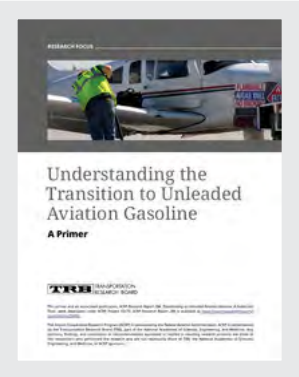

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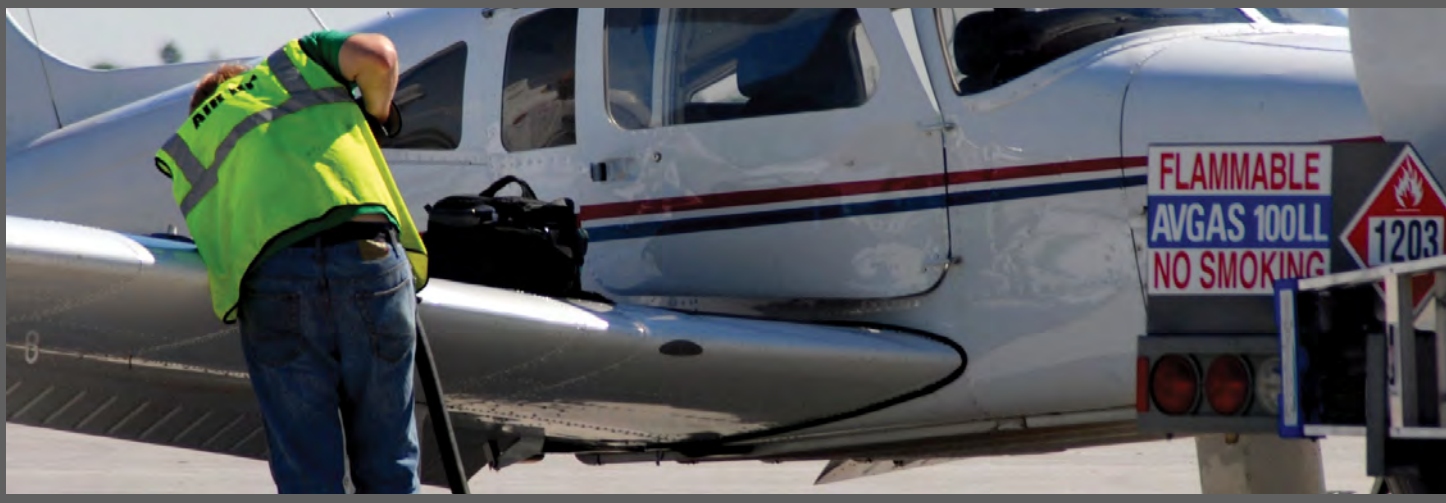

Understanding the Transition to Unleaded Aviation Gasoline

A Primer

TRB TRANSPORTATION RESEARCH BOARD

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Cover photo: Courtesy of iStock user SkyF. The cover photo shows 100LL avgas being pumped into a small airplane.

Contents

Introduction

This Primer is intended to provide airports with concise answers to eight key questions related to the transition to unleaded aviation gasoline, based on the latest information available at the time of its preparation in January 2025.

The Primer addresses the following eight questions:

1. Why are airports transitioning to unleaded aviation gasoline?
2. What are governments and agencies doing to support the transition to unleaded aviation gasoline?
3. What are other organizations doing to support the transition to unleaded aviation gasoline?
4. What is the status of unleaded aviation gasoline?
5. What steps do airports generally have to take to provide unleaded aviation gasoline?
6. What are the opportunities and challenges for airports in providing unleaded aviation gasoline?
7. What other actions can airports take to reduce lead-related issues?
8. What resources are available to help airports transition to unleaded aviation gasoline?

Why Are Airports Transitioning to Unleaded Aviation Gasoline?

Lead is a well-known pollutant that can cause a variety of adverse health impacts. Lead can enter the body through inhalation, diet (including consumption of food grown in lead-contaminated soil), hand-to-mouth ingestion of contaminated dirt, drinking water contaminated by lead in plumbing systems, and the ingestion of house dust containing residues of lead-based paints (Sy et al. 2024).

