

Oregon Proposes Regulating Industrial Sources of Greenhouse Gases While Giving Airports and State Aviation Agencies a Free Pass to Pollute with Abandon

“There is little time left to avoid setting the world on a dangerous, potentially catastrophic, climate trajectory....we face a climate crisis that threatens our people and communities, public health and economy, and, starkly, our ability to live on planet Earth....We must listen to science — and act....It is the policy of my Administration to organize and deploy the full capacity of its agencies to combat the climate crisis to implement a Government-wide approach that reduces climate pollution in every sector of the economy...”

President Joe Biden, Tackling the Climate Crisis at Home and Abroad, Exec. Order No. 14,008, (Jan. 27, 2021)

Please note, the above quote from President Joe Biden, speaks of a **“Government-wide approach that reduces climate pollution in every sector of the economy...”** There was no mention whatsoever of absolving government institutions such as the Federal Aviation Administration (FAA), the Port of Portland (Port) and the Oregon Department of Aviation (ODA) of responsibility for reducing greenhouse gases.

The failure of Oregon’s Climate Protection Program to regulate aviation generated greenhouse gases and other pollutants is indefensible and hypocritical. Every airport in the state should be required to reduce CO2 and co-occurring toxic emissions out of respect for Oregonians as well as the overall health of the planet and its inhabitants.

As stated by the Oregon Department of Land Use and Development, “Transportation is the largest contributor to global warming in Oregon, making up 40 percent of Oregon’s climate warming emissions.”¹ Many residents throughout the state are conscientiously reducing their reliance on fossil fuels by driving less, walking more, bicycling, using public transit, carpooling, traveling by train and bus, and limiting air travel. Yet despite these concerted efforts, the Port of Portland (Port), FAA, Oregon Department of Environmental Quality (ODEQ), and the State Department of Aviation are continuing to promote environmentally irresponsible aviation activities that increase global warming, pollute the air, and contribute to more frequent extreme weather events including massive wildfires, heat waves, hurricanes, flooding, and droughts.

The Port of Portland and the State Department of Aviation in particular are two of the biggest polluters in Oregon. For more than a century, these two state agencies have degraded the environment and destroyed livability by pumping greenhouse gases, lead, PM2.5, PM10, benzene, elemental carbon, carbon monoxide, relentless noise and a host of other toxins into the air.

The Oregon Global Warming Commission in their 2020 Biennial Report to the Oregon Legislature commented on Oregon’s lack of progress in reducing greenhouse gas emissions: “To be clear and to the point, Oregon has not made the progress envisioned in the Oregon Global Warming Commission’s Roadmap to 2020. We are not on track to meet our 2020 emission reduction goal. Preliminary 2019 sector-based emissions data exceeds the state’s 2020 emissions reduction goal by 26 percent or 13 million metric tons of carbon dioxide equivalent (CO2e), erasing all of the gains we had made since 2010. While it needs to be

updated, our current projection estimates that we will miss the 2035 and the 2050 goals set forth in Governor Brown's Executive Order 20-04 by 23 and 54 million metric tons CO₂e respectively."²

ODEQ - Climate Protection Program

According to the ODEQ, "The purposes of the Climate Protection Program are to reduce greenhouse gas emissions from sources in Oregon, achieve co-benefits from reduced emissions of other air contaminants, and enhance public welfare for Oregon communities, particularly those communities disproportionately burdened by the effects of climate change and air contamination." Section (2) (c) of the report provides further clarification: "Certain communities, such as Black, Indigenous, and communities of color, as well as low-income and rural communities, within Oregon are disproportionately burdened by air contamination, including through disproportionate risk of the impacts of climate change."³

Though ODEQ has drafted rules to regulate stationary industrial sources of greenhouse gas emissions, it has given Port authorities, the Oregon Department of Aviation, airports, aviation businesses and pilots a free pass to increase operations and pollute with abandon. This is glaringly evident in Section (B) (ii) of the Oregon Climate Protection Program Draft Rules, which specifically exempts "Emissions that are from the combustion of fuels used for aviation including, for example and without limitation, aviation gasoline, kerosene-type jet fuel, and alternative jet fuel..."⁴

It is both pure folly and empty pretense for ODEQ to regulate stationary industrial sources while absolving toxic state aviation agencies and their tenants of all responsibility for reducing their significant contribution to climate change.

Glut of Airports in Oregon

Oregon has a total of 420 airports. Seven are commercial passenger facilities, which also accommodate private and recreational pilots as well as flight training activity. The remaining 413 are general aviation (GA) airports that predominantly serve for-profit flight training businesses and private pilots.

A review of the General Aviation Manufacturers Association 2019 Databook (GAMA) reveals that not a single major country in Europe has as many airports as Oregon does.⁵

- Germany – population of 83.8 million, more than 20 times that of Oregon, has 318 airports.
- France – population 65.2 million, more than 16 times that of Oregon, has 294 airports.
- United Kingdom – population 67.8 million, more than 16 times that of Oregon, has 271 airports.
- Spain – population 46.7 million, more than 11 times that of Oregon has 99 airports.
- Italy – population 60.4 million, more than 14 times that of Oregon, has 98 airports.

Though the population in each of these countries exceeds that of Oregon anywhere from 11 to 21 times over, they all manage to get by on far fewer airports.

What these countries do have is high speed rail, a mode of transportation that has a much lower carbon footprint than aviation and also serves the broader population rather than an affluent few.

Pilot Demographics

FAA statistics reveal that in 2020 there were 691,691 certified pilots in the U.S. Fewer than 9 percent are women. Of the total number, nearly one-third (222,629) were student pilots, many recruited from overseas. Another 117,578, more than one-sixth, were flight instructors. Thus, nearly half of the total U.S. pilot population is associated with the publicly subsidized, for-profit, male-dominated flight training industry. Another 160,860, close to 25 percent, were private pilots.⁶

The FAA, Port of Portland, and State of Oregon policies pertaining to general aviation airports are designed to cater to this less than 1/4 of one percent of the U.S. population, a minuscule minority whose toxic emissions routinely imperil the health and well-being of local residents and the global community.

Aviation – Largest Source of Leaded Fuel Emissions on the Planet

The Climate Protection Program purpose statement speaks of achieving “co-benefits from reduced emissions of other air contaminants.”

In this regard it is important to keep in mind that the vast majority of GA operations in Oregon and nationwide occur in piston-engine aircraft that still rely on leaded fuel (avgas). The U.S. fleet of approximately 170,000 piston engine aircraft routinely pumps 450 tons or more of lead into the air every single year, emissions that are responsible for 70% of all airborne lead pollution nationwide.

