

**Date:** October 18, 2022

**To:** Honorable Mayor Robert Garcia and Members of the City Council

**From:** Vice Mayor Rex Richardson, 9<sup>th</sup> District

**Subject:** Transitioning the Long Beach Airport off Lead-Based Fuels

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**RECOMMENDATION:**

Direct the City Manager to work with the Long Beach Airport and stakeholders to establish a plan to reduce lead pollution and implement programs to transition to unleaded aviation fuels, and report back to city council in 60 days.

**DISCUSSION:**

**The Problem**

In the Environmental Protection Agency's 2017 National Emissions Inventory, the Long Beach Airport graded out as the nation's second worst lead polluter among airports, emitting more than 1,500 pounds of lead each year.<sup>1</sup> These emissions come from the burning of leaded aircraft fuel, which is used to operate a piston engine – the most common engine type in small aircraft. Large passenger aircraft do not operate with leaded fuel.<sup>2</sup> As the Long Beach airport is home to many such aircraft, its lead emissions are elevated compared to its peers.

Recent studies have shown in other cases that an emission level of 1,500 pounds/year is wholly consistent with elevated levels of lead in the blood of residents, particularly children, who live nearby airports with high traffic from piston-engine aircraft. A 2021 study by Mountain Data Group showed that on high traffic days children who lived nearby or downwind from the Reid-Hillview airport in San Jose, California suffered from blood lead levels on par with or even exceeding those measured during the Flint water crisis.<sup>3</sup> According to the EPA, the Reid-Hillview airport emits half of the airborne lead LGB does.

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<sup>1</sup> "2017 National Emissions Inventory (NEI) Data" US Environmental Protection Agency, April 2020. <https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data#dataq>

<sup>2</sup> "Regulations for Lead Emissions from Aircraft" US Environmental Protection Agency, Oct. 2022. <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-lead-emissions-aircraft>

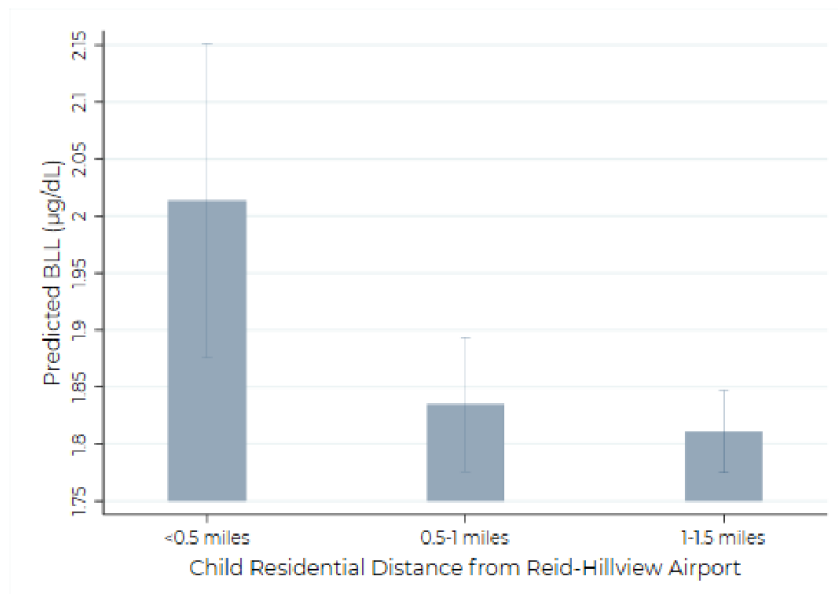
<sup>3</sup> "Leaded Aviation Gasoline Exposure Risk at Reid-Hillview Airport in Santa Clara County, California." Mountain Data Group, Aug. 2021. <https://news.sccgov.org/sites/g/files/exjcpb956/files/documents/RHV-Airborne-Lead-Study-Report.pdf>



The study also established the following relationships:

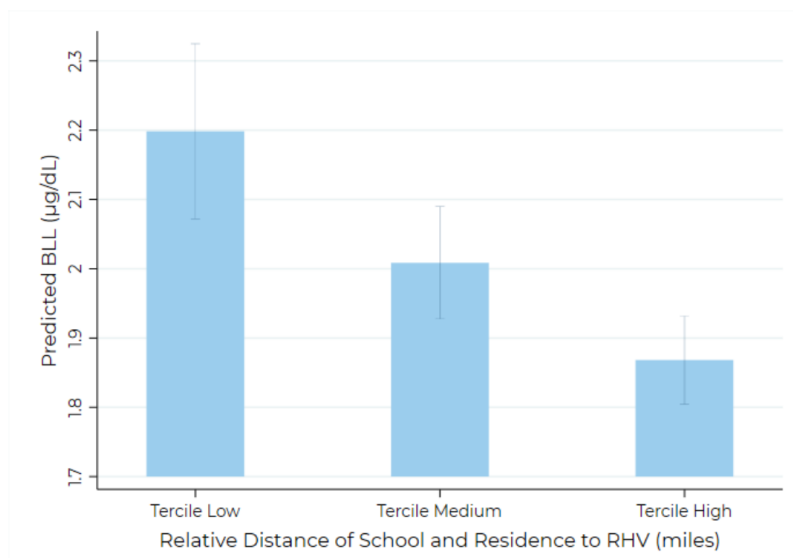
1. Blood lead levels in children were higher closer to the airport:

Figure 9: Residential Distance to Reid-Hillview Airport and Predicted Child BLLs



2. Blood lead levels increased in children the when traffic of piston-engine aircraft at the airport increased:

Figure 20: Relative Distance Terciles of School and Residence to RHV and Predicted Child BLLs





Lead exposure, particularly childhood lead exposure, has been linked to severe health problems going all the way back to the time of Ancient Greece. Childhood lead exposure increases risks of developing hypertensive disorders, renal and cardiovascular malfunction, and motor neuron disease later in life. At the time of exposure, elevated blood lead levels also heighten the risks of various cognitive disorders, including the development of attention-deficit hyperactive disorder.<sup>4</sup> Studies of adults exposed to elevated levels of lead as children have also shown volumetric loss in brain regions that govern decision-making, judgment, and mood regulation.<sup>5</sup> Based on the data, it is clear that the precautionary principle should be applied to lead fuel regulation.

### **The Solution**

As local governments lack the power to enforce restrictions on fuel types in FAA-regulated airports, federal government action is needed in this area in order to start the transition process. On October 7<sup>th</sup>, the FAA announced a proposed endangerment finding on lead emissions from aircrafts that operate using leaded fuel.<sup>6</sup> This proposed finding will pave the way for federal regulation of leaded aircraft fuel.

In September of this year, the FAA approved GAMI's G100UL for use in all piston-engine aircraft, the first of its kind. The Van Nuys airport has already waived its 11 cent/gallon fuel delivery fee on unleaded fuel in response, to incentivize small aircraft owners to use G100UL in lieu of leaded fuel.<sup>7</sup> In order to take its own local action on this issue, the Long Beach Airport should explore a similar incentive program as part of a broader plan to reduce airborne lead pollution and examine the airport's policies around purchases of leaded gasoline.

As one of the country's most impacted cities, Long Beach is a key stakeholder in this transition process. It is important that the City engage proactively with the FAA in order to ensure the final finding and any future regulations are made with the health of Long Beach's residents, and particularly its young children, in mind.

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<sup>4</sup> Needleman & Gatsonis, 1990; Dietrich et al., 2001; Canfield et al., 2003; Nigg et al., 2010; Lanphear et al., 2005; Mielke & Zahran, 2012; Zahran et al., 2017b

<sup>5</sup> Cecil et al., 2008; Cecil, 2011

<sup>6</sup> "EPA Proposes Endangerment Finding for Lead Emissions from Aircraft Engines that Operate on Leaded Fuel" US Environmental Protection Agency, Oct. 2022. <https://www.epa.gov/newsreleases/epa-proposes-endangerment-finding-lead-emissions-aircraft-engines-operate-leaded-fuel>

<sup>7</sup> "Lead spews from some Southern California airports; cleaner fuel is coming" Long Beach Press-Telegram, Oct 2022. <https://www.presstelegram.com/2022/09/17/lead-spews-from-some-southern-california-airports-cleaner-fuel-is-coming/>



**Fiscal Impact**

No Financial Management review was able to be conducted due to the urgency and time sensitivity of this item.

**Suggested Action**

Approve recommendation.