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ENVIRONMENT DESK

Airport expansion may not resolve pollution and noise problems

By Elizabeth Shacker Emery and Stephen R. Miller | 11.11.2021

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A United flight prepares for takeoff at Aspen Pitkin County Airport. The airport vision committee presented its recommendations for the Aspen Pitkin County Airport on Thursday.

ASPEN — Before the COVID-19 pandemic prompted stay-at-home orders and caused an abrupt decline in flights, a busy weekend in March would have meant a long line of jets on the tarmac at the Aspen/Pitkin County Airport.

In a normal year, about one in four of the planes taking off from the Aspen airport is a CEO jet, the passengers jet used by commercial airlines, which officials say could be phased out by 2028 as airlines continue to meet models that are too large for the current runway.

On March 16, a county-appointed citizens group called the ASE Vision Committee, which has spent over a year reviewing options for the expansion project, put an ice in favor of an integrated package of recommendations for Pitkin County that included widening the runway by 50 feet to accommodate aircraft with longer wingspans and building a new, larger terminal, but only if steps were taken to reduce emissions and noise.

"Environmental responsibility is a cornerstone of our community and should also be a cornerstone of our airport," the committee wrote.

The committee's recommendations include suggestions about how to mitigate environmental impacts such as those disclosed by an environmental assessment, or EA, completed in 2018.

The federally required EA analyzed the potential actions that Pitkin County had conceptually approved for the airport vision and identifies current and potential pollution and carbon emissions. The airport committee members saw the document as a worst-case scenario, according to John Romero, the chair of the committee, since it did not consider the effects of their proposed mitigation measures.

The EA found that the expanded runway could be expected to increase commercial flights from Aspen in 2025 to 12,000 in 2035, while private flights are projected to slightly decrease from 30,200 in 2015 to 25,570 in 2035, in line with national trends in general aviation.

Through the long process that led up to the committee's recent recommendations, locals have expressed concerns about toxic smelts, roaring engines and carbon emissions. According to the 2018 EA, expansion of the runway would bring about 2,000 more flights of larger planes and an increase in overall carbon emissions. It would also change the mix of air pollutants coming off the end of the runway, but it's unclear how that might affect the smelts that residents report on busy days.

In terms of noise, some of the planes landing and taking off would be quieter, but there would also be more flights, according to the EA. The sound of taking jets at the Brush ag neighborhood, across from the airport, could be mitigated by a large sound wall.

Committee members heard from experts about the air pollution, carbon emissions and noise that decided that the threat of losing commercial service into Aspen outweighed the potential environmental impacts that would remain if the committee's recommended mitigation efforts were put in place.

"We encourage the county to fully explore federal, state and local policies to incentivize and accommodate aviation innovation in clean emissions and work with partners to stay on the leading edge of environmental sustainability," the committee said.

They set a goal to reduce pollution and emissions by 30% "as soon as possible, but no later than 2030." But the committee did not determine a baseline of emissions to measure that goal against, and the county may not be able to control whether all of the committee's recommendations are implemented.

The recommendations include offering a biofuel blend to decrease greenhouse gas emissions from the 3.4 million gallons of jet fuel now dispensed each year at the airport, and incentivizing carriers and owners to fly quieter, cleaner models.

The committee also recommends that the county establish a pollutions baseline, and it acknowledges that reducing emissions will depend on negotiations with airlines and the voluntary cooperation of private aircraft owners, which account for three-quarters of airport traffic.

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Skiers ride the Summit Express lift at Buttermilk Ski Resort while jets at Aspen Pitkin County Airport prepare for takeoff. Some residents are concerned about strong smelts from airplane exhaust.

Air pollution and toxic smelts remain mysteries

Airplanes departing from the Aspen airport roll down the runway, heading upvalley, and then do an about-face to line up for takeoff heading down valley toward Glenwood Springs. Once on course, the planes climb at about 500 feet per mile, on the centerline, and at relatively steady from the engines, pulsing right at the base of Buttermilk, where kids are learning to ski about a half mile away from the runway.

"It's toxic — a thick smell in the air like something's burning burned," said Tim Mooney, an Aspen resident who served on subcommittees during the county's process and is opposed to the proposed runway expansion. "There's a sudden throat when they see the engine up, and you get these blasts of bad air."