The Centers for Disease Control (CDC) identifies airports as a potential source of lead exposure⁷ and lists the negative health impacts of this toxin including "damage to the brain and nervous system, slowed growth and development, learning and behavior problems, and hearing and speech problems."⁸ Per the CDC, **"No safe blood lead level in children has been identified. Even low levels of lead in blood have been shown to affect IQ, ability to pay attention, and academic achievement."**⁹

The CDC also identifies populations at higher risk for lead poisoning including children less than 6 years old, communities of color, pregnant mothers, and economically disadvantaged people experiencing housing inequity due to discrimination.¹⁰

A recent lead study commissioned by the Santa Clara Board of Supervisors, in response to concerns about lead emissions produced by users of the Reid-Hillview Airport, also pointed to scientific research documenting the negative impacts of lead, including:

- Cognitive and intellectual impairments
- Poor academic achievement
- Higher risk of attention-deficit and hyperactivity disorders
- Abnormal psychology and behavior in adolescence
- Higher incidence of juvenile delinquency in adolescents

The researchers further cited studies linking childhood lead exposure to adult-onset health problems including hypertension, renal disorders and cardiovascular disease as well as reduced IQs, poor judgment, and difficulties with mood regulation.¹¹

During his presentations at the 8/11 and 8/12 2021 Santa Clara County Reid-Hillview Airport community meetings, Dr. Bruce Lanphear provided additional information on the potential effects of lead exposure including diminished brain size, especially in the prefrontal cortex which is the seat of rational thought. Damage to this part of the brain can lead to loss of executive functioning and greater impulsivity. In addition, Dr. Lanphear reported that, "Children who have blood lead levels over 1.7 micrograms per deciliter of blood were 2 to 2 1/2 times more likely to have ADHD." He further explained that in the U.S. lead exposure is recognized as a causal factor in 1 out of 5 children who have been diagnosed with ADHD.

Dr. Lanphear also identified the effects of lead on adult populations.

- Even at very low levels, lead is the leading risk factor for coronary heart disease. It is responsible for 185,000 deaths per year in the U.S.
- Lead is a causal factor for renal failure, essential tremor, and hypertension.
- Lead is a suspected contributor to ALS and dementia.
- Increased BLLs in pregnant women contribute to premature births, low birth weight, and reduced Apgar scores.
- Pregnant women with elevated BLLs are at higher risk for pre-eclampsia.¹²

The wording of the Climate Protection Program speaks of regulating and limiting pollutants. Lead, however, is so devastatingly toxic that it needs to be completely banned. Even small amounts of lead in a child's blood can have lifelong and potentially irreversible consequences. The Santa Clara Board of Supervisors recently demonstrated the courage to ban leaded fuel at Reid-Hillview Airport (RHV) due to findings of elevated blood lead levels (BLLs) in children living in proximity to this airport - levels that in some cases were twice as high as those found in children affected by the Flint water crisis.¹³

As explained by Dr. Sammy Zahran, the lead researcher on the Reid-Hillview Airport lead study, "The Flint water crisis from start to finish unfolded in less than a year and a half. By contrast at Reid-Hillview, the release of lead into the lived environment is a continuous, non-stop, daily unabated flow of an undeniably harmful toxicant. I remind you that we are talking about more than a thousand pounds of lead released annually on nearby populations."¹⁴

It is important to note at this juncture that the Port of Portland owned and operated Hillsboro Airport which like RHV is predominantly a flight training facility, logs more annual operations (take-offs and landings) and spews substantially more lead into the environment each year than RHV.

Port of Portland

Though the Port of Portland (Port) is a municipality with powers comparable to cities and counties, the members who serve on the board of this quasi-government entity are not elected. Instead, they are appointed by the Governor. The Port owns and operates 3 airports: Portland International (PDX), the largest commercial airport in the state, as well as two general aviation airports, Hillsboro (HIO) and Troutdale (TTD). The majority of aircraft flying in and out of HIO

and TTD are piston-engine aircraft which rely on leaded fuel. A primary tenant and major polluter at both these airports is Hillsboro Aero Academy (HAA), an international flight training school owned by out-of-state East coast investors, Graycliff Partners and Renovus Capital.

According to their website, HAA has trained pilots from over 75 countries. ODEQ has given this noisy, toxic, fossil-fuel burning, for-profit private business a free pass to pollute without any consideration for global warming or the environment. Also of note, in 2017, HAA started training Chinese pilots at the Redmond Airport in Central Oregon¹⁵, further adding to its pollution footprint. The Oregon State Legislature, the federal government, and the FAA are complicit in promoting laws and policies that give HAA and the aviation sector free rein to pump greenhouse gases, lead and other toxins into the air while foisting the cost onto the public.

A review of the 2017 Environmental Protection Agency (EPA) National Emissions Inventory (NEI) revealed that HIO, TTD, and PDX, combined, released 1925 lbs. of lead into the environment annually during the landing and take-off phase of flight. Additional lead is emitted during pre-flight engine run-ups, repetitive training maneuvers, and overflights. The NEI database has identified HIO as the largest facility source of airborne lead pollution in the state and ranked this airport 8th among more than 20,000 airports nationwide in lead pollution. TTD which logs approximately 100,000 operations annually, on average 273 per day, is the third largest facility source of lead in Oregon and the largest source of airborne lead pollution in Multnomah County. The commercial passenger aircraft at PDX use jet fuel, which does not contain lead. Thus, the lead emissions at PDX (159 lbs.) are lower than HIO (1212 lbs.) and TTD (554 lbs.)

According to the 2021 FAA Terminal Area Forecast, PDX logged 237,051 annual operations in 2019. The 2017 EPA NEI revealed that, statewide, PDX is the number one facility source of benzene, 1,3-Butadiene, and acrolin, the third largest facility source of carbon monoxide, elemental carbon, and acetaldehyde, the fourth largest facility source of sulfur dioxide, the fifth largest facility source of nitrous oxides, and the 6th largest facility source of VOCs.

Turning to HIO, according to FAA Airport IQ 5010 Master Records, this airport logged 253,847 operations in the 12 months ending 7-13-2020, an average of 695 take-offs and landings per day. Most were training flights that stayed within the borders of Washington County, though some practiced over neighboring Yamhill and Columbia Counties as well. Many remained in the air for an hour or more before returning to HIO. This means that 695 times per day for hours on end these aircraft are releasing greenhouse gases, noise, lead, PM2.5, benzene and a host of other toxins into the environment. (See flight-tracks at the end of this document for visual detail.)

As noted earlier, the NEI database identified HIO as the top facility source of lead emissions in Oregon. In Washington County it is also the number one facility source of carbon monoxide, elemental carbon, benzene, 1,3 butadiene, and acrolin, the second largest facility source of PM2.5, nitrous oxides, sulfur dioxide, PM10, and acetaldehyde, and the third largest facility source of VOCs.

TTD is also a significant polluter. Per the 2017 EPA NEI, it is the second largest facility source of carbon monoxide, acrolin, and 1,3-butadiene, the fourth largest facility source of elemental carbon and acetaldehyde, and the fifth largest facility source of benzene in Multnomah County.

This data makes it abundantly clear that reducing aviation generated greenhouse gases would have the added benefit of reducing a number of air contaminants produced by aircraft activity.

Oregon Department of Aviation

The Oregon Department of Aviation (ODA), which owns and operates 28 general aviation airports, is also a major source of pollution. A review of 2017 EPA NEI revealed that these airports combined pump a total of 1627 lbs. of lead into the air each year. When added to the Port of Portland's airport lead emissions, these two state agencies are responsible for releasing 3552 lbs. of lead, more than one and a half tons, into the air each year just during the landing and taking off phases of flight without even factoring in ground run-ups, practice maneuvers, and overflights. To put this more succinctly, the Port of Portland and State Department of Aviation are knowingly and intentionally dosing Oregon residents with a toxin that is known to disproportionately impact minority and economically disadvantaged populations and, in addition, causes potentially irreversible damage to children, developing fetuses, pregnant mothers, and adults.

Even more alarming are ODA reports¹⁶ that reveal plans for airport expansions with virtually no consideration for global warming, lead poisoning, noise, and the other toxic pollutants released by this sector.

