded gasoline and about a decade after unleaded gasoline was the most widely used fuel in automobiles.

3) **Lead in Aircraft Fuel**. The US EPA recently determined that emissions of lead from aircraft that operate on leaded fuel cause or contribute to air pollution which may reasonably be anticipated to endanger public health and welfare. In addition, a 2022 study commissioned by the County of Santa Clara found that the use of leaded aviation gas significantly elevates the blood lead levels of at-risk children.

   The federal government in May 2024 reauthorized the Federal Aviation Administration (FAA) through HR 3935. HR 3935 includes provisions to eliminate lead emissions from aviation fuel by 2030. Two sections in the reauthorization act are directly related to this bill.

   Section 770 of HR 3935 states:

   > "(22) the airport owner or operator may not restrict or prohibit the sale or self-fueling of any 100-octane low lead avgas for purchase or use by operators of general aviation aircraft if such avgas was available at such airport at any time during calendar year 2022, until the earlier of—
   > (A) December 31, 2030; or

(B) the date on which the airport or any retail fuel seller at such airport makes available an unleaded avgas that—
(i) has been authorized for use by the Administrator of the Federal Aviation Administration as a replacement for 100-octane low lead avgas for use in nearly all piston-engine aircraft and engine models; and
(ii) meets either an industry consensus standard or other standard that facilitates the safe use, production, and distribution of such unleaded avgas, as determined appropriate by the Administrator.''

If an airport or operator fails to continue to offer leaded aviation fuel, they may be subject to a fine of up to $5,000 per day.

Section 827 of HR 3935, lays out the framework for the federal Eliminate Aviation Gasoline Lead Emissions (EAGLE) initiative. The initiative requires the FAA, along with industry and other government stakeholders, to facilitate:

"(A) the safe elimination of the use of leaded avgas by piston-engine aircraft by the end of 2030 without adversely affecting the safe and efficient operation of the piston-engine aircraft fleet;
(B) the approval of the use of unleaded alternative to leaded avgas for use in all piston-engine aircraft types and piston-engine models;
(C) the implementation of the requirements of section 47107(a)(22) of title 49, United States Code, as added by this Act, as such requirements relate to the continued availability of avgas;
(D) efforts to make unleaded avgas that is approved for use in piston-engine aircraft and engines widely available for purchase and use at airports in the National Plan of Integrated Airport Systems; and
(E) the development of a transition plan to safely enable the transition of the piston-engine general aviation aircraft fleet to unleaded avgas by 2030, to the extent practicable.

4) **Safety**. Ensuring a safe transition to unleaded avgas is a highly complex process at all stages, so it is critical that new fuels are properly vetted for safety, from production through use by an aircraft. While the FAA approves avgas for use in aircraft types and aircraft engines, the FAA does not regulate or oversee the production, handling, operation, or quality control of avgas prior to the point it reaches the aircraft fuel tank. As a result, pilots, airports, fixed base operators (FBOs), and avgas distributors have historically relied on ASTM International (formerly known as American Society for Testing and Materials) for product specifications.

ASTM International is a globally recognized leader in the development and delivery of voluntary consensus standards. ASTM standards allow refineries, terminals, fuel distributors, FBOs and other aviation stakeholders throughout the supply chain to appropriately examine and process aviation gasolines to ensure their quality towards safe and efficient use. Among other characteristics, ASTM D7826-21 Standard Guide for Evaluation of New Aviation Gasolines and New Aviation Gasoline Additives evaluates compatibility with materials throughout the supply chain upstream of the aircraft, including those used in hoses, filters, gaskets, and other wetted components among railcars, transport trucks, fuel farms, mobile refuelers, and other dispensing equipment. Just as aircraft owners and operators need assurances that the use of an alternative fuel will not compromise the integrity of any component of their aircraft nor void applicable warranties, the same is true for fuel

distributors, transport companies, airports, and FBOs, who rely on ASTM specifications to minimize or eliminate the potential for degradation or contamination of either the fuel itself or the equipment used to transport, handle, and dispense it. There is currently no 100-octane aviation fuel with an ASTM certification.

The FAA approves Fleet Authorization of a candidate fuel once it has successfully completed Piston Engine Aviation Fuels Initiative (PAFI) testing and has a published ASTM specification. UL100E is the first aviation fuel to successfully pass (in November 2023) the most rigorous PAFI phase of initial detonation and 150-hour engine durability testing. UL100E is still in the process of completing PAFI full-scale engine/flight testing and the ASTM process.