Concerns about the adverse health effects of exposure to airborne lead resulted in its classification as an air pollutant pursuant to the Clean Air Act in 1976. This was followed by the requisite enactment of a health-based National Ambient Air Quality Standard for lead in 1978, which was updated in 2008.

During the 1970s, the primary source of airborne lead in the United States was the combustion of leaded gasoline in motor vehicles. The phaseout of leaded gasoline use in motor vehicles began in the mid-1970s with the introduction of catalytic converters on new vehicles and was completely banned after December 31, 1995. Lead emissions from other sources have also been reduced over time, leaving leaded aviation gasoline as the largest current source of airborne lead emissions in the country.

Aircraft operating on leaded aviation gasoline emit lead particles from their exhaust systems into the air. However, the relevant lead exposure pathways include not only inhalation of aircraft exhaust emissions, but also consumption of food grown in lead-contaminated soils around airports or ingestion of dirt or dust from those soils.

The U.S. Environmental Protection Agency (EPA), with respect to lead emissions from aircraft, recently stated that:

> "Lead emissions from aircraft are an important and urgent public health issue. Lead exposure can have harmful effects on cognitive function, including reduced IQ, decreased academic performance, as well as increased risk for additional health concerns. There is no evidence of a threshold below which there are no harmful effects on cognition from lead exposure" (EPA 2023).

Considering the EPA's statement, there has been an increasing level of interest in reducing both emissions and public exposure to lead resulting from aviation gasoline combustion. As discussed later, these ongoing efforts include changes in airport operations to reduce exposure to lead, the development and deployment of unleaded aviation gasolines, and recent federal government regulatory programs aimed at achieving a complete phaseout of the use of leaded aviation gasoline in the United States by the end of 2030.

Given the environmental concerns regarding lead emissions from aircraft, the commercial availability of unleaded aviation gasoline suitable for safe use in many types of aircraft, and current and upcoming local, state, and federal government regulations driving the change, a shift is already underway. Some airports have begun providing unleaded aviation gasoline while continuing to comply with statutory requirements to supply leaded aviation gasoline until a suitable alternative is available for all aircraft that at the time of this publication rely on 100-octane low-lead (100LL) (see the section that follows for additional information).

What Are Governments and Agencies Doing to Support the Transition to Unleaded Aviation Gasoline?

In October 2023, the EPA published its determination that "lead emissions from aircraft engines that operate on leaded fuel cause or contribute to air pollution which may reasonably be anticipated to endanger public health and welfare" (EPA 2023).

As a result of this finding, the EPA is subject, under the Clean Air Act, to propose and issue regulatory standards for lead emissions from aircraft engines that use gasoline. Under its own authorities, the Federal Aviation Administration (FAA) now has an obligation to develop standards that address the composition or chemical or physical properties of aircraft fuels or fuel additives to control or eliminate aircraft lead emissions. In other words, this finding marks the beginning of a multi-year regulatory process expected to achieve the complete phaseout of lead from aviation gasoline by the end of 2030.

By law, under the Clean Air Act, the EPA and FAA must consult with each other on these rulemaking requirements to ensure they are developed in a manner that does not adversely impact aviation safety. Although both agencies have reported working collaboratively on these standards, there have been no agency announcements to date regarding their scope or the timing of the pending regulatory process. A white paper that addresses the implications of the EPA endangerment finding in more detail is available on the Eliminate Aviation Gasoline Lead Emissions (EAGLE) initiative website (EAGLE 2023). As discussed in more detail later, EAGLE is a government-industry partnership formed to coordinate efforts toward a safe and timely transition to unleaded aviation fuel.

It should be stressed that these are not the first government agency actions focused on eliminating lead from aviation gasoline, as the FAA created the ongoing Piston Aviation Fuels Initiative (PAFI) in 2014 with the goal of testing and evaluating candidate unleaded aviation gasolines in order to identify at least one such fuel suitable for widespread use.

