



HACA: Hillsboro Airport Community Advisors

Committee Meeting #6
March 23, 2021

Hillsboro Airport Community Advisors

Welcome and Agenda

Frances Portillo, Facilitator



AGENDA

- 3:00 p.m.** Welcome + Check-In
- 3:10 p.m.** Approve last meeting's notes
- 3:15 p.m.** Hillsboro Airport and PDX Update
- 3:30 p.m.** Leaded Fuel Discussion
- 4:30 p.m.** Public Comment
- 4:40 p.m.** Discuss Upcoming Dates
Committee Evaluations + Adjourn



What is something you are looking forward to enjoying when the pandemic is over?

Hillsboro Airport Community Advisors

Approve Notes

Frances Portillo, Facilitator



Hillsboro Airport Community Advisors

Hillsboro Airport and Port Update

Steve Nagy, Port of Portland



Hillsboro Airport and Port Update

Hillsboro Airport

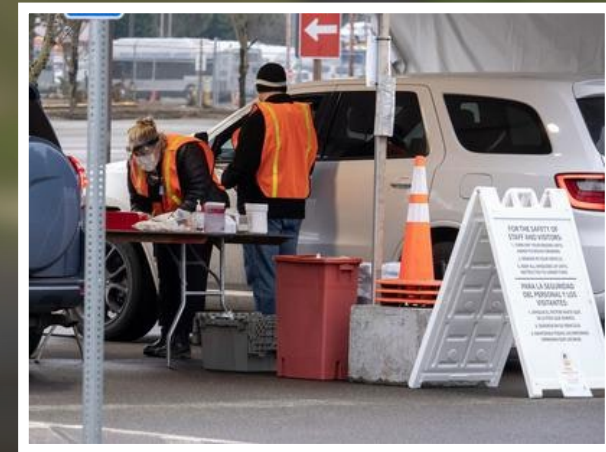
- Runway Safety Area Update
- Taxiway Reconstruction Project
- Cross Field Taxiway

Port of Portland

- Financial Update

PDX

- Red Lot Vaccination Pod
- PDX Next and construction update



Hillsboro Airport Community Advisors

Leaded Fuel Discussion

Steve Nagy, Port of Portland

David Breen, Port of Portland



Leaded AvGas Overview

Previous work at HIO

- Focused on these questions:
 - Why is leaded fuel used in general aviation?
 - How is lead regulated?
 - What are lead health concerns?
 - What are unleaded fuel alternatives?

Update

- What has changed?
- Is there anything new we can look at (alternatives)?

Why is lead avgas used?

SAFETY

Operating Environment

- Most aircraft have high compression / high displacement engines
- Cold ambient temperatures
- Hot engine



Fuel Requirements

- Narrow detonation range
- Very high octane
- Specific vapor pressure
- Storage life
- Compatibility with all aircraft fuel system materials
- Suitable for wide variety of aircraft
- Ethanol free



Why is lead avgas used?

Questions?

How is Lead Regulated?

- Environment

- **Ambient Air Quality** - 0.15 ug/m³ (US EPA) /Ambient Benchmark Concentration (Oregon Dept. of Env. Quality [DEQ])
- **Drinking Water** = 0 “Goal”, 0.015 mg/L “action level” (US EPA)
- **Stormwater** = 0.015 mg/L “benchmark” (DEQ)
- **Soil** (DEQ)
 - 28 mg/kg = Clean Fill
 - 400 mg/kg = Residential Exposure to soil
 - 800 mg/kg = Occupational/Construction/Excavation Worker Exposure to soil

- Workplace

- **Occupational** – 50 ug/m³, 8-hour time weighted average (Occupational Safety and Health Administration [OSHA])

How is Lead *Not* Currently Regulated?

- Aircraft Fuels = FAA -> Type Certificates / Supplemental Type Certificates
- Aircraft Emission Standards = US EPA



How is Lead Regulated?

Questions?

What are the Health Concerns?