The FAA has approved two unleaded fuels, Swift Fuel's UL94 and General Aviation Modifications, Inc.'s (GAMI) G100UL, for a broad portion of the GA fleet to use. The FAA's approval of unleaded avgas for use in these aircraft is an important first step in the process of transitioning to an unleaded fuel for the entire GA fleet, but it is not the only step needed to ensure a safe transition. Fuel distributors and FBOs lack safety assurance without an industry consensus standard or ASTM International product specification. At present, G100UL is not commercially available for distribution and sale in the U.S. largely due to the fact it does not have an ASTM International product specification.

5) **Cost**. The sale of fuel at airports is an important source of revenue, especially in rural locations. Unleaded avgas will likely be more expensive than leaded avgas because of supply constraints and higher transportation costs. A January 2024 article in the Long Beach Business Journal noted that leaded avgas cost $7.59/gallon compared to $11.39/gallon for the unleaded alternative. The cost differential could cause aircraft owners to choose to refuel at airports that continue to offer the lower cost leaded avgas, causing airports that only offer an unleaded alternative to lose revenue.

6) **Bill Summary**. This bill prohibits an airport operator or aviation retail establishment from not selling, distributing, or otherwise making available leaded aviation gasoline to consumers on or after January 1, 2031, in compliance with Section 47107 of Title 49 of the United States Code.

   This bill defines "aviation retail establishment" to mean any public or private entity that sells aviation gasoline, or offers or otherwise makes available aviation gasoline, to a customer, including other businesses or government entities, for use in this state.

   This bill is co-sponsored by the California League of United Latin American Citizens, the Coalition for Clean Air, Santa Clara County, and the Western Center on Law and Poverty.

7) **Author's Amendments**. In a prior version, SB 1193 provided that if the bill's provisions conflict with federal grant assurances on or before January 1, 2025, the provisions shall only apply upon the expiration of those grant assurances. Assembly Transportation Committee noted that "almost all airports in California receive FAA grants for a variety of projects and failure to properly understand and carry out the requirements of grant assurances can have serious consequences for an airport. This provision only covers airports that received an FAA grant prior to January 1, 2025, and would be in direct conflict with airports that receive FAA grants after January 1, 2025." This provision was removed in the last set of amendments. The author has requested the addition of the following language as an alternative, to ensure that federal grant assurances are not adversely impacted by the bill:

21712. If a provision of this chapter conflicts with a federal grant assurance in effect on or before December 31, 2030, that provision shall not apply to an airport operator subject to that grant assurance until the federal grant assurance expires.

8) **Arguments in Support**. Santa Clara County, co-sponsor of this bill, writes, "While lead has been banned in every other transportation fuel for decades, lead is still an ingredient in the most common fuel for piston engine aircraft, a 100-octane leaded fuel known as 100 Low Lead or 100LL. Lead emissions from piston-engine aircrafts remain the largest unregulated source of lead emissions in this country and account for approximately 70 percent of our airborne lead emissions. Aviation industry, airport operators, government agencies, and community leaders all agree that the piston engine fleet must transition away from avgas. While no 100 octane unleaded avgas varieties are currently commercially available, several are expected to become available in a matter of months…

"As the owner and operator of two general aviation airports, Reid-Hillview Airport ("RHV") and San Martin Airport ("San Martin"), the County is intimately familiar with the harms of lead exposure. RHV in San José is one of the busiest general aviation airports in the country and has one of the highest levels of lead emissions with 746 pounds of emissions in 2017. RHV is also surrounded by built out residential neighborhoods with over 30,000 people living within one mile of the airport; these residents are disproportionately minority and low income. San Martin is a smaller airport in a sparsely populated rural community. In 2021, a study peer reviewed and published by the National Academy of Sciences found that general aviation activity at RHV was causing increases in blood lead levels of children in the surrounding neighborhood. The increase in blood lead levels from living downwind of the airport was comparable to the increases in blood lead levels at the height of the water crisis in Flint, Michigan.

"In response to these findings, the County took successful measures to mitigate lead exposure from its airports without disrupting airport operations. The County prohibited the sale of leaded avgas at its airports in 2022. Today, the County sells only an unleaded 94 octane fuel usable by about 70% of piston engine aircraft at RHV. A private retailer sells the same fuel at San Martin. In 2022, over 248,000 gallons of unleaded avgas were purchased at the County Airports, preventing the emission of over 800 pounds of lead into the environment. There has been no meaningful change in operations or aircraft based at either of the County Airports, and no verified safety incidents due to the unavailability of leaded avgas for purchase. The Federal Aviation Administration has recognized the County's efforts, inviting the County to participate in a demonstration project on transitioning the piston engine fleet to unleaded

avgas. The County's experience demonstrates that California can and should lead the way in protecting our most vulnerable communities against exposure to leaded avgas."