Further, Congress enacted the FAA Reauthorization Act of 2024 (H.R. 3935), which requires airports that offered leaded aviation gasoline in 2022 or earlier to continue offering that fuel until December 31, 2030, or:

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

In addition to these federal actions, the states of Colorado and California have been developing legislation related to the transition to unleaded aviation gasoline. In Colorado, Governor Jared Polis signed House Bill 24-1235 on May 17, 2024 (CO HB1235 2024). This bill provides tax credits to aircraft owners to offset the expenses of obtaining certification to use unleaded aviation gasoline and offers financial grants to airports to assist with the transition to unleaded aviation gasoline. In California, Governor Gavin Newsom signed Senate Bill 1193 (CA SB1193 2023-2024) on September 22, 2024, which bans the sale of leaded aviation gasoline in California as of January 1, 2031. It should also be noted that legislation proposed in 2023, which would have banned the sale of leaded avgas well before the end of 2030, was not approved in the states of New Mexico and Washington. Given the public health and environmental concerns related to aircraft lead emissions, other state, local, and tribal governments may consider actions focused on the elimination of unleaded aviation gasoline.

What Are Other Organizations Doing to Support the Transition to Unleaded Aviation Gasoline?

The primary initiative focused on the transition to unleaded aviation gasoline is EAGLE, created by the FAA in conjunction with many public and private stakeholders (FAA 2024a). More specifically, EAGLE

> "...is a comprehensive government-industry initiative consisting of the aviation and petroleum industries and U.S. government stakeholders, and a wide range of other constituents and interested parties, all working toward the transition to lead-free aviation fuels for piston-engine aircraft by the end of 2030 without compromising the safety or economic health of the general aviation industry" (EAGLE 2024a).

In addition to the FAA, the members of EAGLE include:

- National Air Transportation Association (NATA),
- Aircraft Owners & Pilots Association (AOPA),
- American Association of Airport Executives (AAAE),
- American Petroleum Institute (API),
- Experimental Aircraft Association (EAA),
- General Aviation Manufacturers Association (GAMA),
- International Council of Airshows (ICAS),
- National Association of State Aviation Officials (NASAO),
- National Business Aviation Association (NBAA), and
- Vertical Aviation International (VAI).

To achieve the goal of a complete phaseout of leaded aviation gasoline by the end of 2030, EAGLE seeks to accomplish the following steps:

- Identify at least one unleaded fuel acceptable for safe use by the general aviation fleet.
- Minimize the safety and technical impacts associated with high-performance engines using unleaded fuels.
- Facilitate the increased production, distribution, and greater use of unleaded replacement fuels.
- Ensure that 100LL aviation gasoline is available during the transition to unleaded aviation fuel.
- Establish policies that support airport infrastructure funding for unleaded aviation fuel.
- Endorse plans that reduce or eliminate reliance upon leaded aviation fuels.

The activities and efforts necessary to accomplish these steps are organized into four pillars:

- **Supply chain infrastructure and deployment.** This pillar focuses on ensuring the continued availability of leaded aviation gasoline during the interim transition and

encouraging and incentivizing the development and commercial production of unleaded aviation gasoline, the expansion of distribution infrastructure, and its use.

- **Research, development, and innovation.** This pillar addresses safety and technical issues with using unleaded aviation gasoline in the existing aircraft fleet and future high-performance engines, as well as ensuring effective and timely FAA certification.

- **Unleaded fuel evaluation and authorization.** Under this pillar, FAA is tasked with testing and evaluating candidate unleaded aviation fuels, identifying at least one such fuel for widespread use, and institutionalizing the Fleet Authorization process for unleaded aviation gasoline.

- **Regulation policy and programmatic activities.** This pillar encompasses the regulatory development processes underway at EPA and FAA, as well as efforts to provide funding for airport fueling infrastructure necessary to support the use of unleaded aviation gasoline.

The EAGLE website is a comprehensive source of public information regarding all aspects of the transition to unleaded fuel.

The key features of the EAGLE website include:

- Materials from regular stakeholder meetings to provide updates on activities in each of the four pillars.

- A toolkit with guidance for airports transitioning flight school operations to unleaded aviation gasoline.

- Information on the current availability of unleaded aviation gasolines, as well as the specific aircraft for which they have been authorized for use.

- The status of ongoing testing on candidate unleaded aviation gasolines.

- A list of responses to frequently asked questions.

- The latest news related to the transition to unleaded aviation gasoline.

What Is the Status of Unleaded Aviation Gasoline?