When Oregon filed for statehood in 1857, it was the only state in the union that codified a "whites only" agenda into its constitution. Over the ensuing 160 plus years, the legislature has shaped itself around these oppressive patriarchal values, many of which are still enshrined in the government institutions that remain in place to this day. These values are especially evident in the aviation system, which in many communities eschews democracy in favor of a top-down, authoritarian approach that exploits and pits itself against local communities. The laws pertaining to aviation in Oregon and across the country were crafted by the very people who personally, financially and professionally benefit from white privilege while conveniently ignoring the environmental degradation and injustices produced by this mode of transportation.

Commercial Aircraft Pollution

A 9/21/2021 Center for Biological Diversity press release "100 Groups Demand Biden Cut Airplane Climate Pollution"¹⁷ identified the U.S. as "being by far the largest airplane polluter in the world" and further explained that, "Commercial aviation currently accounts for 11% of all U.S. transportation carbon dioxide emissions and 2.4% of carbon emissions around the globe. Despite a short-term downturn during the pandemic, this number is expected to grow in the coming decade. Flights departing from airports in the United States and its territories are responsible for almost one-quarter of global passenger transport-related carbon pollution."

Airport Tracker¹⁸, "an online tool that illustrates the carbon dioxide (CO₂) emissions generated from aircraft departing from airports around the world...contains information for the 1300 largest global airports, covering 99% of global airline passenger traffic." According to this site the emissions of passengers departing Portland International Airport equals 1.55 million metric tonnes of CO₂ which is 1.7 million U.S. tons. "Emissions from this airport are equivalent to the yearly emissions from 775,000 cars." Efforts to reduce commercial airport climate pollution could go a long way towards helping Oregon achieve its greenhouse gas reduction targets.

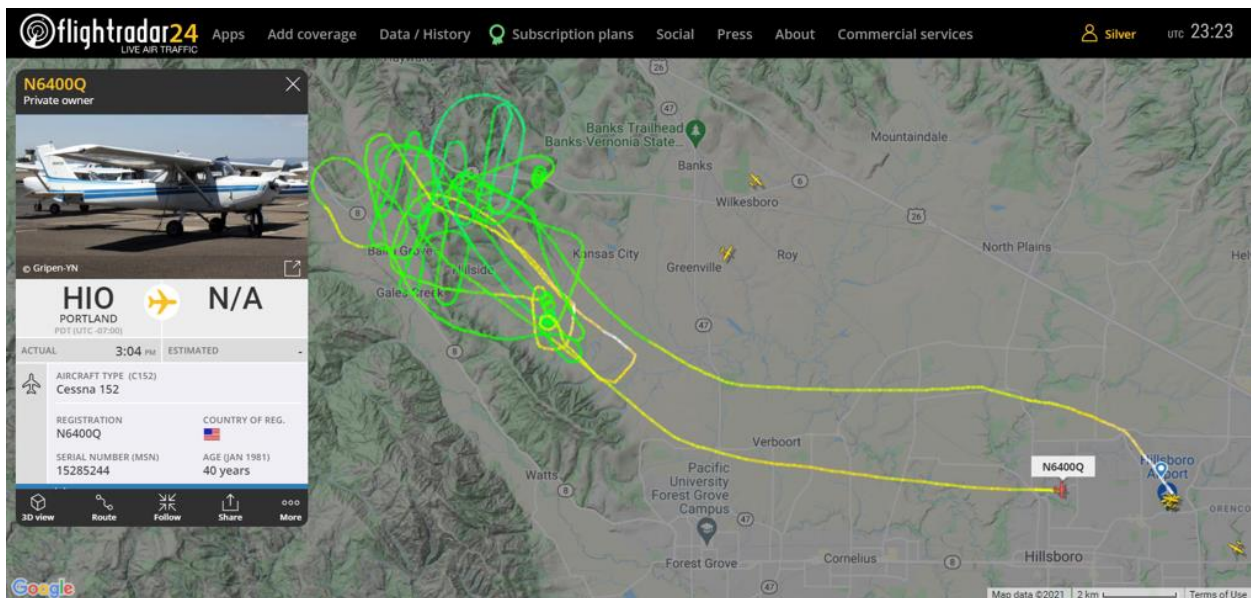
Closing Statement

Exempting aviation fuels from greenhouse gas reduction requirements is counterproductive. There is nothing sacrosanct about airports, flight training schools, private pilots and corporate jet owners. Crony capitalist policies that involve padding the pockets of aviation profiteers at the expense of the environment and public health should be terminated immediately.

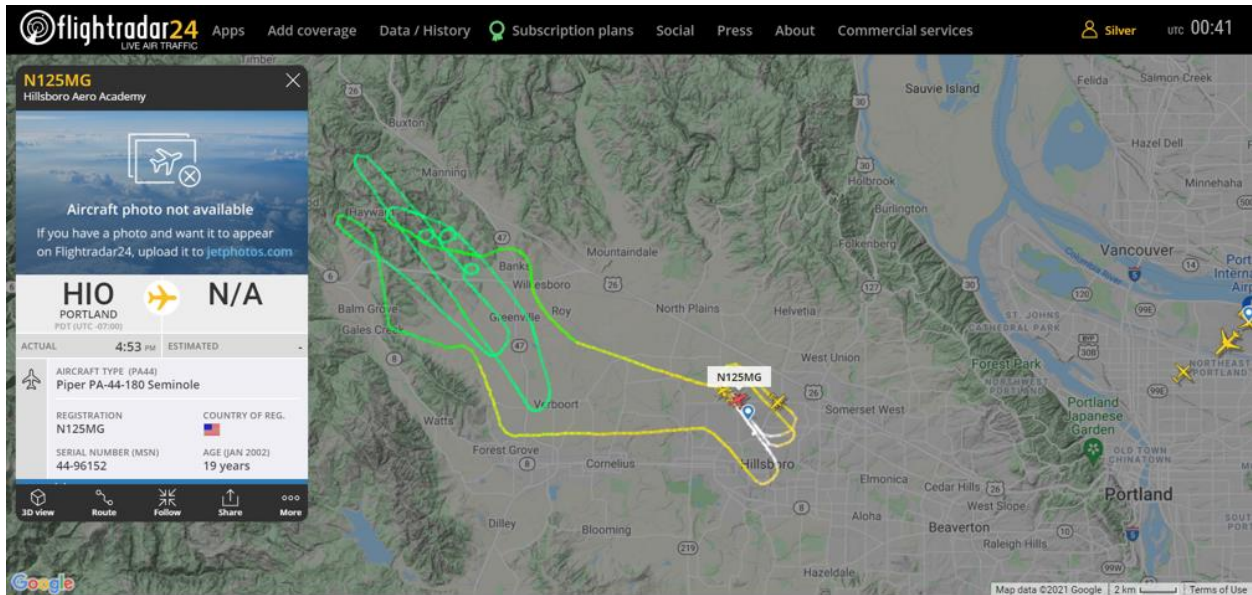
A review of the ODEQ's Climate Protection Program purpose statement reveals that the regulation of aviation fuels will reduce greenhouse gases as well as other air contaminants. In addition, it will lessen the disproportionate burden of pollution placed on "Certain communities, such as Black, Indigenous, and communities of color, as well as low-income and rural communities."¹⁹ In so doing it will improve the public welfare of Oregon communities.