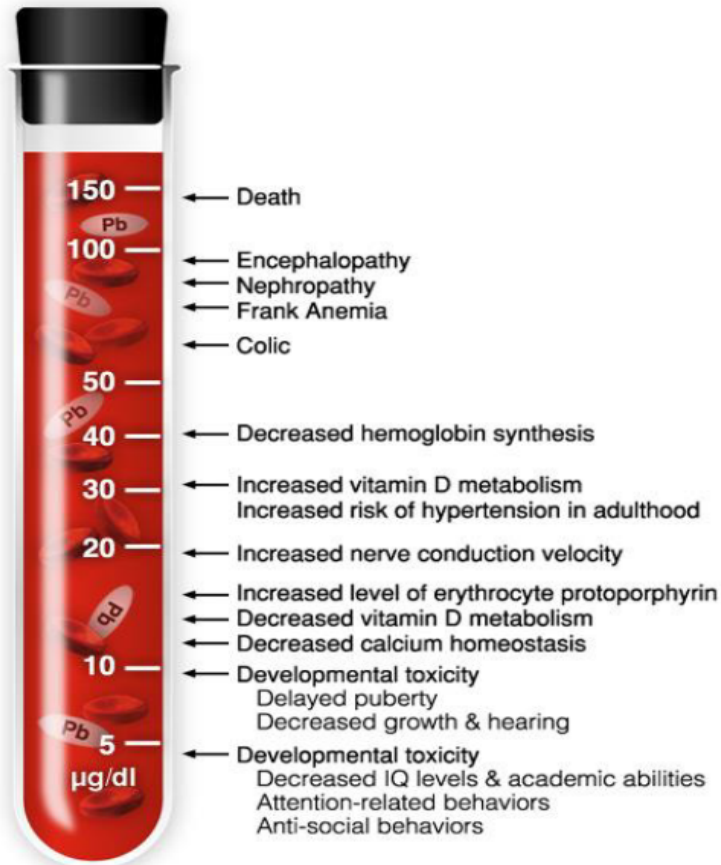
ASSESSING THE PUBLIC HEALTH IMPACT OF LEAD EMISSIONS FROM THE HILLSBORO AIRPORT

HILLSBORO AIRPORT ROUNDTABLE EXCHANGE
JUNE 29TH, 2016



What are the Health Concerns?

HEALTH EFFECTS OF LEAD



- A harmful neurotoxin
- Health effects for both adults and children
- Most vulnerable are young children, and pregnant or lactating women
- There is no safe blood lead level

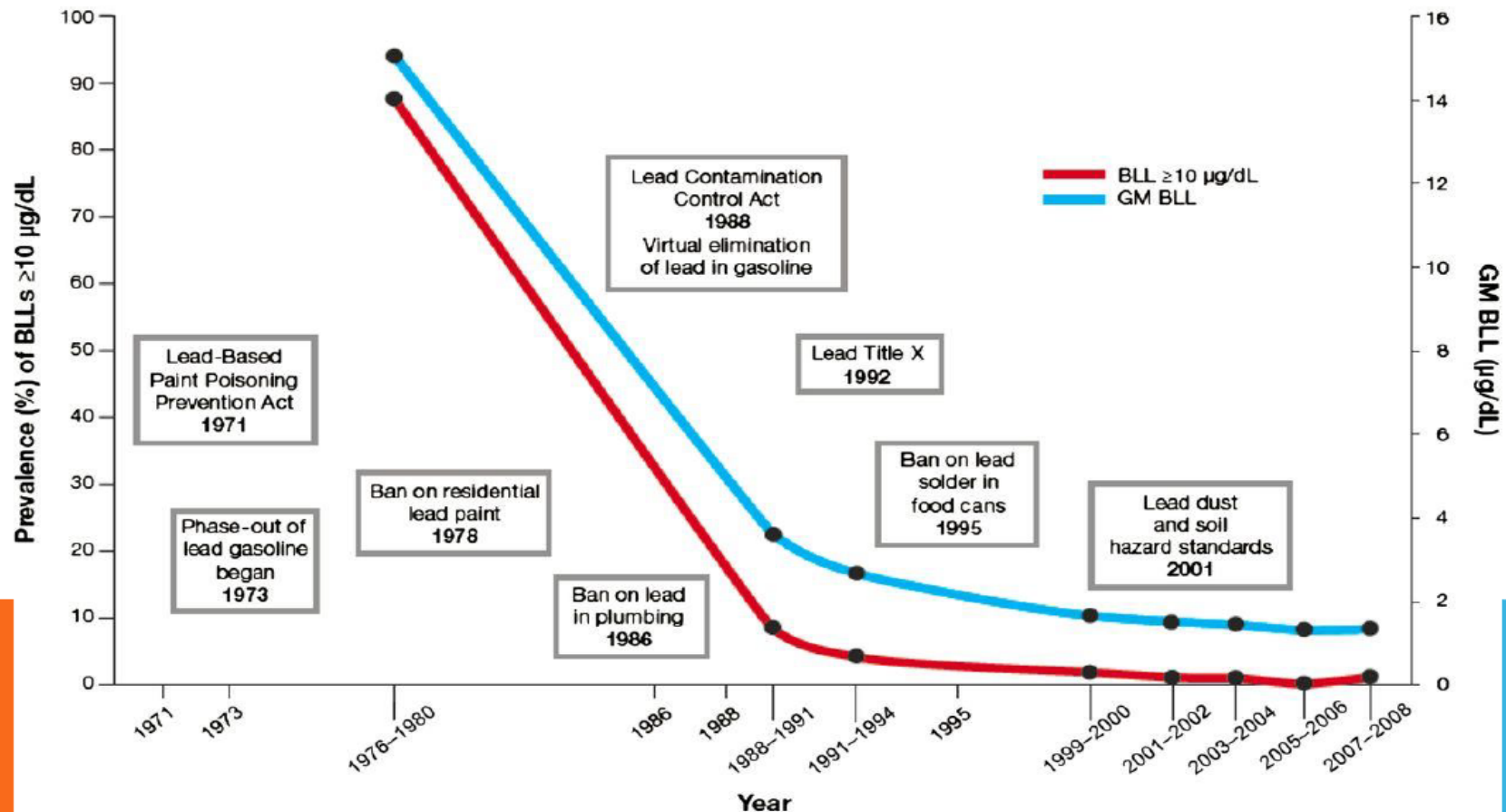


Public Health
Prevent. Promote. Protect.