Current gasoline-fueled aircraft are powered by a wide variety of engines and can have different requirements for the aviation gasoline that fuels them. Because many gasoline-fueled aircraft engines were specifically designed to use high-octane leaded aviation gasoline, it has been the most widely used fuel for a long period of time. However, the lead content has been reduced over time, and the current commercial fuel, which is authorized for use in all gasoline-powered aircraft, is referred to as 100LL. The specifications for this fuel are prescribed by ASTM International, (formerly the American Society for Testing and Materials), under the standard referred to as ASTM D910. ASTM International standards are voluntary, consensus-based standards developed by technical committees of industry experts. In the

case of ASTM D910, the standard ensures that commercial 100LL aviation gasoline meets the requirements of gasoline-fueled aircraft engines.

As concerns regarding leaded aviation gasoline grew and efforts to transition to unleaded fuels were initiated, several unleaded fuels were, and continue to be, present in the marketplace to a limited degree. These unleaded fuels include non-oxygenated motor gasoline (mogas), as well as 91- and 94- octane unleaded fuels (UL91 and UL94, respectively). Specifications for mogas are set forth in ASTM D4814, while specifications for UL91 and UL94 fuels are set forth in ASTM D7547. At the time of this publication, according to FAA's Airport Data and Information Portal, 172 airports in the United States are offering mogas, and 36 are offering the UL94 fuel available from Swift Fuels (FAA 2025).

More recently, two 100-octane unleaded fuels have been authorized for certain gasoline-fueled aircraft by the FAA. The first of these was developed by General Aviation Modifications, Inc. (GAMI) and is known as G100UL (GAMI 2024b). According to the EAGLE website and the FAA's Airport Data and Information Portal, at the time of this publication, this fuel is available at two airports in the United States (EAGLE 2024b, FAA 2025). The second fuel was developed by Swift Fuels and is referred to as 100R (Swift Fuels 2024b). As of early 2025, 100R received FAA authorization for use in Cessna 172R and 172S equipped with Lycoming IO-360-L2A engines. At the time of publication, it is available at three airports in California, including San Carlos Airport (KSQL), Half Moon Bay Airport (KHAF), and Santa Monica Municipal Airport (SMO) (County of San Mateo 2024, NBAA 2024). Additionally, no ASTM standards have been developed to establish specifications for either of these 100-octane unleaded fuels. Also of note is the fact that a third 100-octane unleaded fuel, UL100E, is being developed by LyondellBasell & VP Racing Fuels, though it is still undergoing testing (VP Racing Fuels 2024).

Aircraft using any of these unleaded aviation gasolines must be covered by FAA supplemental type certificates (STCs) unless their original Type Certificate (TC) and Type Certificate Data Sheet (TCDS) already provide for the use of one or more of these specific unleaded fuels. STCs are fuel and aircraft specific and usually need to be purchased from the fuel provider. They also require the aircraft operator to take additional steps prior to using the unleaded fuel in their aircraft. Alternatively, the FAA can approve fuels via the Fleet Authorization process, developed in conjunction with the PAFI, which addresses the necessary testing and performance requirements. An ASTM specification is also required for fuels authorized through the Fleet Authorization process. The UL100E fuel from LyondellBasell & VP Racing Fuels is being developed under PAFI and, if successful, would be authorized through the Fleet Authorization process. Additionally, according to the EAGLE website, Swift may also seek Fleet Authorization for its UL94 and 100R products, which would eliminate the need for STCs (EAGLE 2024a). It should also be noted that STCs are not available for experimental and/or amateur-built aircraft not covered by a TC/TCDS, but they could be covered under the Fleet Authorization process. This would require the FAA to find an unleaded fuel to be equivalent to 100LL through the Fleet Authorization process and experimental and/or amateur-built aircraft owners to use the information generated to determine that the fuel is acceptable following FAA Policy Statement PS-AIR-20-2000 DRAFT (FAA 2022a).

Additionally, apart from mogas, unleaded aviation gasoline may be more expensive than 100LL, at least during the early stages of the transition period when production volumes are lower and multiple fuels may compete in the unleaded market. For example, fuel price data for 100LL and Swift UL94 (offered at the same airport) were collected in July 2024 from Air-

Nav, an online platform that aggregates airport facility details and aviation fuel prices across the United States (AirNav 2024). Prices were compared for the same type of delivery where possible (e.g., self-serve or full-serve). These data are presented in Table 1. As shown, UL94 was generally more expensive than 100LL, by an average of $0.68 per gallon, even though some airports provide fuel price subsidies to UL94.