Flight-Tracks

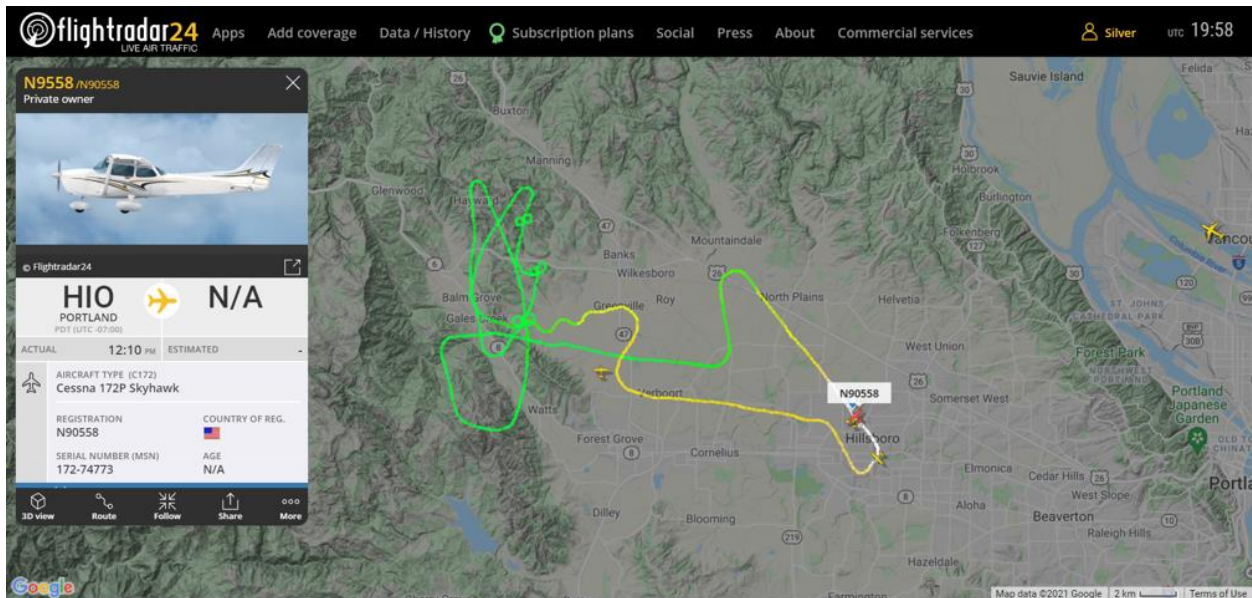
Below is a series of screenshots gathered from Flightradar24 between September 6 and October 1 of 2021 depicting flight-tracks generated by training aircraft that departed from and returned to the Hillsboro Airport, the largest general aviation airport in the state. They represent a small fraction of the air traffic over the area. Each one is produced by a single aircraft many of which remain in the air for an hour or more. To formulate an accurate picture of the amount of aviation activity, greenhouse gases, noise, lead exposure and other toxic pollutants released over Washington County residents, both urban and rural, bear in mind that HIO logs an average of 695 take-offs and landings every single day. Additional toxic emissions are released by users of other airports in the region including but not limited to Stark's Twin Oaks, Aurora, Scappoose, Sunset Airstrip, McMinnville and PDX.



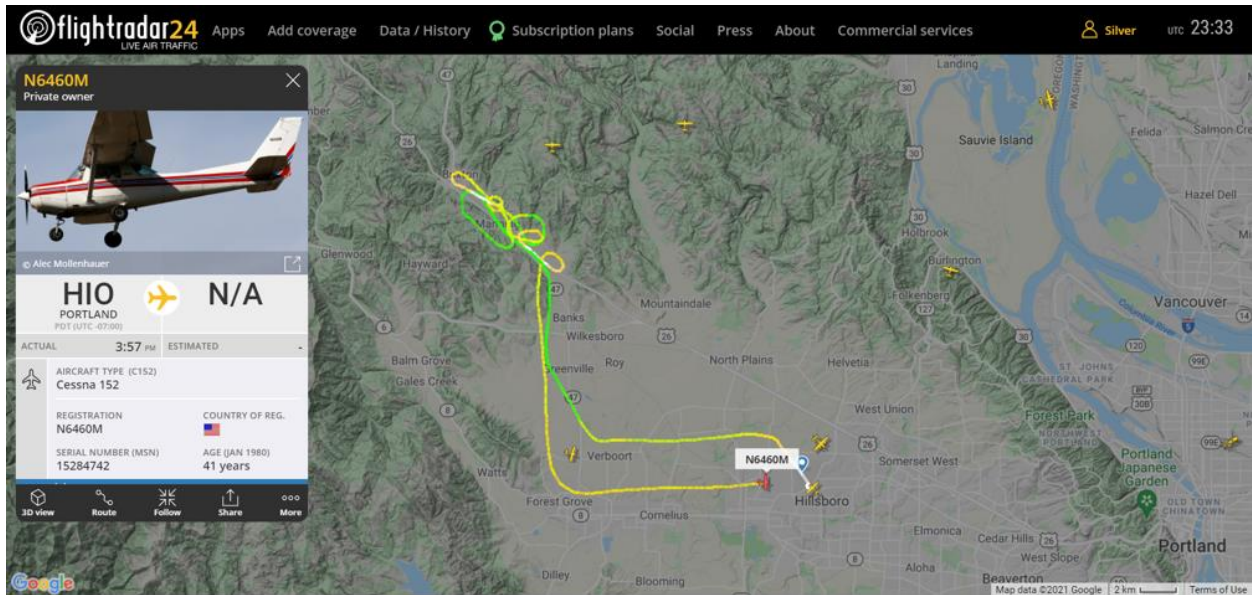
Hillsboro Aero Academy N6400Q 10/1/2021 4:24 PM. This aircraft had been in the air for one hour and twenty minutes when this screenshot was captured



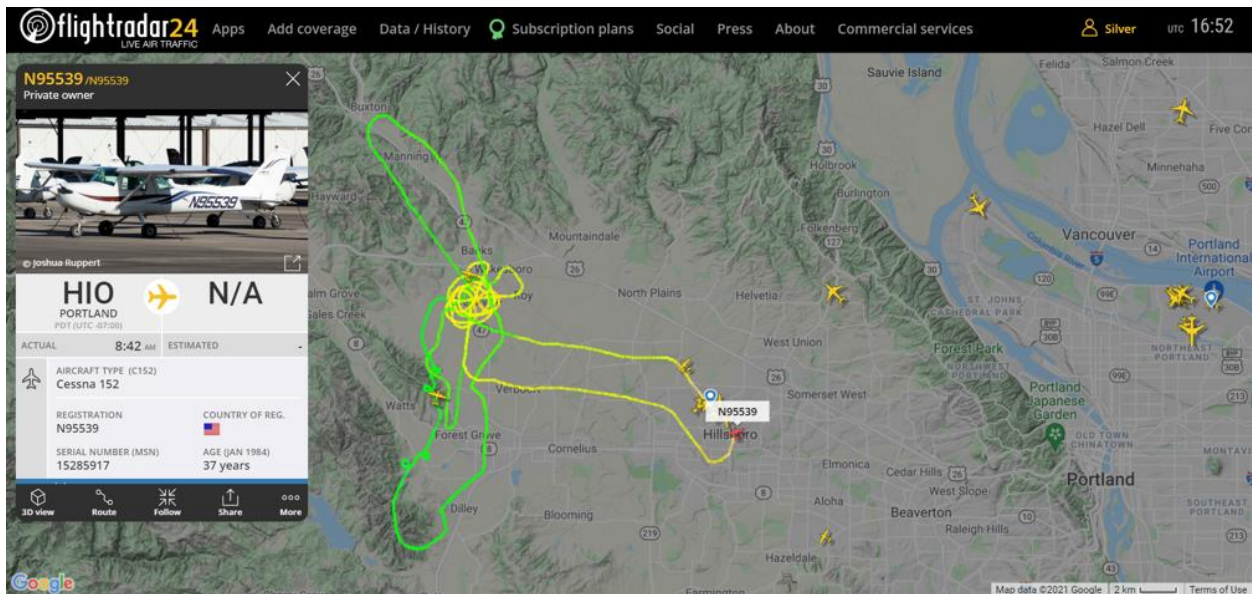
Hillsboro Aero Academy N125MG 9-22-2021 5:42 PM. This aircraft had been releasing greenhouse gases and degrading livability for nearly an hour when this screenshot was captured.