Image credit: Canadian Atlas of Environmental Health <http://www.ehatlas.ca/lead/human-impact/health-concerns>

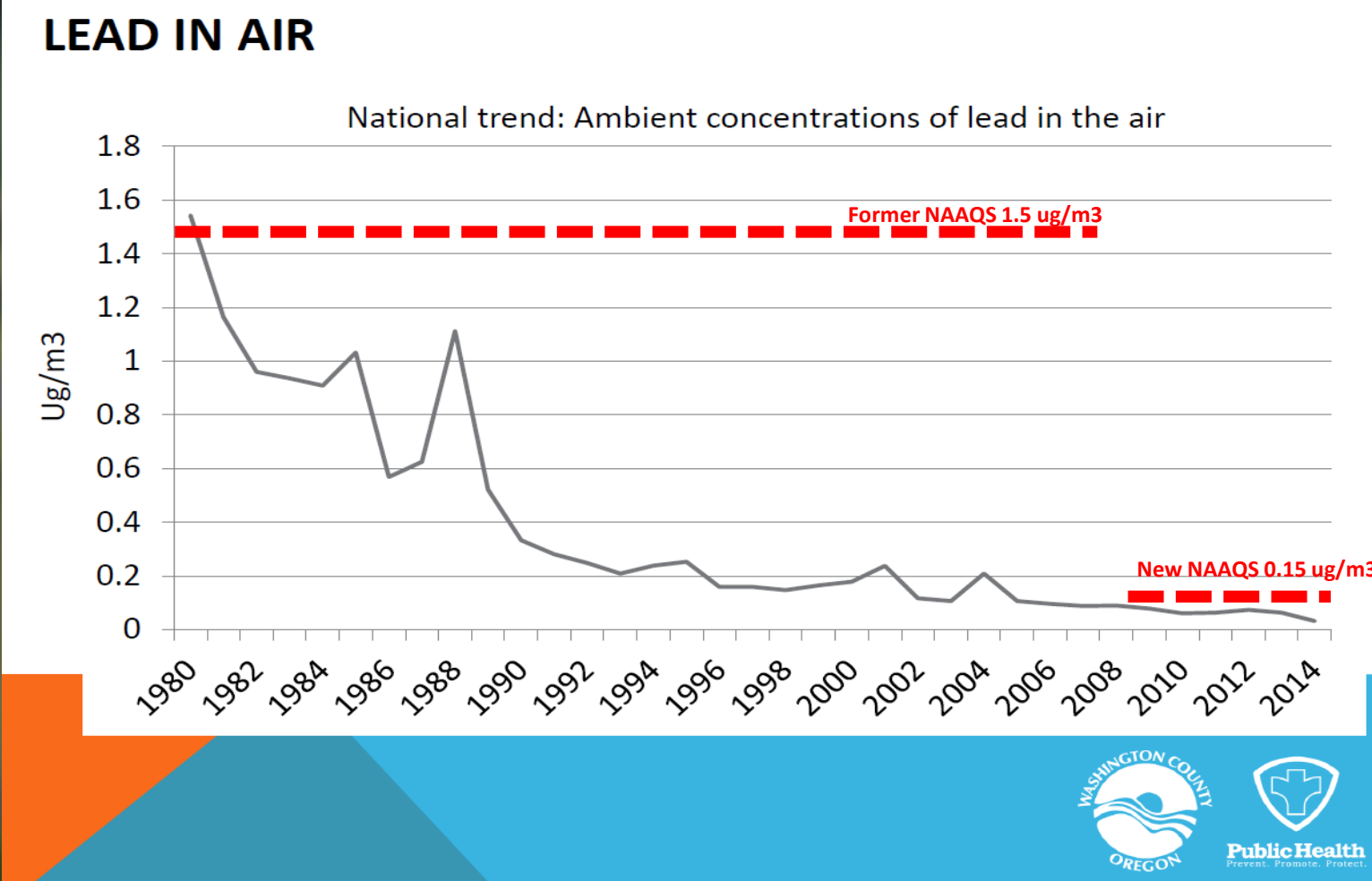
What are the Health Concerns?