Table 1. AirNav fuel price comparisons by airport, July 2024.

Airport Name	State	FAA ID	AirNav Fuel Price		
			UL94	100LL	Difference
Bob Hope	CA	BUR	$9.48	$9.05	$0.43
Hayward Executive	CA	HWD	$8.99	$7.79	$1.20
Livermore Municipal	CA	LVK	$7.60	$5.99	$1.61
Long Beach	CA	LGB	$7.95	$7.95	$0.00
Oxnard	CA	OXR	$6.95	$6.48	$0.47
Reid-Hillview	CA	RHV	$7.64	Not Sold	N/A
San Carlos	CA	SQL	No Data		
San Martin	CA	E16	$7.39	Not Sold	N/A
Santa Monica Municipal	CA	SMO	$7.10	$8.60	($1.50)
Van Nuys	CA	VNY	$7.49	$7.95	($0.46)
Watsonville Municipal	CA	WVI	$7.45	$6.25	$1.20
Whiteman	CA	WHP	No Data		
Centennial	CO	APA	$8.84	$7.24	$1.60
DeLand Municipal	FL	DED	$8.25	$6.65	$1.60
Naples Municipal	FL	APF	$7.06	$6.46	$0.60
Sebring Regional	FL	SEF	$7.80	$4.98	$2.82
Marshall County	IL	C75	$5.99	$5.59	$0.40
Rochelle Municipal	IL	RPJ	$6.50	$6.45	$0.05
Griffith-Merrillville	IN	05C	$7.09	$6.49	$0.60
Michigan City Municipal	IN	MGC	$6.75	$5.34	$1.41
Reese	IN	712	$6.88	$6.94	($0.06)
Falmouth Airpark	MA	5B6	$9.34	$6.62	$2.72
Walter J. Koladza	MA	GBR	No Data	$6.60	No Data
Brooks Field	MI	RMY	$6.18	$5.65	$0.53
Oscoda/Wurtsmith	MI	OSC	No Data	$5.70	No Data
South St. Paul Municipal	MN	SGS	$5.79	$5.69	$0.10

Table 1. (continued)

Airport Name	State	FAA ID	AirNav Fuel Price		
			UL94	100LL	Difference
Stanton Airfield	MN	SYN	No Data	$5.95	No Data
Brown County	OH	GEO	$6.99	$6.99	$0.00
Fulton County	OH	USE	$6.19	$5.49	$0.70
Smoketown	PA	S37	$6.30	$5.95	$0.35
Waco Regional	TX	ACT	$6.99	$6.65	$0.34
Carter	WI	92C	No Data		
Cumberland Municipal	WI	UBE	$6.50	$5.75	$0.75
Gilbert Field	WI	94C	No Data		
Price County	WI	PBH	No Data	$5.85	No Data
Sauk/Prairie	WI	91C	$5.85	$5.65	$0.20
Waunakee	WI	6P3	No Data	$5.65	No Data

Source: AirNav 2024.

Finally, another important consideration with respect to unleaded aviation gasolines is their compatibility with 100LL, as the potential for mixing different aviation gasoline types is high. This potential includes both intentional mixing (such as topping off a tank with a different fuel) and inadvertent mixing (such as through misfueling, where the wrong fuel is dispensed into an aircraft). Misfueling can occur due to factors such as incorrect labeling, misunderstanding of approvals, or lack of awareness, and can have serious safety and compliance implications.

Swift UL94, Swift 100R, and GAMI G100UL can be mixed with 100LL in any proportion, according to their producers (Swift Fuels 2024a, GAMI 2024a). However, while GAMI indicates that G100UL can be mixed with UL94 and 100R, provided the fuel is only used in aircraft with appropriate STCs, Swift states that mixing GAMI G100UL with Swift's UL94 or 100R is "not advisable at this time," regardless of aircraft type. Therefore, there are at least two significant issues related to potential misfueling associated with unleaded aviation gasoline. The first of these risks is refueling aircraft that require 100-octane fuel with a lower-octane alternative, such as mogas or UL94, which may not meet the performance requirements of the engine. The second is misfueling that results in an unintended mixture of Swift and GAMI unleaded fuels in an aircraft.