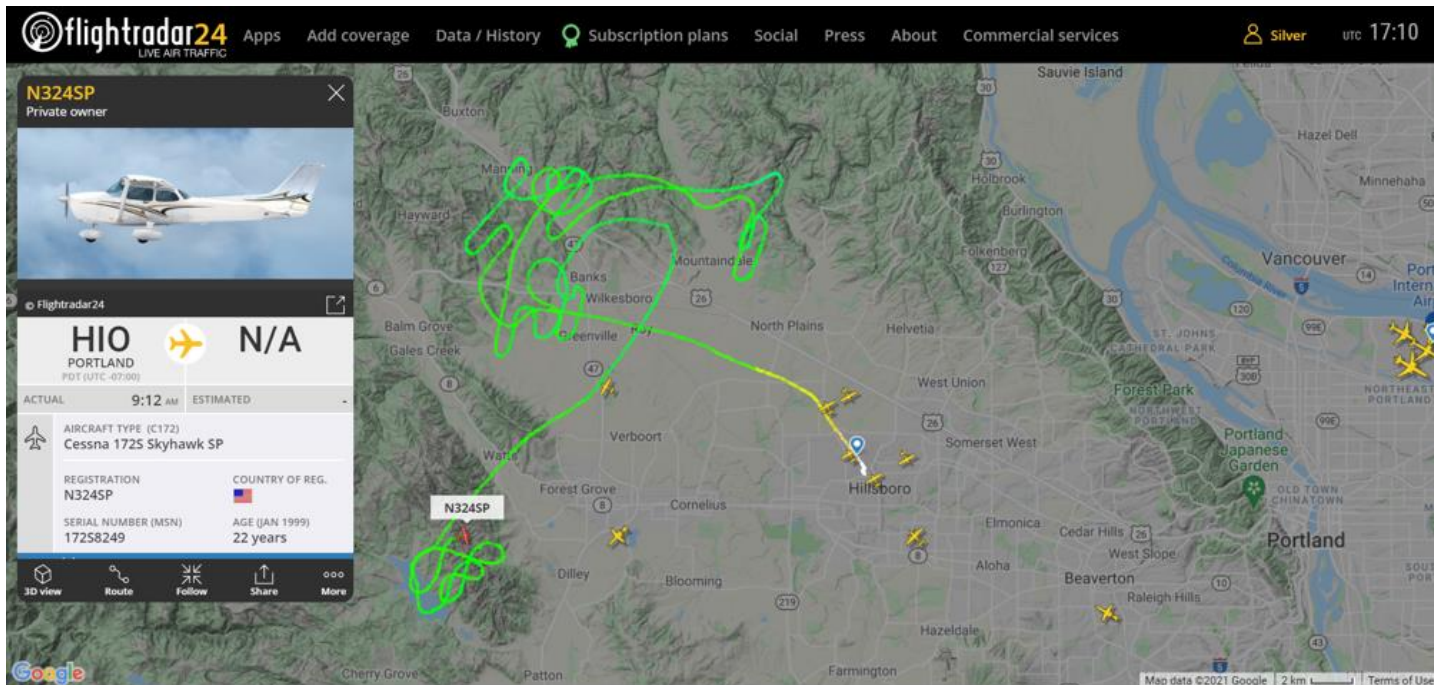
Hagele Aviation N90558 09-20-2021 12:43 PM. Chuck Hagele is the Director of Maintenance for Hillsboro Aero Academy. He formed his own private flight training business several years ago. The Port of Portland chose Mr. Hagele to serve as a citizen-at-large representative on their most recent HIO master planning advisory committee. His wife currently represents Washington County on the Hillsboro Airport Advisory Committee.



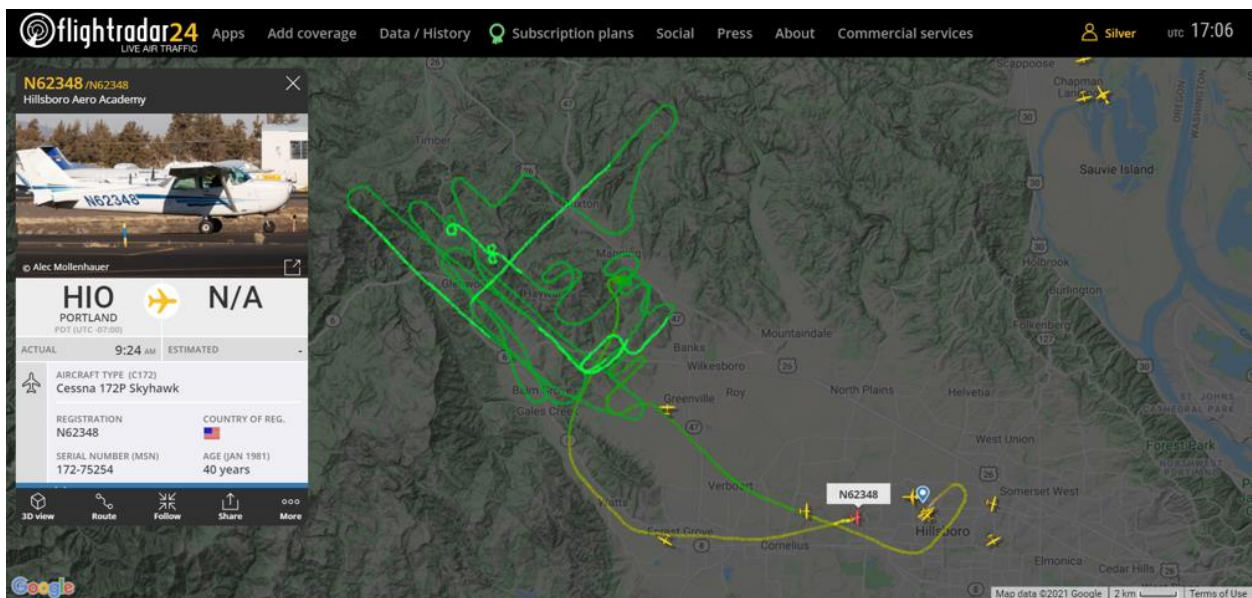
Hillsboro Aero Academy N6460M 9/20/2021 4:35 PM. This is an example of an aircraft that left HIO, then flew low and loud over our home in Manning, Oregon. People who speak out about aviation noise, pollution, and environmental degradation are frequently intentionally targeted, harassed and bullied by aggressive pilots and flight training businesses.