Mooney doesn't know what he's breathing downwind from the airport on a busy day, and neither do county officials, as no ground level air quality measurements have ever been taken at or around the airport.

The 2019 page EA, based on a Federal Aviation Administration modeling tool, uses a potential future fleet mix to extrapolate impacts to air pollution, carbon emissions, noise and traffic from 2017 to 2035.

That's not uncommon, said Mary Vigilante, president of Synergy Consultants, which produced the emissions report in the EA. Ground level measurements are significantly more expensive than modeling, she said, and "based on these results, there was nothing to indicate warranting doing more detailed work."

But locals still complain today of a stinging in their eyes and the burned, metallic taste of jet fuel at the Buttermilk Business Center and on the Nordic ski tracks laid each winter on the City of Aspen golf course.

"My guess is that people are making reference to exhaust associated with volatile organic compounds," Vigilante said, noting that it could also be nitrogen oxides, or NOx, a family of poisonous, highly reactive gases that form when fuel is burned at high temperatures and helps create smog.

The research on the odors is hazy, and there's no way to know for sure without taking an air sample.

The pollution data in the EA is measured in tons per year, and the specific fumes a person breathes at any moment are justified in the average. Plus, the odors may and are more noticeable on busy days at the airport. There is nearly four times as much activity at the Aspen airport on a busy day in March than on a quiet day in May.

The EA found that if the runway expansion is approved, by 2035 the air pollutant sulfur oxides, or SOx, would increase 5 tons annually — from 9.4 tons to 14.5 tons/yr. — and nitrogen oxides would increase by approximately 3.4 tons annually — from 40.8 to 50.1 tons/yr.

These changes are minimal and well within federal standards, Vigilante said.

They are also probably overestimated, because the EA's model is based on a fleeting 737-heavy fleet mix, and no airline has officially expressed interest in operating the 737 out of Aspen. The plane forced to replace the CRJ 700 is the Airbus 320 neo. It is quieter, more fuel efficient and generally cleaner than the CRJ but produces slightly more NOx.

The EA also found that with newer jets, yearly emissions of carbon monoxide, volatile organic compounds and particulate matter would drop slightly, but it is not known whether that is enough to eliminate the taste and smell of burned jet fuel in the community.

The committee's package of recommendations depends on the airport being able to negotiate with the airlines to operate a clean fleet, and the new class of aircraft that would replace the CRJ 700 on routes into Aspen are generally quieter and more fuel efficient than older models.

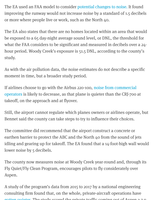
There's no way to know for sure how private jet operations will change with the expansion, but the committee's recommendations rely on jet owners transitioning to newer, greener planes because Aspen's business case is a carbon-based landing fee. They also recommended providing electrical hookups for private jets to reduce idling.

"The only reason the proposed expansion is not a slam dunk is that we still have all the private planes," said John Bennett, chair of the vision committee. "Dealing with them is a totally separate challenge."

The Clean Air Act forbids the airport from regulating emissions or discriminating over which models can land, so Aspen's wealthiest residents and visitors will have to do their part willingly.

This does little to assuage the concerns of the opposition group Save Our Skies.

"No one seems to understand the concentration of environmental impacts," said Wayne Etheridge, a founding member of Save Our Skies and a former Pitkin County commissioner.



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Delays are on the rise at the Aspen airport. Residents living in the Brush ag neighborhood and Buttermilk Business Center have complained about the smell of burned jet fuel and the noise from the airport, concerns about which a group called Save Our Skies is and out of Aspen.

Noise complaints contrast with data

There are two places where residents are particularly concerned about aircraft noise. Many living and working at the Aspen Business Center and the Brush ag neighborhood, across Colorado 82 from the airport, hear jets idling and revving up for takeoff. And Woody Creek residents report their windows shaking and conversations stopping as jets roar overhead.

The EA used its FAA model to consider potential changes in noise. It found improving the runway would not increase noise by a standard of 1.5 decibels or more where people live or work, such as Brush ag.

The EA also states that there are no homes located within an area that would be exposed to a 65-day-night average sound level, or DNL, the threshold for what the FAA considers to be significant and measured in decibels over a 24-hour period. Woody Creek's exposure is 55.5 DNL, according to the county's study.