TIMELINE: CHANGE IN CHILD BLOOD LEAD LEVELS



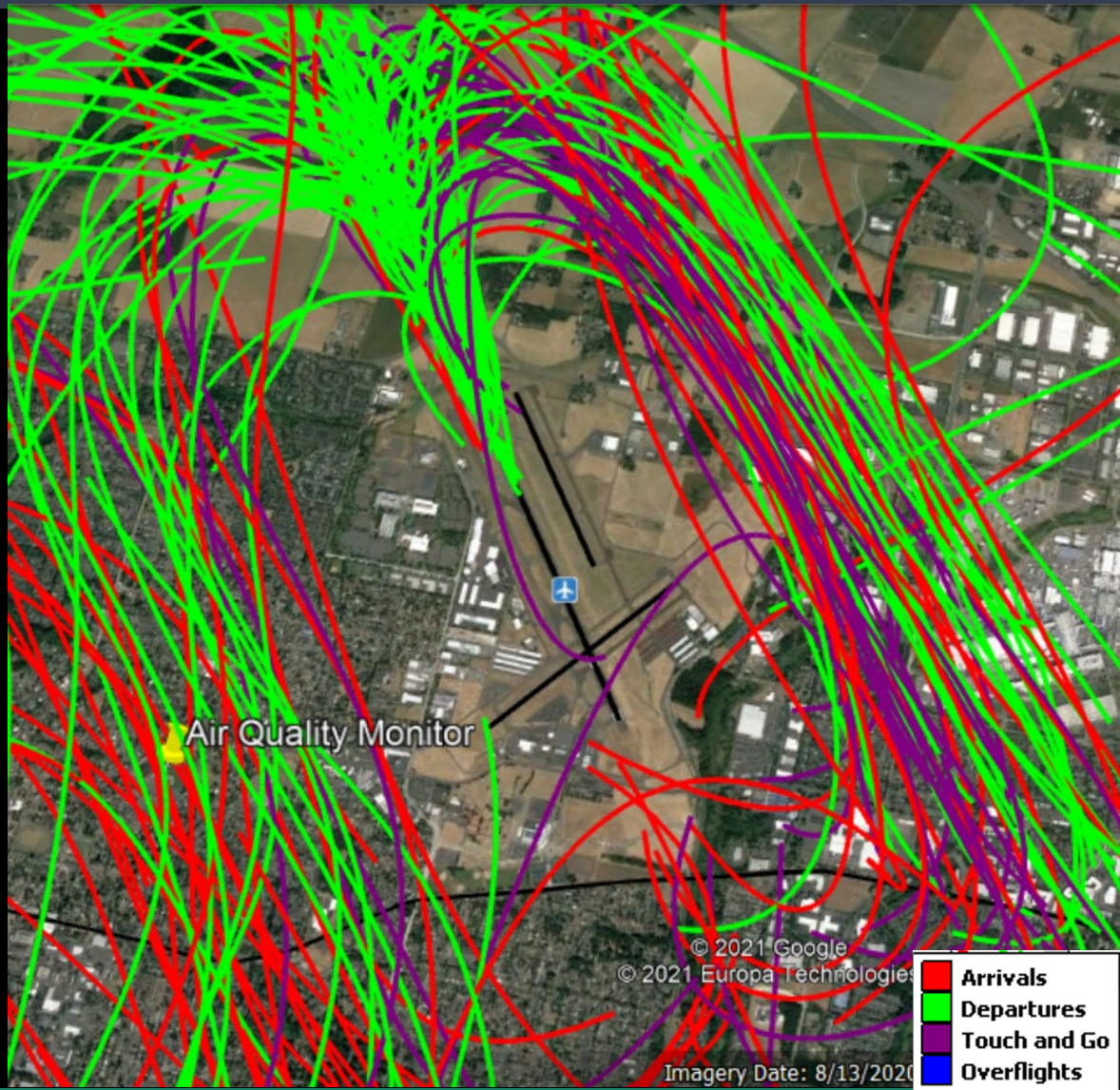
Source: American Academy of Pediatrics. (2016). Policy Statement: Prevention of Childhood Lead Toxicity