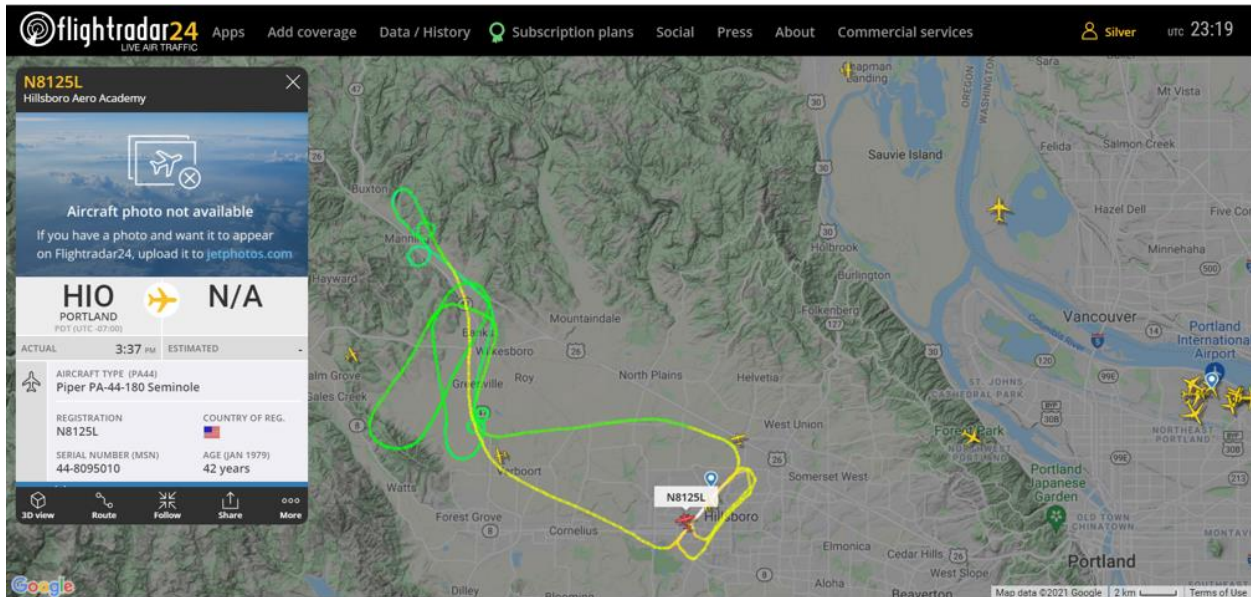
Hillsboro Aero Academy N95539 9-17-2021 9:53 AM. This aircraft had been polluting the area for over an hour when this screenshot was captured. The skies over Banks, Roy, and Wilksboro are often targeted multiple times daily, a reflection of Oregon's established policy of exploiting rural communities and poisoning prime farmland in an effort to serve the interests of affluent self-serving pilots, out of state investors, foreign governments, and the state agencies that profit from and promote aviation in Oregon.



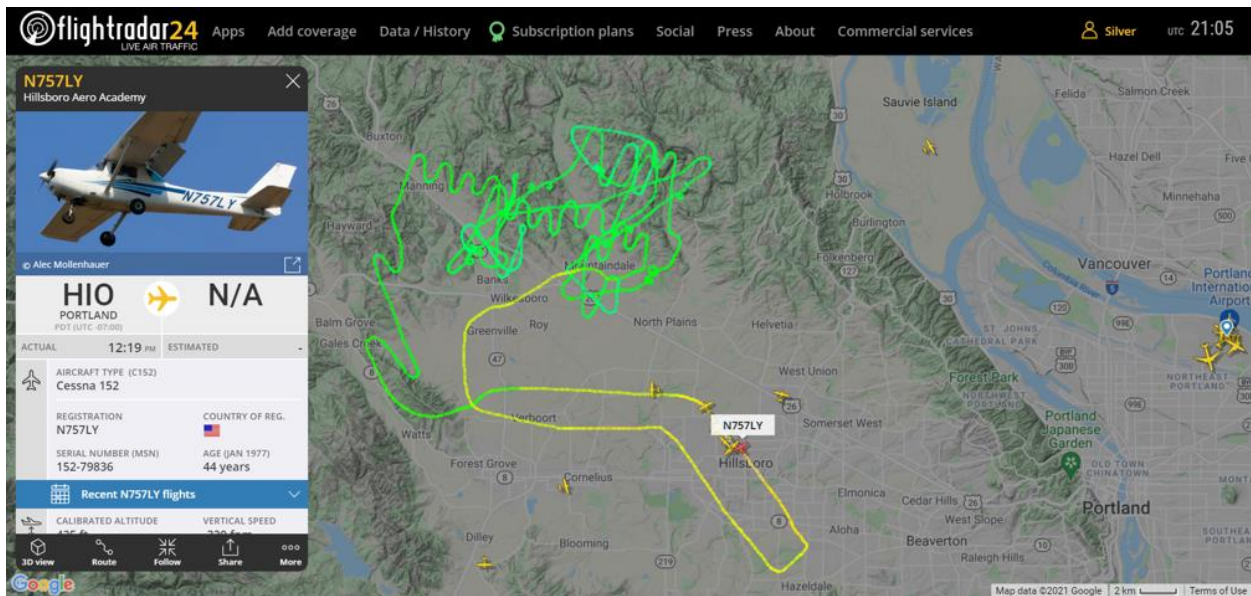
Hillsboro Aero Academy N324SP 09-17-2021 10:11 AM. This aircraft had been in the air for close to an hour when this screenshot was captured. Please note the nine other aircraft visible in the skies over Washington County. Many were also involved in repetitive flight training activities over homes, neighborhoods, schools, day care centers, senior facilities, prime farmland and recreational areas.



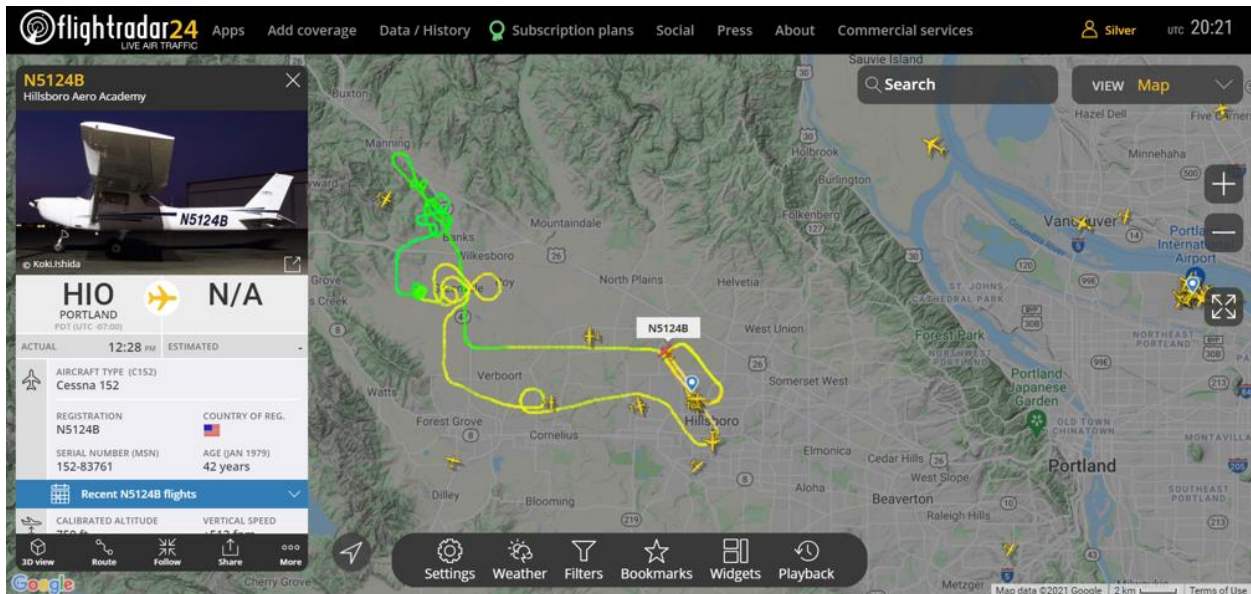
Hillsboro Aero Academy N62348 09-16-2021 11:01 AM. This aircraft had been in the air close to one and a half hours when this screenshot was captured.