As with the air pollution data, the noise estimations do not describe a specific moment in time, but a broader yearly period.

If airlines choose to go with the Airbus 320 neo, noise from commercial operations is likely to decrease, and that plane is quieter than the CRJ 700 at takeoff, on the approach and at flyover.

Still, the airport cannot regulate which planes owners or airlines operate, but Bennett said the county can take steps to try to influence their choices.

The committee did recommend that the airport contract a concierge earlier barrier to protect the ABC and the North 40 from the sound of jets idling and posing up for takeoff. The EA found that a 15-foot high wall would lower noise by 5 decibels.

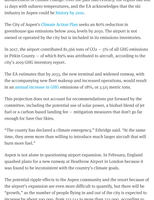
The county now measures noise at Woody Creek year round and, through its Fly Quiet Pitkin County Program, encourages pilots to the considerately over Aspen.

A study of the program's data from 2015 to 2017 by a national engineering consulting firm found that, on the whole, private-aircraft operations have gotten quieter. The study scored the private traffic coming out of Aspen a 7.9 on a 10-point scale and noted that the number of extreme-noise events — those above 90 decibels — was 21 per day, a reduction over previous years.

"The Fly Quiet program is designed to encourage operators to operate their quietest aircraft at KAE and to fly as quietly as possible," FAA Doublefly, who worked on the study for the firm Bread and Butter, wrote in an email.

Still, residents in Woody Creek are concerned that larger jets will not be quieter.

In a letter submitted during the EA process, the Woody Creek Caucus raised concerns that increased traffic and larger, heavier airplanes could "dramatically increase the discomfort of the many residents around the airport and in the flight path. It would be yet another step in Aspen's path toward commercialization and the loss of Aspen's unique character."



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An Aspen Skiing Co. employee rides the Sunrise at the Buttermilk Ski Resort while a jetliner prepares to land at Aspen Pitkin County Airport in the background. Approximately 25,000 operations a year at the airport are private, business-class Gulfstream Aerospace jets that private jet owners will voluntarily transition to newer, greener planes.

Carbon emissions will increase with expansion

In the bigger picture, Save Our Skies and many others question whether Aspen should be planning, or accommodating, growth at all, given the advancement of climate change. Over the past half-century, the region has lost 1.5 days with subzero temperatures, and the EA acknowledges that the ski industry in Aspen could be history by 2100.

The City of Aspen's Climate Action Plan seeks an 80% reduction in greenhouse gas emissions below 2015 levels by 2050. The airport is not owned or operated by the city but is included in its emissions inventory.

In 2017, the airport contributed 81,316 tons of CO_2 — 5% of all GHG emissions in Pitkin County — of which 89% was attributed to aircraft, according to the city's 2019 GHG inventory report.

The EA estimates that by 2035, the new terminal and widened runway, with the accompanying new fleet makeup and increased operations, would result in an annual increase in GHG emissions of 18%, or 4,235 metric tons.

This projection does not account for recommendations put forward by the committee, including the potential use of solar power, a biofuel blend of jet fuel or a carbon based landing fee — mitigation measures that don't get the enough for Save Our Skies.

"The country has declared a climate emergency," Etheridge said. "At the same time, they seem more than willing to introduce much larger aircraft that will burn more fuel."

Aspen is not alone in questioning airport expansion. In February, England quashed plans for a new runway at Heathrow Airport in London because it was found to be inconsistent with the country's climate goals.

The potential ripple effects in the Aspen community and the resort because of the airport's expansion are even more difficult to quantify, but there will be "growth," as the number of people flying in and out of the city is expected to increase by about 100,000, from 125,000 to 225,000, according to the EA.

Moving forward, county commissioners will consider the committee's recommendations, which Bennett stressed must be taken as a complete package. The committee submitted a cover letter and its final report to the Pitkin County commissioners this past week, in anticipation of a work session to discuss the recommendations on April 12.

At that point, Bennett said, rather than being in near-unanimous agreement, the committee may split over whether to proceed.

This story was updated on April 12 to add clarity about the relationship between the committee's recommendations and the EA. Both Wayne Etheridge and John Bennett are donors to Aspen Journalism, each having donated $500 in December. An earlier version of this story was printed in the April 8 edition of The Aspen Times.

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