Lead Levels in Outside Air v. EPA Health Standards

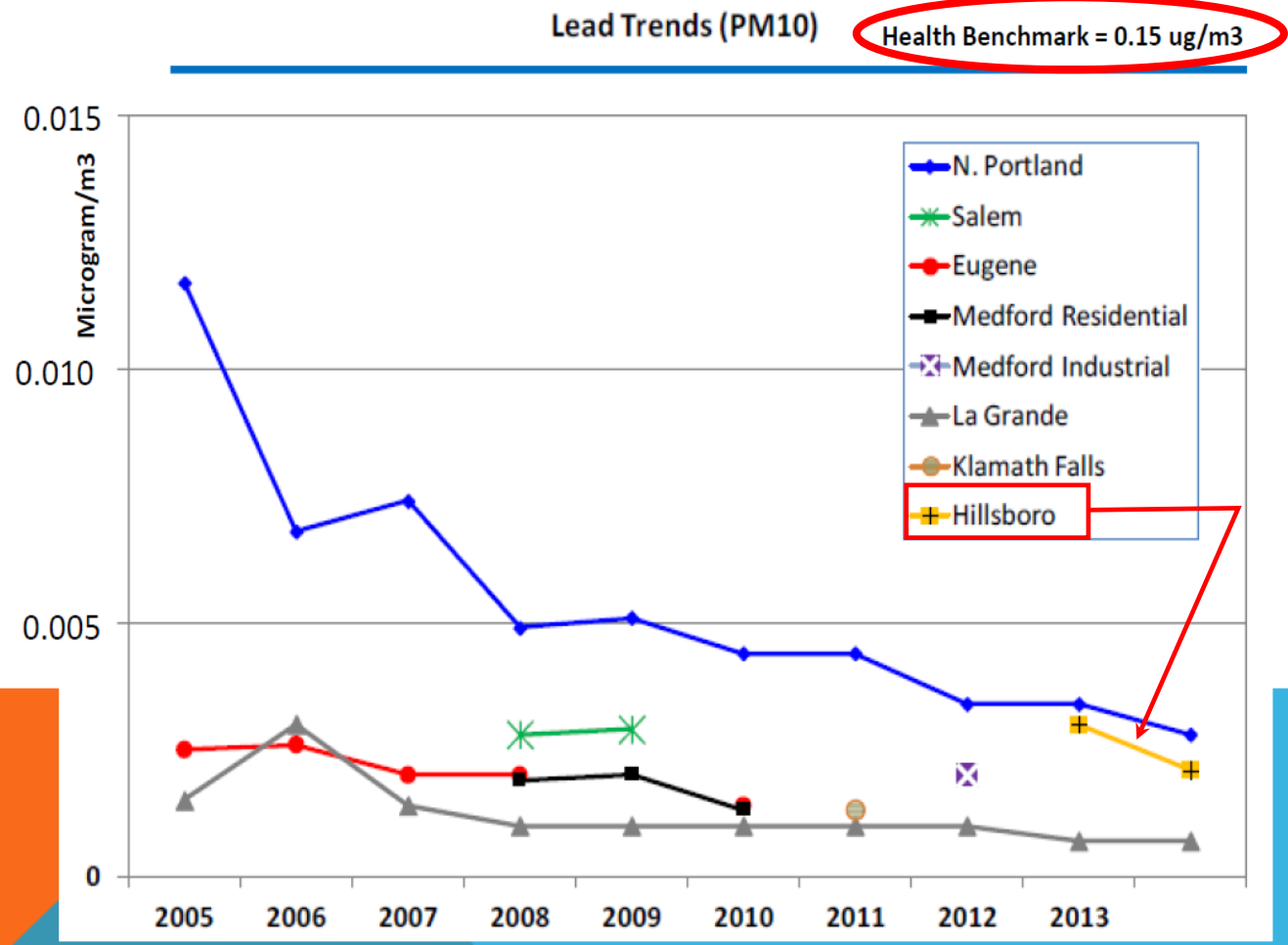


Source: Washington County Public Health

Wa. Co. Review of Env. Data Ambient Air Quality v. Standard - Monitoring



REVIEW OF ENVIRONMENTAL DATA – AIR MONITORING



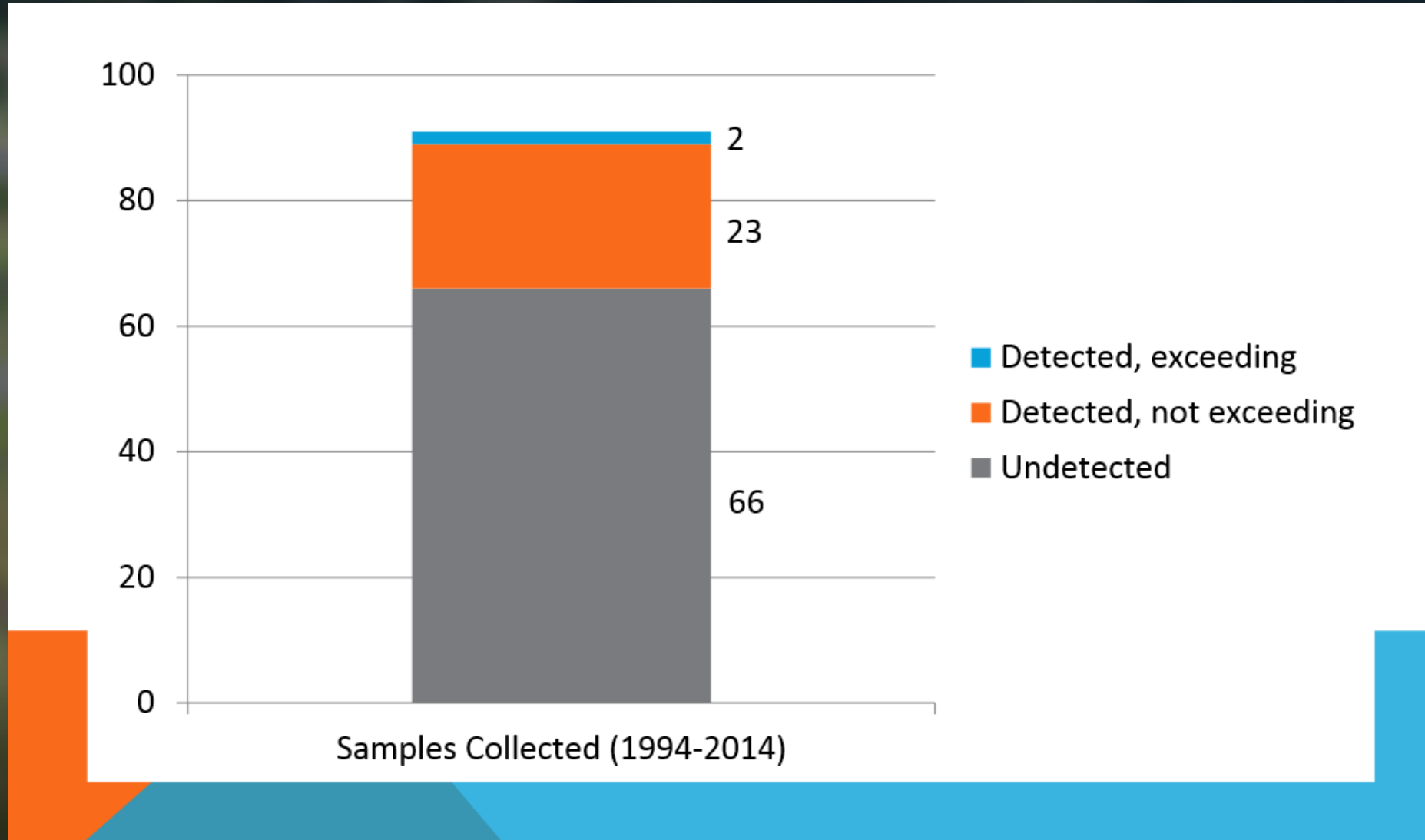
Wa. Co. Review of Env. Data Air Quality v. Standard - Modeling

REVIEW OF ENVIRONMENTAL DATA – AIR MODELING

Regulatory Thresholds	
National Ambient Air Quality Standard	0.15 micrograms/cubic meter (ug/m3)
Oregon Ambient Benchmark Concentration	0.15 ug/m3
Air Modeling at HIO	
National Air Toxics Assessment	0.00647 ug/m3
Oregon DEQ Model	0.00331 ug/m3
Port of Portland (CDM Smith) Model	0.00405 ug/m3



Wa. Co. Review of Env. Data - Stormwater



Wa. Co. Findings and Conclusions

FINDINGS AND CONCLUSIONS

- Available data do not suggest that lead emissions from the Hillsboro airport are a significant source of lead exposure in Washington County.
- There are gaps in data
- A blood lead test is the only way to know if a child has an elevated level
- There is no safe blood lead level
- Reducing lead in the environment promotes public health



What are the health concerns?