9) **Arguments in Opposition**. The Rural County Representatives of California, in an "oppose, unless amended" position, write, "…as currently amended the bill still risks placing airports in untenable position in 2031,namely if, for unforeseen or unanticipated reasons, the aviation and fuels industries have not developed a safe and widely commercially available 100 octane unleaded alternative to the current low-leaded standard. Were that scenario to occur, this bill would impose a ban on the sale of a fuel type that currently fuels the entirely of the piston engine fleet in California, as well as piston rotor crafts. Such a ban prior to the availability of a safety certified and commercially available alternative would impair much of the state's small aircraft fleet, and shutter general aviation airports—especially rural general aviation airports that sustain commerce and emergency response in their communities.

   "We ask that this committee consider further amendment to the bill, specifically a one-year pause that would preclude the bill's fuel ban in the case where: (1) the Federal Aviation Administration Administrator has not designated an unleaded replacement fuel for the current 100 octane low-lead standard, or (2) the fuels industry has not successfully advanced a replacement fuel under the Piston Aviation Fuels Initiative (PAVI), also overseen by FAA. We ask that this amendment allow the ban to be paused for a year if neither of these pathways for the successful testing, proving, and manufacture of a replacement standard has yet to be achieved. We ask that the one-year pause renew annually until the replacement standard has been identified per the above-mentioned conditions, which conform with the current federal process for providing for replacement fuels.

   "While we greatly hope that the current FAA-industry collaborative, EAGLE2, is able to successfully identify a replacement standard on or before 2030, we believe these additional amendments are prudent to ensure that our state's general aviation airports remain in operation, should the unforeseen occur."

10) **Double-Referral**. This bill was double-referred to the Assembly Transportation Committee, where it passed on a 11-1 vote on June 17, 2024.

REGISTERED SUPPORT / OPPOSITION:

Support

California League of United Latin American Citizens [CO-SPONSOR]
Coalition for Clean Air [CO-SPONSOR]
Santa Clara County [CO-SPONSOR]
Western Center on Law and Poverty [CO-SPONSOR]
Acterra: Action for A Healthy Planet
Active San Gabriel Valley
Asian Americans Advancing Justice-southern California
Ban Single Use Plastic (SUP)
Ban Sup (single Use Plastic)
Bay Area Air Quality Management District
Breathe California
Buen Vecino

California Catholic Conference
California Environmental Voters (formerly Clcv)
California Lulac State Organization
California Teamsters Public Affairs Council
Center for Biological Diversity
Center for Environmental Health
Children Now
City of San Jose
Clean Water Action
Cleanearth4kids.org
Climate Plan
Climate Reality Project, Los Angeles Chapter
Climate Reality Project, San Fernando Valley
Climate Reality San Fernando Valley, CA Chapter
Climateplan
Contra Costa Moveon
Courage California
Earthjustice
Environmental Defense Fund
Environmental Working Group
Facts Families Advocating for Chemical and Toxics Safety
Facts: Families Advocating for Chemical & Toxics Safety
Families Advocating for Chemical and Toxics Safety
Friends Committee on Legislation of California
Friends of The Earth US
Grandparents4action
Indivisible Alta Pasadena
Indivisible California Green Team
Lutheran Office of Public Affairs
Lutheran Office of Public Policy - California
Our Voice: Communities for Quality Education
Pacoima Beautiful
Palo Alto; City of
S.F. Bay Physicians for Social Responsibility
San Diego Pediatricians for Clean Air
San Francisco Bay Area Chapter Physicians for Social Responsibility
San Francisco Bay Physicians for Social Responsibility
Santa Cruz Climate Action Network
Sierra Club California
South Coast Air Quality Management District
The Salvador E. Alvarez Institute for Non-violence
The San Fernando Valley Young Democrats
Town of Middleton, Dane County, Wisconsin
Voices for Progress

Oppose

Agua Dulce Airport Association
Aircraft Owners and Pilots Association

Big Bear Airport Pilots Association
California Pilots Association
Central Valley Aviation Association
Community and Airport Partnership for Safe Operation
Experimental Aircraft Association (EAA)
Fox Airport Association
Friends of Banning Airport
Friends of Oceano Airport
Gnoss Field Community Association
Half Moon Bay Airport Pilots' Association
Hollister Airmen's Association
Lake County Airmen's Association
Little River Airport Pilots Association
Modesto Airport Pilots Association
National Air Transportation Association
National Business Aviation Association
Palo Alto Airport Association
Palomar Airport Association
Redlands Airport Association
San Carlos Airport Pilots Association
Scott Valley Pilots Association
South County Airport Pilots Association
Sutter Buttes Regional Aviation Association
Tehachapi Society of Pilots, INC.
Turlock Regional Aviation Association
Vertical Aviation International (VAI)
Watsonville Airport Pilots Association
Whiteman Airport Association

Oppose Unless Amended

Rural County Representatives of California (RCRC)
Western States Petroleum Association

Analysis Prepared by: Angela Mapp / L. GOV. / (916) 319-3958