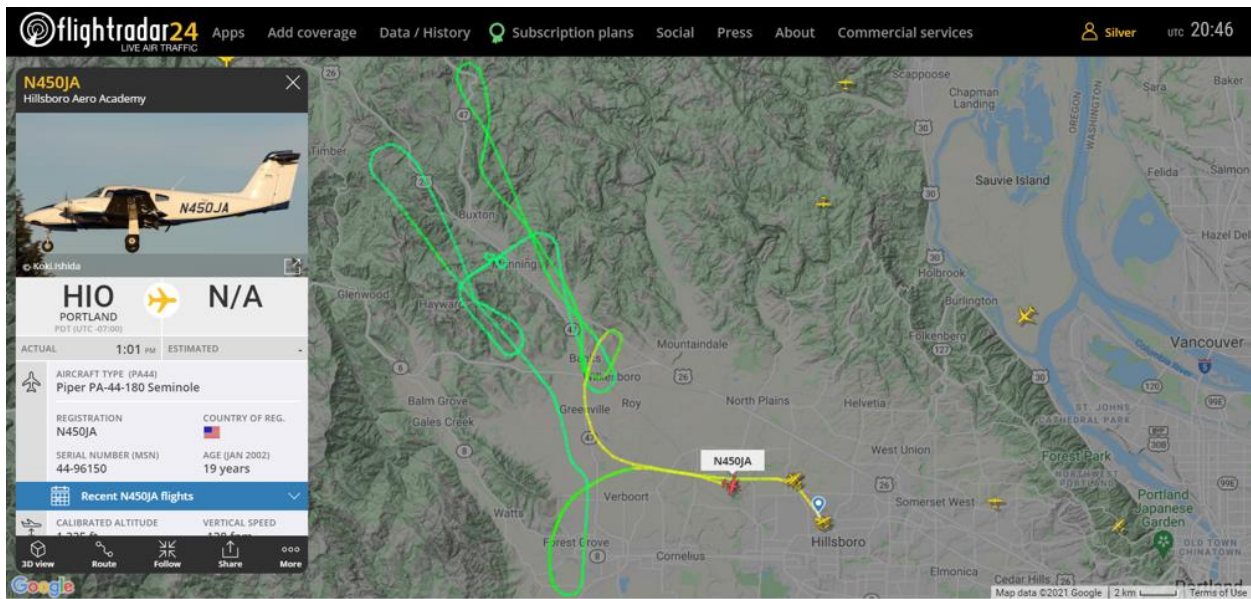
Hillsboro Aero Academy N8125L 09-16-2021 4:20 PM. This twin-engine Piper Seminole packs twice the noise and pollution of a single engine aircraft.



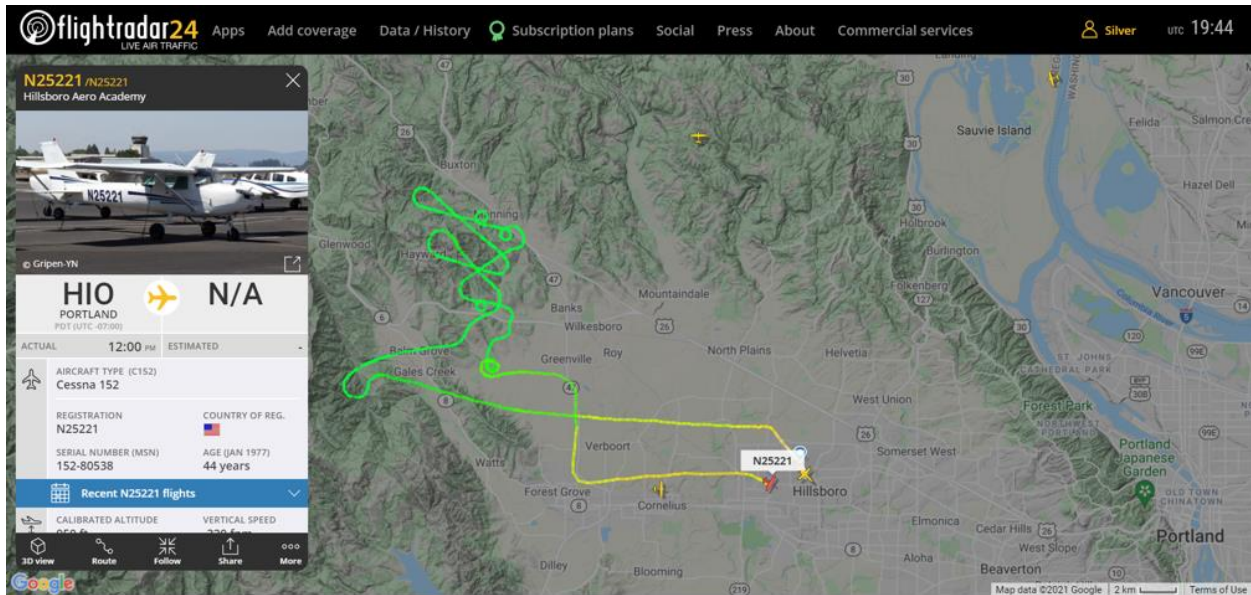
Hillsboro Aero Academy flight N757LY 09-14-2021 2:06 PM. This aircraft had been in the air for over one and three-quarters hour when this screenshot was captured, all the while pumping greenhouse gases, noise, lead and other pollutants into the air over rural Washington County residents.