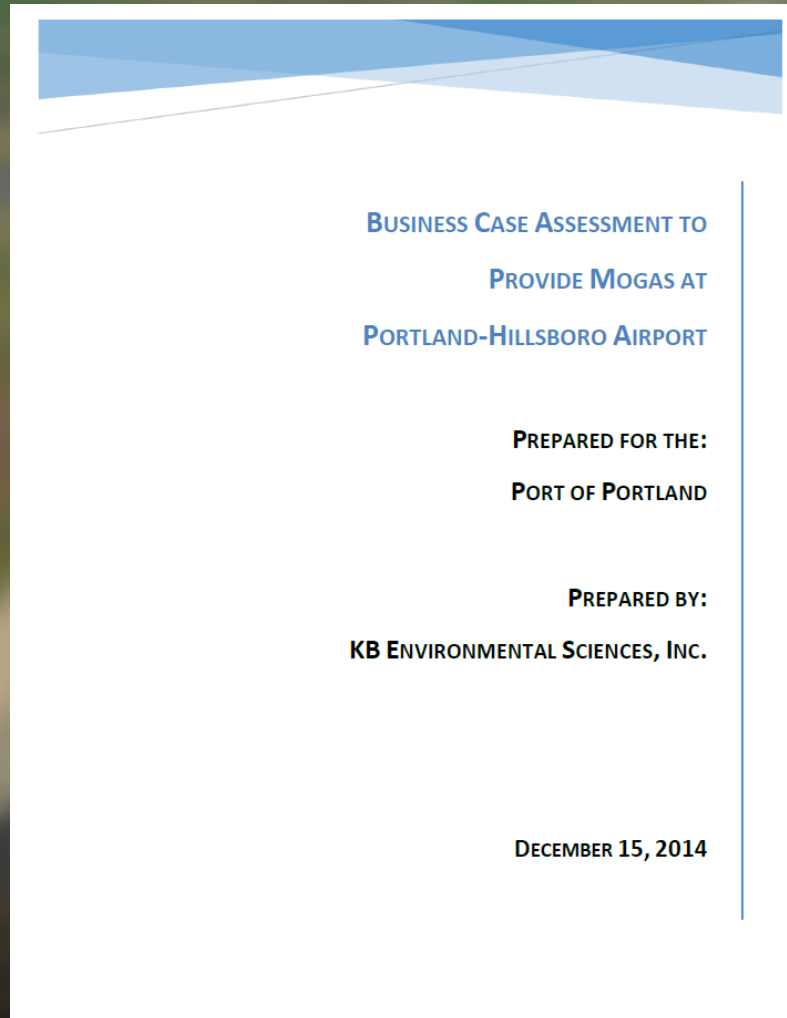
Questions?

What are unleaded fuel alternatives?

	High Performance & Turbocharged Aircraft	Low Compression Ratio, Experimental, and Ultralight Aircraft
Currently Available	None	<ul style="list-style-type: none">• UL94• Unleaded ethanol-free gasoline (“MoGas”)
Under Development	FAA Piston Aviation Fuel Initiative (“PAFI”) Fuel	

What are unleaded fuel alternatives?

- 2014 HIO MOGAS STUDY - KBE



2014 HIO MOGAS STUDY - KBE

Piston Engine Aviation Fuel in Context

120 – Number of U.S. airports offering mogas. (<1% of the nation market)

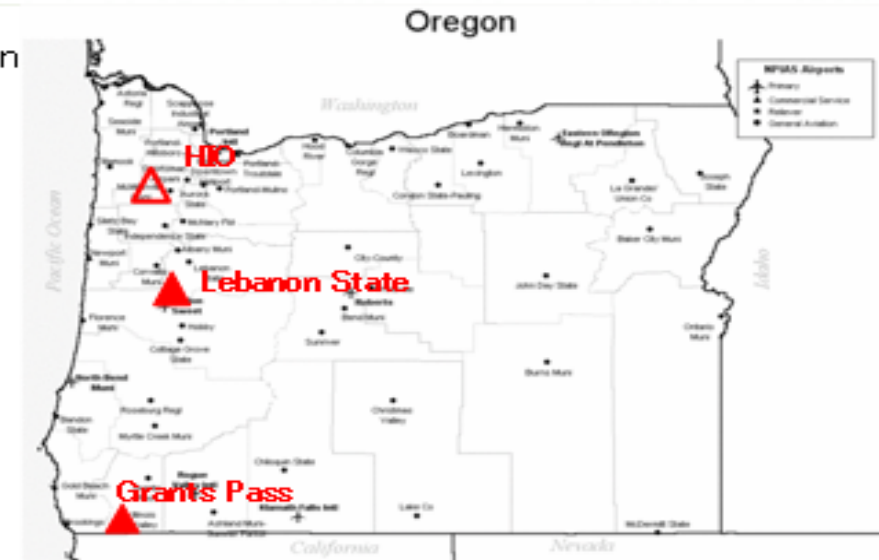
10% to 15% – Approximate percentage of mogas sales of total fuel sales (Range = 3 to 55% at airports that offer mogas)

2 – Number of Oregon airports offering mogas.