To summarize, other than mogas, Swift UL94 is, as of January 2025, the most widely available unleaded aviation gasoline in the United States. It is subject to an industry consensus ASTM specification and can be used with an STC in over 70 percent of the U.S. piston fleet (Swift Fuels 2024a). Both G100UL and Swift 100R are becoming available, and STC coverage for G100UL extends to all certificated gasoline-fueled aircraft in the FAA database (but not gasoline-powered rotorcraft). However, at the time of this publication, no industry consensus ASTM specification exists for either fuel, which could create concerns for some airports

regarding liability around fuel quality. Also, there may be potential concerns with regard to the safety of mixing Swift and GAMI unleaded fuels. Airports must also recognize that if 100LL was offered at an airport in 2022, it must continue to be available through the end of 2030. This requirement is established by the 2024 FAA Reauthorization Act. Therefore, to transition to unleaded aviation gasoline, an airport must be capable of supplying both 100LL and any unleaded aviation gasoline(s) it chooses to provide until the 100LL requirement ends.

What Steps Do Airports Generally Have to Take to Provide Unleaded Aviation Gasoline?

Although the specific actions and success factors of an airport's transition to unleaded aviation gasoline may vary greatly, the high-level steps listed below generally apply to each airport's transition. Suggestions and details regarding each step can be found in *ACRP Research Report 284*, which can be accessed by searching the National Academies Press (nationalacademies.org/publications) for *ACRP Research Report 284: Transitioning to Unleaded Aviation Gasoline: A Guide and Tools*.

1. **Communicate with fuel suppliers and fixed-base operators (FBOs).**
   Conduct initial communications with fuel suppliers and FBOs as appropriate to determine what types of unleaded aviation gasoline are available to the airport, which aircraft can use them, whether there are applicable ASTM International standards for the fuel, and if there are any compatibility issues associated with mixing each fuel with 100LL or other unleaded aviation gasolines. At airports with sponsor-owned FBOs, communications would be directly with fuel suppliers.

2. **Characterize the airport fleet for unleaded fuel compatibility.**
   Identify the aircraft in the airport's fleet that can use the different types of unleaded aviation gasoline expected to be available at the time of transition and determine if they will require STCs.

3. **Estimate unleaded fuel demand and evaluate refueling infrastructure.**
   Analyze expected volumes of the available unleaded aviation gasoline(s) under consideration and determine whether they can be provided using existing airport fueling infrastructure while continuing to supply 100LL, or if new infrastructure and/or new fuel delivery methods are needed.

4. **Identify potential transition funding sources.**
   Determine whether funding is available from the FAA, state sources, sponsors, or other organizations to assist with infrastructure changes and/or to provide subsidies for the cost of the available unleaded aviation gasoline(s) and, if necessary, STCs.

5. **Perform financial analysis of transition options.**
   Use the information gathered in Steps 1 through 4 to assess the financial implications, such as potential revenues and costs associated with each unleaded aviation gasoline under consideration.

6. **Decide on the transition to unleaded fuel and select the fuel type.**
   Use the results of the analysis in Step 5 in combination with the airport's Primary Management Compliance Documents that include minimum standards/rules and regulations for compliance as part of the airport's decision-making process to determine if the airport will begin the transition to supplying one or more unleaded aviation gasoline(s) while continuing to provide 100LL.

7. **Implement transition plans to unleaded fuel.**
   Make the necessary arrangements to develop the required refueling infrastructure, including securing grant and incentive funding, to provide the selected unleaded aviation gasoline(s) and coordinate with the fuel supplier that will provide the fuel(s).

8. **Develop safety procedures.**
   To prevent misfueling of aircraft, develop procedures to ensure that unleaded aviation gasoline(s) either have FAA Fleet Authorization or are only used in aircraft that are type certified or hold STCs for their use.

9. **Conduct training, outreach, and education.**
   Ensure all personnel involved in the supply and use of the selected unleaded aviation gasoline(s) are informed of proper procedures and safety protocols through targeted outreach, education, and training before fuel distribution begins.

10. **Monitor the transition, identify issues, and make adjustments.**
    Begin using the selected unleaded aviation gasoline(s), monitor the progress of the transition, and evaluate and adjust as needed to address any issues that arise.