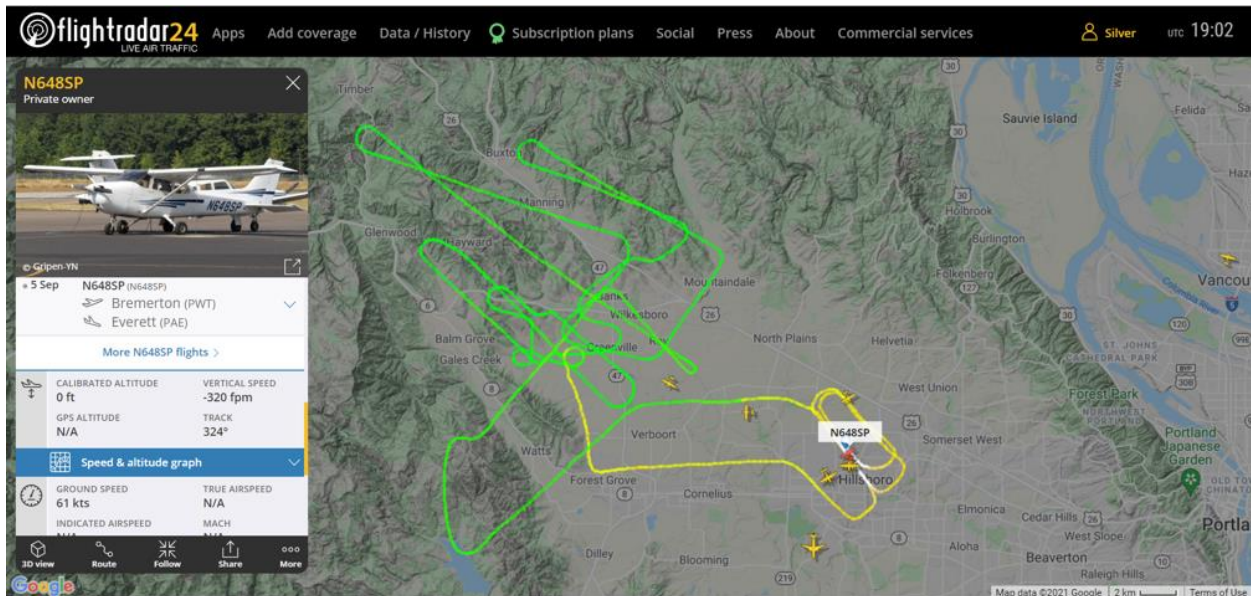
Hillsboro Aero Academy N5124B 09-09-2021. Yet another example of a Hillsboro Aero Academy pilot pelting the area with layer upon layer of noise and toxic pollutants. Note the eight other general aviation aircraft polluting the skies over Washington County at the time this screenshot was captured.



Hillsboro Aero Academy N450JA 9-12-2021 4:24 PM. Another example of HAA's relentless assault on Washington County residents and the environment.



Hillsboro Aero Academy N25221 09-06-2021 12:45 PM, an example of yet another training flight releasing noise and pollution over rural Washington County communities.



Hillsboro Aero Academy N648S 09-06-2021 12:04 PM. This screenshot depicts the flight track of an aircraft pumping greenhouse gases, noise, lead and other toxins both in Hillsboro and in rural communities more than 12 miles from the airport.

Sources

-
- ¹ Combatting Climate Change is Central to DLCD's Work. Oregon Department of Land Use and Conservation. Last updated 11-5-19. Last accessed on-line on 10-5-2021 at https://www.oregon.gov/lcd/CL/Documents/ClimateChange_Central_to_DLCD_Nov2019.pdf.
- ² Oregon Global Warming Commission: Biennial Report to the Oregon Legislature 2020. (Pg. 1). Last accessed online 10-05-2021 at <https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/5fe137fac70e3835b6e8f58e/1608595458463/20-OGWC-Biennial-Report-Legislature.pdf>.
- ³ Rulemaking Advisory Committee Meeting 6 (draft rules version 2). Section 3. (Pg. 1) Last accessed online on 10-05-2021 at <https://www.oregon.gov/deq/Regulations/rulemaking/RuleDocuments/ghgcr2021m6rulesD.pdf>.
- ⁴ Ibid. Section (B) (2) Pg. 6
- ⁵ General Aviation Manufacturers Association (GAMA) Databook 2019. Pgs 41-42. Last accessed online on 10-05-2021 at https://gama.aero/wp-content/uploads/GAMA_2019Databook_ForWebFinal-2020-02-19.pdf.
- ⁶ U.S. Civil Airmen Statistics. Federal Aviation Administration (FAA). Last accessed online on 10-05-2021 at https://www.faa.gov/data_research/aviation_data_statistics/civil_airmen_statistics/.
- ⁷ Sources of Lead Exposure. Centers for Disease Control and Prevention (CDC). (Last reviewed 4-7-2020). Last accessed online on 10-05-2021 at <https://www.cdc.gov/nceh/lead/prevention/sources.htm>.
- ⁸ Health effects of Lead Exposure. Centers for Disease Control and Prevention (CDC). (Last reviewed 1-7-2020). Last accessed online on 10-05-2021 at <https://www.cdc.gov/nceh/lead/prevention/health-effects.htm>.
- ⁹ Lead Poisoning Prevention. Centers for Disease Control (CDC). (Last reviewed 7-12-2021) Last accessed online on 10-05-2021 at <https://www.cdc.gov/nceh/lead/prevention/default.htm>
- ¹⁰ Populations at Higher Risk. Centers for Disease Control (CDC). (Last reviewed 4-21-202). Last accessed online on 10-05-2021 at <https://www.cdc.gov/nceh/lead/prevention/populations.htm>.
- ¹¹ Leaded Aviation Gasoline Exposure Risk at Reid-Hillview Airport in Santa Clara County, California. Mountain Data Group. (8-03-2021). Pgs. 1-2. Last accessed online on 10-05-2015 at <https://news.sccgov.org/sites/g/files/exjcpb956/files/documents/RHV-Airborne-Lead-Study-Report.pdf>.
- ¹² San Jose Community Meeting on Reid-Hillview Airport Airborne Lead Study. (08-11-2021) Last accessed on-line on 10-05-2021 at <https://www.youtube.com/watch?v=ta50eJvB8e4>.
- ¹³ Leaded Aviation Gasoline Exposure Risk at Reid-Hillview Airport in Santa Clara County, California. Mountain Data Group. (8-03-2021). Pg. xviii. Last accessed online on 10-05-2015 at <https://news.sccgov.org/sites/g/files/exjcpb956/files/documents/RHV-Airborne-Lead-Study-Report.pdf>.
- ¹⁴ San Jose Community Meeting on Reid-Hillview Airport Airborne Lead Study. (08-11-2021) Last accessed on-line on 10-05-2021 at <https://www.youtube.com/watch?v=ta50eJvB8e4>.
- ¹⁵ Ditzler, Joseph. Flight School Bringing 150 Students to Redmond Airport. The Bulletin. (10-27-2017). Last accessed online on 10-27-2021 at [Flight school bringing 150 students to Redmond Airport | Business | bendbulletin.com](https://www.bendbulletin.com/news/flight-school-bringing-150-students-to-redmond-airport).
- ¹⁶ Oregon Aviation Plan V6.0. Oregon Department of Aviation. Last accessed on 10-06-2021 at <https://www.oregon.gov/aviation/plans-and-programs/Documents/OAP/2019/OOAP-2018-Entire-Report.pdf>.
- ¹⁷ 100 Groups Demand Biden Cut Airplane Climate Pollution. Center for Biological Diversity. (09-22-2021). Last accessed online on 10-06-2021 at <https://biologicaldiversity.org/w/news/press-releases/100-groups-demand-biden-cut-airplane-climate-pollution-2021-09-22/>.
- ¹⁸ Airport Tracker. Last accessed online on 10-06-2021 at www.airporttracker.org.
- ¹⁹ Rulemaking Advisory Committee Meeting 6 (draft rules version 2). Section 3. (Pg. 1) Last accessed online on 10-05-2021 at <https://www.oregon.gov/deq/Regulations/rulemaking/RuleDocuments/ghgcr2021m6rulesD.pdf>.