(Lebanon State & Grants Pass)

0 – Current number of mogas providers at HIO.

Historical – mogas has been a niche aviation fuel since the 1980's



▲ OR airports offering mogas

2014 HIO MOGAS STUDY - KBE

HIO in Context

(2.35%) – Avg. annual % reduction in avgas sales. (2006 to 2013)

1,121 – HIO affiliated aircraft evaluated for mogas potential usage

8.5% to 29.5% – Percentage of HIO-affiliated fleet with potential to use mogas (based on engine type of HIO-affiliated aircraft).

315 – Respondents to *Pilot Survey*.

107 – Number of survey respondents could use mogas in their aircraft, but only 63% (or only 67) have used mogas

\$4.⁹⁹ – Cost of mogas where 80% would consider purchasing it.

3 – Number of suppliers within 30 miles of HIO that can provide ethanol-free mogas



Hillsboro Airport (HIO)



What are unleaded fuel alternatives?

Questions?

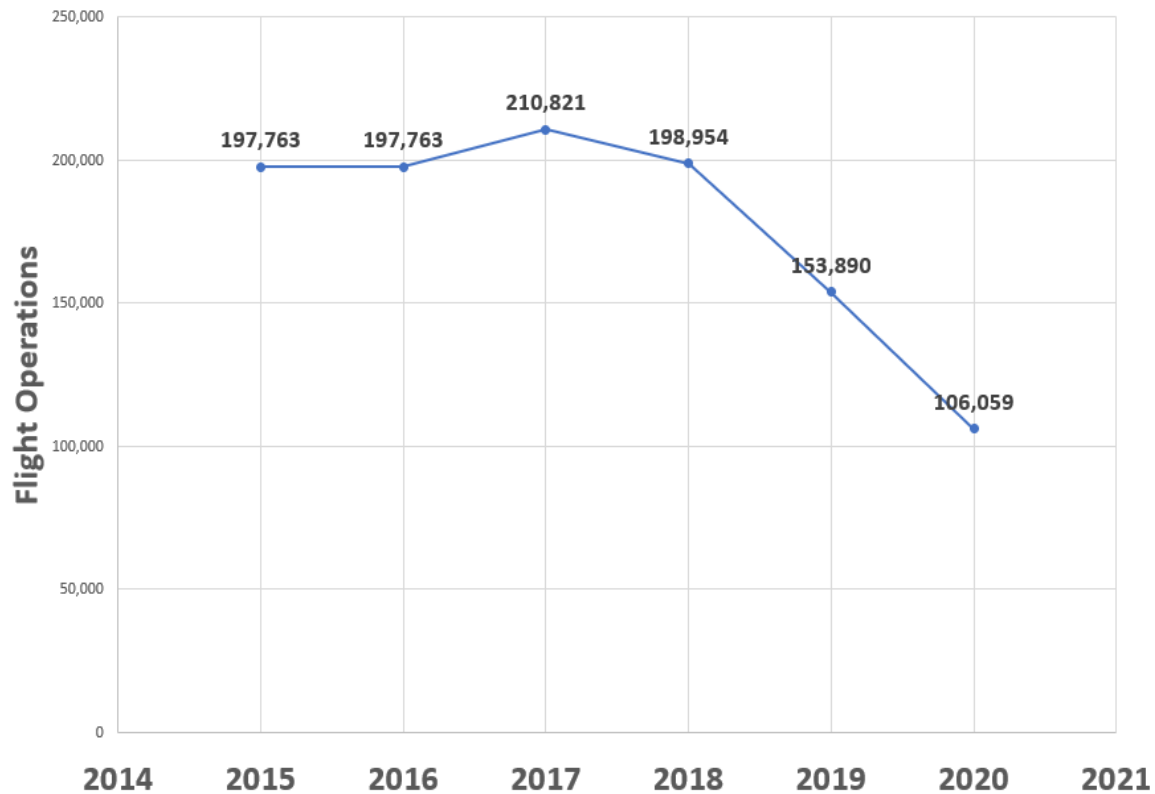
Update – What Has Changed?

- Airport Operations
- Transportation Research Board – 2021 Report “Options for Reducing Lead Emissions from Piston-Engine Aircraft”
- Alternative unleaded fuel update