What Are the Opportunities and Challenges for Airports in Providing Unleaded Aviation Gasoline?

In deciding to provide unleaded aviation gasoline, airports are provided with several potential opportunities. These include:

1. Reducing lead emissions at and around their facilities, thereby improving the health of both airport users and people who live, work, or go to school in the vicinity of the airport.

2. Demonstrating leadership in addressing environmental challenges, such as lead emissions, to both the aviation community and the general public.

3. Helping to educate the local aviation community and the public about unleaded aviation gasoline.

4. Providing aircraft operators with direct experience in using unleaded aviation gasoline before the mandated elimination of 100LL by December 31, 2030.

5. Potential availability of sponsor incentives to fund STC purchase or reduce impacts of higher unleaded aviation gasoline costs.

6. Securing grant funding to improve airport fueling infrastructure so that unleaded aviation gasoline can be provided alongside 100LL.

There are, however, a number of potential challenges that airports will face in making unleaded aviation gasoline available. These challenges include:

1. Overcoming aircraft operator resistance to using unleaded fuel, which may cost more than 100LL and could require the purchase of an STC that could limit the use of unleaded aviation gasoline.

2. Uncertainty regarding the timing of unleaded aviation gasoline availability and their suitability for different types of aircraft.

3. The potential need to modify refueling infrastructure to accommodate both unleaded aviation gasoline and 100LL.

4. Ensuring that any risk of aircraft safety being compromised by misfueling is eliminated.

5. Ensuring on-demand product availability and timely supplier delivery to a specific airport.

What Other Actions Can Airports Take to Reduce Lead-Related Impacts?

There are three main factors influencing people's exposure to lead from the use of leaded aviation gasoline. These factors are: (1) the amount of lead in the fuel, (2) the proximity of people to aircraft burning leaded aviation gasoline, and (3) meteorology, which determines how much lead emitted from an aircraft is diluted by mixing with the air before reaching people. Of these, the use of unleaded gasoline is clearly the most definitive solution to the issue. However, changing the proximity of people to lead emissions can serve as an interim step in reducing human exposure to lead at and around airports while the transition to unleaded fuel progresses. Suggestions for accomplishing this include:

- Increasing the distance between run-up locations and populated areas.

- Considering wind direction when locating run-up areas to avoid them being generally upwind of populated areas.

- Minimizing engine idle time.

- Posting warning signs for "exhaust fumes" to encourage people to avoid specific areas.

- Promoting pilot awareness to minimize engine operation on the ground.

Resources that provide additional information on interim steps that can be taken to reduce lead exposure are available from the FAA and flyeagle.org as well as previous studies

conducted by ACRP (FAA 2022b, Heiken 2015, Lyons et al. 2016). For questions or support, airports should consult their FAA Airports District Office or Regional Office.

What Resources Are Available to Help Airports Transition to Unleaded Aviation Gasoline?

As outlined above, the EAGLE initiative website should serve as the primary resource for information related to the availability of unleaded aviation gasoline from the various potential fuel suppliers, as well as any safety or technical issues. Additionally, the fuel suppliers themselves are the primary source of detailed information about their products, including ASTM conformance, STC cost and coverage, and price and availability.

With respect to funding for expanding fueling infrastructure, at the time of this publication, the FAA is operating two funding programs. One of these is the Bipartisan Infrastructure Law (BIL), also known as Infrastructure Investment and Jobs Act, which provides for Airport Infrastructure Grants that can be used on sponsor-owned, revenue-producing facilities such as fuel farms (FAA 2024d).

The other program is the Airport Improvement Program (AIP), where the FAA is authorized to provide funding for aircraft fueling systems, e.g., for a new airport fuel storage tank or fuel truck (FAA 2019). While numerous conditions may apply, eligible fuel infrastructure projects generally include the installation of facilities to provide a fuel type not available at the airport at the time this document was published, which could include unleaded aviation gasoline (FAA 2019, Table D-1). Airports can contact their FAA Airports District Office for more details. Further, with the signing of the FAA Reauthorization Act (H.R. 3935) into law by President Biden on May 16, 2024, the FAA has broader authority to support transition-enabling unleaded aviation gasoline fueling infrastructure.

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