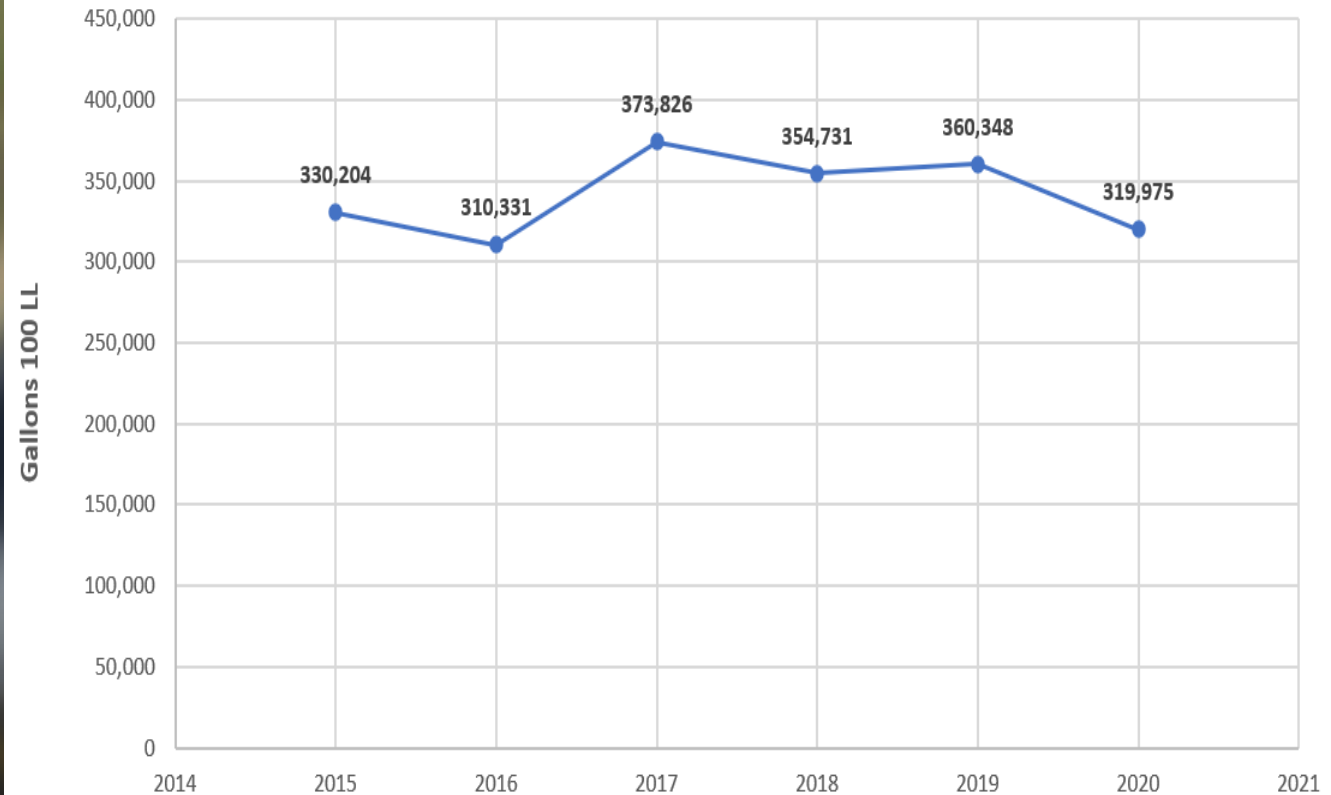
Update – HIO Operations

- Flight operations down
- HIO 100LL use relatively the same

HIO Annual Flight Operations



Gallons 100 LL Sold per Year (HIO)



Update – TRB Report

- Mitigation Strategies:
 - Operations
 - Evaluate separation of run-up and take off areas
 - Alternative Fuels
 - 100VLL – Not made
 - UL94
- Policy
 - Urge EPA to complete 17 airport GA Endangerment Study

Alternative Fuels Update

- FAA PAFI Unleaded Fuel
 - Challenges and delay
 - 2 candidate fuels
 - Shell – Testing resumed
 - Swift - dropped out of PAFI and seeking alternate pathway
- MoGas
 - TRB raises concerns for use in aircraft

Opportunities for HIO

ROLES				
Activity	Primary	Secondary	Regulator	Notes
Manufacture Fuel	<ul style="list-style-type: none"> • Shell • Swift 	Fuel Distributors	FAA	
Store & Dispense Fuel	Airport FBOs		Fire Dept. Inspectors	Port owns a storage tank
Purchase Fuel	Pilots			Pilots make decisions about buying fuel
Aircraft Emissions Standards			EPA	Laws, regulations, implementation, monitoring
Environmental – Health Programs			EPA DEQ	Laws, regulations, implementation, monitoring

An aerial photograph of an airport runway and taxiway, with the word "Questions?" overlaid in white text in the center. The runway is a dark grey strip running diagonally from the bottom left towards the top right. The surrounding area is a mix of green grass and light brown dirt. In the background, there are some buildings and a blue sky.

Questions?

Hillsboro Airport Community Advisors

Public Comment



Hillsboro Airport Community Advisors

Public Comment

Instructions

1. **Add your full name** to the Q&A box if you want to comment
2. The facilitator will call your name when it is your turn to speak
3. When your name is called, there will be a brief pause as Zoom removes and reintroduces you to the meeting as a “Panelist”
4. When you return, please **unmute your audio** and **start video** before speaking
5. When your time is complete, you will be reassigned as an “Attendee”

Hillsboro Airport Community Advisors

Public Comment

Ground Rules

- Speak to the issue, not to the person
- Speak to issues that are relevant to this committee
- Speak in a way that all can hear and understand
- Respect the time limit
- Remember that the committee will process comments and will not respond at this meeting
- You may submit a comment without addressing the committee – all responses to comments will be included in the meeting minutes

Hillsboro Airport Community Advisors

Upcoming Dates

Frances Portillo, Facilitator



Upcoming Dates

HACA Meeting #7

Tuesday, June 29, 2021

Hillsboro Airport Air Fair

TBD

HACA Meeting #8

Tuesday, October 26, 2021

Hillsboro Airport Community Advisors

Committee Evaluations + Adjourn

Frances Portillo

